P3-21

Original Proposal

IPC: SECTION 202

Proponents: Pennie L Feehan, Pennie L Feehan Consulting, Copper Development Association (penniefeehan@me.com)

2021 International Plumbing Code

Revise as follows:

COPPER ALLOY. A homogenous mixture of two or more metals ~~alloy where the principle~~ in which copper is the primary component ~~is copper~~, such as brass and bronze.

Reason: The proposal will uniform the definition with ISPSC and gives an example.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal will not increase the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This definition needs to be aligned with what is in the ISPSC. (13-1)

Final Hearing Results

P3-21 AS

P4-21

Original Proposal

IPC: SECTION 202 (New)

Proponents: Richard Grace, Fairfax County, Virginia, Virginia Plumbing and Mechanical Inspectors Association (VPMIA) and Virginia Building and Code Officials Association (VBCOA) (richard.grace@fairfaxcounty.gov)

2021 International Plumbing Code

Add new definition as follows:

SERVICE SINK. A general purpose sink exclusively intended to be used for facilitating the cleaning of a building or tenant space.

Reason: The only specific physical characteristic currently defining a service sink is that it shall have a minimum 1-1/2 inch trap per Table 709.1. This requirement is the same as a "kitchen sink" and "sink" in Table 709.1. As a result the code does not appear to prohibit the use of a kitchen sink to be designated as the minimum fixture service sink. To alleviate the possibility of sinks, which may be used for dishwashing, food preparation or handwashing, from being appropriated for building cleaning and associated caustic products, the definition indicates the service sink as a specific fixture “exclusively” intended for building cleaning.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change should not increase the cost of construction unless a project had intended to use a kitchen sink or other hand sink as the intended service sink.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: SERVICE SINK. A ~~general pupose~~ sink exclusively intended to be used for facilitating the cleaning of a building or tenant space.

Committee Reason: For the Modification: The term "general purpose" was removed as it is much too broad, allowing nearly any "sink" to serve as a service sink. That is not the intent.
For the proposal As Modified: This subject has been an issue in the code for a long time and needs addressed. Note that definition indicates exclusively intended (not exclusively "used" which would limit a service sink from being used to also capture A/C condensate as a secondary function.) (1-3)

Final Hearing Results

P4-21 AM

P5-21 Part I

Original Proposal

IPC: SECTION 202, SECTION 202 (New), (New)

Proponents: Sarah Rice, The Preview Group, The Preview Group (srice@preview-group.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE PLUMBING CODE COMMITTEE. PART II WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TOILET FACILITY. A room or space that contains not less than one water closet and one lavatory.

Multiple-user toilet facility.

.

A toilet facility intended to be used by multiple occupants. Such facilities have more than one water closet and one lavatory. Each water closet is located in its own compartment that is created by vertical partitions.

Multiple-user toilet facility.

.

A toilet facility intended to be used by multiple occupants. Such facilities have more than one water closet and one lavatory. Each water closet is located in its own compartment that is created by vertical partitions.

Single-user toilet facility

.

A toilet facility intended to be used by a single occupant and that contains not less than one water closet and one lavatory.

Single-user toilet facility

.

A toilet facility intended to be used by a single occupant and that contains not less than one water closet and one lavatory.

Add new definition as follows:

Multiple-user toilet facility.

.

A toilet facility intended to be used by multiple occupants. Such facilities have more than one water closet and one lavatory. Each water closet is located in its own compartment that is created by vertical partitions.

Multiple-user toilet facility.

.

A toilet facility intended to be used by multiple occupants. Such facilities have more than one water closet and one lavatory. Each water closet is located in its own compartment that is created by vertical partitions.

FAMILY OR ASSISTED-USE TOILET FACILITY

.

A room separate from other toilet facilities intended to be used by either sex, families and those needing assisted care having; an independent entrance, not less than one adult-height water closet, one adult-height lavatory, and no more than one urinal, one child height water closet and one child height lavatory.

Multiple-user toilet facility.

.

A toilet facility intended to be used by multiple occupants. Such facilities have more than one water closet and one lavatory. Each water closet is located in its own compartment that is created by vertical partitions.

FAMILY OR ASSISTED-USE BATHING ROOM

.

A room separate from other bathing rooms intended to be used by either sex, families and those needing assisted care having; an independent entrance, no less than one shower or bathtub, one adult-height water closet and one adult-height lavatory, and no more than one urinal, one child height water closet and one child height lavatory.

Single-user toilet facility

.

A toilet facility intended to be used by a single occupant and that contains not less than one water closet and one lavatory.

Single-user toilet facility

.

A toilet facility intended to be used by a single occupant and that contains not less than one water closet and one lavatory.

Single-user toilet facility

.

A toilet facility intended to be used by a single occupant and that contains not less than one water closet and one lavatory.

Reason: This is a companion code change to one being submitted to the IBC for Section 202
Currently the IPC and IBC have so many terms for so many different types of toilet rooms that I have come to refer to it as Dysfunctional Toilet Terminology. It is an issue that has the potential to impact almost every code in the ICC family of codes, but primarily in the IPC and IBC. I am going to start this discussion by venting my frustration regarding the terminology disconnect there is in the I-Codes with regard to plumbing fixture types and requirements.

Somewhere along the road to sorting this out someone thought the answer was to create the term “toilet facility” – but I beg to differ. The IPC definition is:

TOILET FACILITY. A room or space that contains not less than one water closet and one lavatory. (IPC Chapter 2)

But if it was the intent of the plumbing code to require any space that has the term “toilet facility” to have a minimum of 1 WC & 1 lavatory, then why is that not stated in Chapter 4 of the IPC and Chapter 29 of the IBC – and NOT just within the definition–. But that horse has left the building so let' move on.

But if you read the definition of Toilet Facility closely it is not saying thatonly a single WC and a single lavatory is allowed in a “room,” but rather to be a Toilet Facility there must be at least one WC and one lavatory - it is not prohibiting the placement of any other type of plumbing fixture from that room. OK, so I get that, but if this is the description of Toilet Facility then what is to be in a room that has one of the following names:

- Family-toilet room
- Assisted-use toilet room
- Multi-user user facilities
- single-user toilet facilities
- single user bathing rooms (403.1.2)
- family or assisted-use toilet and bathing rooms (403.1.2)f
- Family or assisted-use toilet facilities
- What is a “bathing room” anyway? It is not a defined term.

The start to the end I propose is with the acceptance of the definition being proposed in this code change. With the incorporation of the the proposed terms there is a start to making it easier for the code user to know what types of fixtures are to be in each type of "space."

The new terms "Single user toilet facility" and "Multi-user toilet facility" are intended to distinguish when the code speaks to a toilet facility intended to be used by a single person vs one with multiple sets of plumbing fixtures.

The new terms "FAMILY OR ASSISTED-USE TOILET FACILITY" and "FAMILY OR ASSISTED-USE BATHING ROOM" are not really new at all. The terms are found in both the IPC and IBC but are not given any context in which they should be applied. The definitions incorporate the intended function of the spaces along with the number and types of fixtures they should contain. These are based upon the language found IBC Section 1110.2.1.2 for FAMILY OR ASSISTED-USE TOILET FACILITY and in Section 1110.2.1.3 for FAMILY OR ASSISTED-USE BATHING ROOM.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a correlation and clarification of definitions between the IPC and IBC. Clarifications and correlations do not impact material or labor costs and therefore have no impact on the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
FAMILY OR ASSISTED-USE TOILET FACILITY. A room separate from other toilet facilities intended to be used by ~~either~~ all persons regardless of sex, families and those needing assisted care having; an independent entrance, not more ~~less~~ than one adult height water closet, not more than one adult-height lavatory, and is permitted to have ~~no more than~~ one urinal, one child height water closet and one child height lavatory.

FAMILY OR ASSISTED-USE BATHING ROOM. A room separate from other bathing rooms intended to be used by ~~either~~ all persons regardless of sex, families and those needing assisted care having; an independent entrance, ~~no less~~ not more than one shower or bathtub, not more than one adult-height water closet and one adult-height lavatory, and is permitted to have ~~no more than~~ one urinal, one child height water closet and one child height lavatory.

Committee Reason: For the modification: Provides more clarity and makes the terminology more consistent with other code callouts. (12-2)
For the proposal As Modified: The Committee agrees with the published reason statement. (8-6)

Final Hearing Results

P5-21 Part I AM

P6-21 Part I

Original Proposal

IPC: 305.6, 305.6.1 (New)

Proponents: Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

THIS IS A 4 PART CODE CHANGE. PART I WILL BE HEARD BY THE PLUMBING CODE COMMITTEE. PART II WILL BE HEARD BY THE RESIDENTIAL PLUMBING CODE COMMITTEE. PART III WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE. PART IV WILL BE HEARD BY THE FUEL GAS CODE COMMITTEE.
SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

305.6 Protection against physical damage. In concealed locations where piping, other than cast iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than $1^1/_4$ inches (32 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. ~~Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).~~ Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

Add new text as follows:

305.6.1 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

Reason: The safest place to install piping is in the middle of the wall. But in a typical 3-1/2 inch stud wall, even a 1/2-inch pipe (5/8-inch OD) ends up slightly nearer than the requisite 1-1/2 inch setback from either edge. Depending on enforcement, installers are often required to put shield plates on both sides of the stud. This makes no sense. By simply reducing the setback from 1-1/2 inches to 1-1/4 inches, both 1/2-inch and 3/4-inch piping can be safely installed in the center of the wall without triggering the need for shield plates on both sides. This encourages quality workmanship instead of penalizing it. The pipes are still safely out of range of drywall screws up to 1-1/2 inches long. This proposal is consistent with the National Electrical Code, which specifies a 1-1/4 inch setback from the edge of a stud. It is also consistent with the IRC, which also specifies a 1-1/4 inch setback. Note that the Uniform Plumbing Code allows a 1-inch distance before a shield plate is required . This proposal will bring consistency to the I-Codes.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 12.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Reducing the distance from the face of the stud for where shield plates are required could result in*fewer* plates needed for a project. The need for fewer plates would reduce cost of construction but that cost reduction would be insignificant.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results	
P6-21 Part I	AS

P6-21 Part II

Original Proposal

IRC: P2603.2.1.1 (New), P2603.2.1, M1308.2.1, M1308.2.2

Proponents: Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2021 International Residential Code

Add new text as follows:

P2603.2.1.1 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

P2603.2.1 Protection against physical damage. In concealed locations, where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than $1^1/_4$ inches (31.8 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 Gage). Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

Revise as follows:

M1308.2.1 Piping through bored holes or notches. Where *piping* is installed through holes or notches in framing members and is located less than ~~$1^1/_2$ inches (38 mm)~~ 1 1/4 inches (32 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the pipe shall be protected by shield plates that cover the width of the pipe and the framing member and that extend 2 inches (51 mm) to each side of the framing member. Where the framing member that the piping passes through is a bottom plate, bottom track, top plate or top track, the shield plates shall cover the framing member and extend 2 inches (51 mm) above the bottom framing member and 2 inches (51 mm) below the top framing member.

M1308.2.2 Piping in other locations. Where piping is located within a framing member and is less than ~~1 1/2 inches (38 mm)~~ 1 1/4 inches (32 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the piping shall be protected by shield plates that cover the width and length of the piping. Where piping is located outside of a framing member and is located less than $1^1/_2$ inches (38 mm) from the nearest edge of the face of the framing member to which the membrane will be attached, the piping shall be protected by shield plates that cover the width and length of the piping.

Reason: The safest place to install piping is in the middle of the wall. But in a typical 3-1/2 inch stud wall, even a 1/2-inch pipe (5/8-inch OD) ends up slightly nearer than the requisite 1-1/2 inch setback from either edge. Depending on enforcement, installers are often required to put shield plates on both sides of the stud. This makes no sense. By simply reducing the setback from 1-1/2 inches to 1-1/4 inches, both 1/2-inch and 3/4-inch piping can be safely installed in the center of the wall without triggering the need for shield plates on both sides. This encourages quality workmanship instead of penalizing it. The pipes are still safely out of range of drywall screws up to 1-1/2 inches long. This proposal is consistent with the National Electrical Code, which specifies a 1-1/4 inch setback from the edge of a stud. It is also consistent with the IRC, which also specifies a 1-1/4 inch setback. Note that the Uniform Plumbing Code allows a 1-inch distance before a shield plate is required . This proposal will bring consistency to the I-Codes.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 12.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Reducing the distance from the face of the stud for where shield plates are required could result in*fewer* plates needed for a project. The need for fewer plates would reduce cost of construction but that cost reduction would be insignificant.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

P2603.2.1 Protection against physical damage.

In concealed locations, where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1

$^1/_4$ inches (31.8 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates.~~Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 Gage).~~ Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

Committee Reason: For the modification: This eliminates a redundancy in the proposal.

For the proposal as modified: This change is to provide consistency in all the codes. (10-1)

Final Hearing Results

P6-21 Part II AM

P6-21 Part III

Original Proposal

IMC: 305.5.1 (New), 305.5, 504.8, 504.8.1 (New), 1109.3.1, 1109.3.1.1 (New)

Proponents: Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2021 International Mechanical Code

Add new text as follows:

305.5.1 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

Revise as follows:

305.5 Protection against physical damage. In concealed locations where piping, other than cast-iron or steel, is installed through holes or notches in studs, joists, rafters or similar members less than ~~1 1/2 inches (38 mm)~~ 1 1/4 inches (32 mm) from the nearest edge of the member, the pipe shall be protected by shield plates. Protective steel shield plates ~~having a minimum thickness of 0.0575 inch (1.463 mm) (No. 16 gage)~~ shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

504.8 Protection ~~required~~ against physical damage. Protective shield plates shall be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of all framing members where there is less than $1^{1}/_{4}$ inches (32 mm) between the duct and the finished face of the framing member. Protective shield plates shall ~~be constructed of steel, have a thickness of 0.062 inch (1.6 mm) and~~ extend not less than 2 inches (51 mm) above sole plates and below top plates.

Add new text as follows:

504.8.1 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

Revise as follows:

1109.3.1 ~~Pipe protection~~ Protection against physical damage,. In addition to the requirements of Section 305.5, aluminum, copper and steel tube used for Group A2L and B2L refrigerants and located in concealed locations where tubing is installed in studs, joists, rafters or similar member spaces, and located less than ~~$1^{1}/_{2}$ inches (38 mm)~~ 1 1/4 inches (32 mm) from the nearest edge of the member, shall be continuously protected by shield plates. Protective steel shield plates h~~aving a minimum thickness of 0.0575 inch (1.46 mm) (No. 16 gage)~~ shall cover the area of the tube plus the area extending not less than 2 inches (51 mm) beyond both sides of the tube.

Add new text as follows:

1109.3.1.1 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

Reason: The safest place to install piping is in the middle of the wall. But in a typical 3-1/2 inch stud wall, even a 1/2-inch pipe (5/8-inch OD) ends up slightly nearer than the requisite 1-1/2 inch setback from either edge. Depending on enforcement, installers are often required to put shield plates on both sides of the stud. This makes no sense. By simply reducing the setback from 1-1/2 inches to 1-1/4 inches, both 1/2-inch and 3/4-inch piping can be safely installed in the center of the wall without triggering the need for shield plates on both sides. This encourages quality workmanship instead of penalizing it. The pipes are still safely out of range of drywall screws up to 1-1/2 inches long. This proposal is consistent with the National Electrical Code, which specifies a 1-1/4 inch setback from the edge of a stud. It is also

consistent with the IRC, which also specifies a 1-1/4 inch setback. Note that the Uniform Plumbing Code allows a 1-inch distance before a shield plate is required . This proposal will bring consistency to the I-Codes.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 12.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Reducing the distance from the face of the stud for where shield plates are required could result in*fewer* plates needed for a project. The need for fewer plates would reduce cost of construction but that cost reduction would be insignificant.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

1109.3.1 Protection against physical damage,.

In addition to the requirements of Section 305.5, aluminum, copper and steel tube used for Group~~A2L~~ A2, A3, B2, and ~~B2L~~ B3 refrigerants and located in concealed locations where tubing is installed in studs, joists, rafters or similar member spaces, and located less than 1 1/4 inches (32 mm) from the nearest edge of the member, shall be continuously protected by shield plates. Protective steel shield plates hshall cover the area of the tube plus the area extending not less than 2 inches (51 mm) beyond both sides of the tube.

Committee Reason: The proposal has passed because the committee agreed that the proposal brought consistency between the IMC and the NEC, with respect to shield plate requirements. The modification brings in language that is consistent with other proposals dealing with revisions to refrigerant groups. (Vote: 10-0, 1 abstained)

Final Hearing Results

P6-21 Part III AM

P8-21

Original Proposal

IPC: 305.8 (New), 305.8.1 (New), 305.8.2 (New)

Proponents: Robert Nicholas, Don Illingworth & Assoc., Inc., Structural Engineer Association of Texas (Robert@DiEngineers.com)

2021 International Plumbing Code

Add new text as follows:

305.8 Expansive Soil. Where expansive soil is identified but not removed under foundations, plumbing shall be protected in accordance with Section 305.8.1 or 305.8.2.

305.8.1 Non-Isolated Foundations. Under foundations with slabs that are structurally supported by a subgrade, it shall be permitted for plumbing to be buried.

305.8.2 2 Isolated Foundations. Under foundations with a slab or framing that structurally spans over an under-floor space which isolates the slab from the effects of expansive soil swelling and shrinking, the plumbing shall be suspended so that plumbing, hangers and supports are isolated, by adequate voidspace, from the effects of expansive soil swelling and shrinking.
To protect the voidspace, soil shall be sloped, benched or retained in accordance with an approved design methodology. It shall not be permitted for the plumbing, hangers and supports below the slab or below the framing to be in contact with soil or any assemblage of materials that is in contact with soil within the active zone. It shall not be permitted for a slab and plumbing to be lifted as an assembly to create the voidspace unless the under-floor space is a crawlspace with access to allow inspection of plumbing after lifting.

Materials subject to decay shall not be used for hangers, supports and soil retention systems. Materials subject to corrosion shall not be used for hangers, supports and soil retention systems unless protected in an approved manner.

Where plumbing transitions to a buried condition beyond the perimeter of the foundation, an adequately flexible expansion joint shall be provided in the plumbing.

Reason: Currently, the IPC does not explicitly require protection of piping, fittings, hangers, and supports from expansive soil. In some instances, millions of dollars of damages per facility to plumbing have been caused by expansive soil. This proposed change would require protection of piping, fittings, hangers, and supports from expansive soil under buildings to avoid these cases. Refer to the attached 14 page supporting document.

Cost Impact: The code change proposal will increase the cost of construction
Generally speaking, the following are estimated cost impacts:

- There will be no cost increase or decrease for buildings where there is no expansive soil or expansive soil is removed.
- There will be no cost increase or decrease for buildings where there is expansive soil but the foundation is a slab-on-ground. There will be no cost increase or decrease for buildings where there is expansive soil with a foundation over a crawl space, suspended and isolated utilities and flexible expansion joints at the transitions where plumbing becomes buried.
- There will be no cost increase or decrease for buildings where there is expansive soil with a foundation over carton void forms, suspended and isolated utilities and flexible expansion joints at the transitions where plumbing becomes buried.
- There might possibly be a minor cost decrease, less than approximately 0.1% of the total initial cost of construction for example, for buildings where there is expansive soil with a foundation over carton void forms, and the original design included proprietary systems that claim to provide a void but actually can impose loads onto the plumbing, hangers and/or supports, and where flexible expansion

joints are not included at the transitions.

- There will be a relatively minor increase in the initial construction cost, less than approximately 0.1% of the total initial cost of construction for example, for buildings where there is expansive soil with a foundation over a crawl space, and the original design included a few areas with buried utilities and no flexible expansion joints at the transitions. However, for many cases there will be a reduction in maintenance costs that will more than offset the initial construction cost increase.
- There will be a definite increase in the initial construction cost, possibly approximately 1% of the total initial cost of construction for example, for buildings where there is expansive soil with a slab-on-void foundation, and the original design included buried utilities. However, for many cases there will be a reduction in maintenance costs that will more than offset the initial construction cost increase.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

305.8 Expansive Soil.

Where expansive soil is identified under buildings in accordance with Section 1803.5.3 of the International Building Code, but not removed ~~under foundations~~ in accordance with Section 1808.6.3 of the International Building Code, plumbing shall be protected in accordance with Section 305.8.1 or 305.8.2.

305.8.2~~2~~ Isolated Foundations.

Under foundations with a slab or framing that structurally spans over an under-floor space which isolates the slab or framing from the effects of expansive soil swelling and shrinking in accordance with Section 1808.6.1 of the International Building Code, the plumbing shall be suspended so that plumbing, hangers and supports are isolated, by a ~~adequate~~ voidspace, from the effects of expansive soil swelling and shrinking.

Exception: It shall be permitted for plumbing to be buried if the plumbing provides drainage of an under-floor space.

To protect the voidspace, soil shall be sloped, benched or retained in accordance with an approved design methodology. It shall not be permitted for the plumbing, hangers and supports below the slab or below the framing to be in contact with soil or any assemblage of materials that is in contact with soil within the active zone. It shall not be permitted for a slab and plumbing to be lifted as an assembly to create the voidspace unless the under-floor space is a crawlspace with access to allow inspection of plumbing after lifting.

Exception: It shall be permitted for the piping, fittings, hangers, and supports below the slab or below the framing to be in contact with structural elements of the foundation that are designed to resist the effects of expansive soil swelling and shrinking in accordance with Section 1808.6.1 of the International Building Code.

Organic ~~M~~materials subject to decay shall not be used for hangers, supports and soil retention systems. Materials subject to corrosion shall not be used for hangers, supports and soil retention systems unless protected in an approved manner.

Where plumbing transitions to a buried condition beyond the perimeter of the foundation, an adequately flexible expansion joint shall be provided in the plumbing system to accommodate the effects of expansive soil swelling and shrinking.

Committee Reason: For the Modification: The Committee approved the modification as it cleans up some subjective terms and the exceptions make it clear about what was meant by plumbing underground. (10-4)

For the Proposal As Modified: This is an important topic that the code needs to address. (10-4)

Final Hearing Results

P9-21

Original Proposal

IPC: 306.2.4 (New)

Proponents: Ted Williams, American Gas Association, American Gas Association (twilliams@aga.org)

2021 International Plumbing Code

Add new text as follows:

306.2.4 Tracer wire. For plastic sewer piping, an insulated copper tracer wire or other approved conductor shall be installed adjacent to and over the full length of the piping. Access shall be provided to the tracer wire or the tracer wire shall terminate at the cleanout between the building drain and building sewer. The tracer wire size shall be not less than 14 AWG and the insulation type shall be listed for direct burial.

Reason: The new provision that applies to buried plastic sewer piping requires a tracer wire in close proximity of the non-metallic sewer piping to assist in identifying the location of the buried pipe to avoid damaging the pipe when digging in the area of the underground pipe. This will help ensure that there will be no 3rd party damage during excavation in the area where the piping is located along with other utilities that may be in the same trench.

Cost Impact: The code change proposal will increase the cost of construction
Adding tracer wire to installations will contribute a minor cost of line installation.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee believes this is an enhancement for safety at minimal expense. There have been many instances of gas lines being cross-bored through through plastic sewer lines. Subsequent clearing of a blockage in the sewer can result in a disaster.(9-5)

Final Hearing Results

P9-21 AS

P10-21

Original Proposal

IPC: TABLE 308.5

Proponents: Pennie L Feehan, Pennie L Feehan Consulting, Copper Development Association (penniefeehan@me.com)

2021 International Plumbing Code

Revise as follows:

TABLE 308.5 HANGER SPACING

Portions of table not shown remain unchanged.

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING (feet)
Acrylonitrile butadiene styrene (ABS) pipe	4	10[b]
Aluminum tubing	10	15
Brass pipe	10	10
Cast-iron pipe	5[a]	15
Chlorinated polyvinyl chloride (CPVC) pipe and tubing, 1 inch and smaller	3	10[b]
Chlorinated polyvinyl chloride (CPVC) pipe and tubing, 1 1/4 inches and larger	4	10[b]
Copper or copper-alloy pipe	12	10
Copper or copper-alloy tubing, 1 1/4-inch diameter and smaller	6	10
Copper or copper-alloy tubing, 1 1/2-inch diameter and larger	10	10
Cross-linked polyethylene (PEX) pipe, 1 inch and smaller	2.67 (32 inches)	10[b]
Cross-linked polyethylene (PEX) pipe, 1 1/4 inches and larger	4	10[b]
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	2.67 (32 inches)	4
Lead pipe	Continuous	4
Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe	2.67 (32 inches)	4
Polyethylene of raised temperature (PE-RT) pipe, 1 inch and smaller	2.67 (32 inches)	10[b]
Polyethylene of raised temperature (PE-RT) pipe, 1 1/4 inches and larger	4	10[b]
Polypropylene (PP) pipe or tubing, 1 inch and smaller	2.67 (32 inches)	10[b]
Polypropylene (PP) pipe or tubing, 1 1/4 inches and larger	4	10[b]
Polyvinyl chloride (PVC) pipe	4	10[b]
Stainless steel drainage systems	10	10[b]
Steel pipe	12	15

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. The maximum horizontal spacing of cast-iron pipe hangers shall be increased to 10 feet where 10-foot lengths of pipe are installed.

b. For sizes 2 inches and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe.

Reason: This line is not necessary because brass is a copper alloy and is covered under the copper alloy lines.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (13-1)

Final Hearing Results

P10-21 AS

P13-21

Original Proposal

IPC: 311.1, ISO (New), IAPMO Chapter 15 (New)

Proponents: Edward R. Osann, Natural Resources Defense Council, Natural Resources Defense Council (eosann@nrdc.org); CJ Lagan, American Standard / LIXIL, LIXIL (cj.lagan@lixil.com); albert rubin, NCSU, self (rubin@ncsu.edu)

2021 International Plumbing Code

Revise as follows:

311.1 General. Toilet facilities shall be provided for construction workers and such facilities shall be maintained in a sanitary condition. Construction worker toilet facilities of the nonsewer type shall conform to PSAI Z4.3or to IAPMO/ISO 30500.

Add new text as follows:

Add new standard(s) as follows:

IAPMO

IAPMO Group
4755 E. Philadelphia Street
Ontario, CA 91761 USA

ANSI/CAN/IAPMO/ISO 30500-2019	Non-sewered sanitation systems - Prefabricated integrated treatment units - General Safety and performance requirements for design and testing

Reason: Currently, this section of the code requires toilet facilities to be provided for construction workers, and that if such toilets are of the non-sewered type, they must conform to standard PSAI Z4.3. This proposal allows (but does not require) an additional type of non-sewered toilet to be provided for construction workers -- a sanitation system meeting the requirements of ANSI/CAN/IAPMO/ISO 30500. To facilitate the commercialization of hi-tech toilets providing complete onsite treatment of human waste without connection to a sanitary drainage system or septic tank, an ISO standard was adopted in 2018 to establish the key performance attributes and test procedures. Standard 30500, *Non-sewered sanitation systems - Prefabricated integrated treatment units - General safety and performance requirements for design and testing*, sets performance requirements for solid and liquid outputs, odor, noise, air emissions, materials, safety, marking, and ergonomics, together with relevant test procedures for measuring the attainment of these requirements. This ISO standard that was adopted in identical form as a US and Canadian national standard in 2019.

Criteria for the functioning of the unit for the capture and treatment of sanitary waste are established by the ISO standard and do not need to be repeated in plumbing code language. It should be noted that the ISO standard was developed by an international group of scientists, engineers, and regulators to assure the highest levels of treatment would apply to all outputs (air, water, and solids) from the device. The microbiological reduction requirements for solid and liquid waste are based on the quantitative microbial risk assessment (QMRA) method recognized by the World Health Organization for this purpose.

With "Reinvented Toilets" meeting the 30500 standard now on the cusp of commercialization, the arrival of such toilets at job sites across the country can reasonably be expected by the time this code update is published and adopted by states and localities, e.g., 2025. Such units may be offered as portable units. Operators of portable toilets should have the option of providing essential sanitation for construction workers with a toilet meeting the 30500 standard.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change proposal adds an additional choice of equipment to satisfy the need for temporary toilet facilities for construction workers. But their use an option, not a requirement. Thus the proposal has no impact on the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 311.1 General. Toilet facilities shall be provided for construction workers and such facilities shall be maintained in a sanitary condition. Construction worker toilet facilities of the nonsewered type shall conform to PSAI Z4.3 or to IAPMO/ISO 30500.

Committee Reason: For the Modification: Corrects a typographical error to match the standard's title. (14-0)
For the proposal As Modified: Offers another option for construction worker toilet facilities. (14-0)

Final Hearing Results

P13-21 AM

P14-21

Original Proposal

IPC: 312.4 (New)

Proponents: Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

2021 International Plumbing Code

Add new text as follows:

312.4 Drainage and vent vacuum test. The portion of the drainage and vent system under test shall be evacuated of air by a vacuum type pump to achieve a uniform gauge pressure of negative 5 pounds per square inch or a negative 10 inches of mercury column (negative 34 kPa). This pressure shall be held without the removal of additional air for a period of 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.

Reason: In the last code cycle, P11-18 Part II was approved for the IRC to include vacuum testing as an option. This proposal is to provide consistency with the IRC. This alternate test is a means for testing piping systems when the ambient temperatures are below freezing where water cannot be used for the test. There is no safety hazard in testing with a vacuum. The equipment to perform the test is readily available on the market and many contractors have this equipment to perform the test among their tools at present. This allowance will actually help to mitigate the cost of construction delays and prevent potential damage to piping systems when water is used for where air cannot be used for testing.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 16.

Cost Impact: The code change proposal will decrease the cost of construction

Providing more alternatives for complying with the code usually lowers the cost of construction. This would be especially true for geographic locations having freezing temperatures where water could not be used for testing without the added cost of antifreeze and the subsequent disposal costs.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (12-2)

Final Hearing Results

P14-21 AS

P17-21 Part I

Original Proposal

IPC: TABLE 403.1

Proponents: Eirene Knott, BRR Architecture, Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE ISPSC COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a] (See Sections 403.1.1 and 403.2)

NO.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
			MALE	FEMALE	MALE	FEMALE			
1	Assembly	Theaters and other buildings for the performing arts and motion pictures[d]	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Nightclubs, bars, taverns, dance halls and buildings for similar purposes[d]	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
		Restaurants, banquet halls and food courts[d]	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
		Casino gaming areas	1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400	1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400	1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750		—	1 per 1,000	1 service sink
		Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums[d]	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Passenger terminals and transportation facilities[d]	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
		Places of worship and other religious services[d]	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink
		Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities[f]	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
		Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities[f]	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
2	Business	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, ambulatory care, light industrial and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink[e]
3	Educational	Educational facilities	1 per 50		1 per 50		—	1 per 100	1 service sink
4	Factory and industrial	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		—	1 per 400	1 service sink
5	Institutional	Custodial care facilities	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		Medical care recipients in hospitals and nursing homes	1 per room[c]		1 per room[c]		1 per 15	1 per 100	1 service sink per floor
		Employees in hospitals and nursing homes[b]	1 per 25		1 per 35		—	1 per 100	—
		Visitors in hospitals and nursing homes	1 per 75		1 per 100		—	1 per 500	—
		Prisons[b]	1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
		Reformatories, detention centers, and correctional centers[b]	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
		Employees in reformitories, detention centers and correctional centers[b]	1 per 25		1 per 35		—	1 per 100	—
		Adult day care and child day care	1 per 15		1 per 15		1	1 per 100	1 service sink
6	Mercantile	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	1 service sink[e]
7	Residential	Hotels, motels, boarding houses (transient)	1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
		Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink

NO.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
			MALE	FEMALE	MALE	FEMALE			
		Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		One- and two-family dwellings and lodging houses with five or fewer guestrooms	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit
		Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage	Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.	1 per 100		1 per 100		—	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

f. The required number and type of plumbing fixtures for indoor and outdoor public swimming pools shall be in accordance with Section 609 of the International Swimming Pool and Spa Code.

Reason: For hotel/motel chains that provide small pools for their guests, a single user toilet/changing room should be sufficient as the hotel guests generally will change clothes in their hotel rooms. However, there is no language in the code that allows for simultaneous use in a situation like this. I believe the proposed language will provide for larger hotel/motels that may have "water parks" associated with them to provide more facilities while not requiring that same burden on the smaller hotel/motels with pools only for hotel/motel guests.

Cost Impact: The code change proposal will decrease the cost of construction
This language has the ability to decrease the cost of construction as it will require less plumbing fixtures.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This is a needed clarification for the coverage of indoor pools. (14-0)

Final Hearing Results

P17-21 Part II

Original Proposal

ISPSC: 609.2.1

Proponents: Eirene Knott, BRR Architecture, Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

2021 International Swimming Pool and Spa Code

Revise as follows:

609.2.1 Water area less than 7500 square feet. Facilities that have less than 7500 gross square feet (697 m^2) of water area available for bather access shall have dressing faciilties and not less than one cleansing shower for males and one cleansing shower for females.

Exception: This requirement shall not apply to Class C semi-public pools associated with hotels or motels.

Reason: For hotel/motel chains that provide small pools for their guests, a single user toilet/changing room should be sufficient as the hotel guests generally will change clothes in their hotel rooms. However, there is no language in the code that allows for simultaneous use in a situation like this. I believe the proposed language will provide for larger hotel/motels that may have "water parks" associated with them to provide more facilities while not requiring that same burden on the smaller hotel/motels with pools only for hotel/motel guests.

Cost Impact: This language has the ability to decrease the cost of construction as it will require less plumbing fixtures.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

609.2.1 Water area less than 7500 square feet. Facilities that have less than 7500 gross square feet (697 m^2) of water area available for bather access shall have dressing facilities and not less than one cleansing shower for males and one cleansing shower for females.

Exception:

This requirement shall not apply to Class C semi-public pools ~~associated with hotels or motels~~.

Committee Reason: For the modification: This clarification is needed for all smaller pools.
For the proposal as modified: This is a needed allowance for semi-public pools. (8-3)

Final Hearing Results

P17-21 Part II AM

P21-21

Original Proposal

IPC: TABLE 403.1

Proponents: Pennie Feehan, Chair of PMGCAC, Chair of PMGCAC (PMGCAC@iccsafe.org)

2021 International Plumbing Code

Revise as follows:

TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a] (See Sections 403.1.1 and 403.2)

NO.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
			MALE	FEMALE	MALE	FEMALE			
1	Assembly	Theaters and other buildings for the performing arts and motion pictures[d]	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Nightclubs, bars, taverns, dance halls and buildings for similar purposes[d]	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
		Restaurants, banquet halls and food courts[d]	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
		Casino gaming areas	1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400	1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400	1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750		—	1 per 1,000	1 service sink
		Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums[d]	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Passenger terminals and transportation facilities[d]	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
		Places of worship and other religious services[d]	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink
		Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
		Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities[f]	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
2	Business	Buildings for the transaction of business, non-medical professional services, other services involving merchandise, office buildings, banks, ~~ambulatory care,~~ light industrial and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink[e]
		Ambulatory care facilities and Outpatient clinics	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50	1 per 50			1 per 100	1 service sink per floor
3	Educational	Educational facilities	1 per 50		1 per 50		—	1 per 100	1 service sink
4	Factory and industrial	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		—	1 per 400	1 service sink
5	Institutional	Alcohol and drug centers Congregate care facilities *Group homes* Halfway houses Social rehabilitation facilities Foster care facilities Footnote b	1 per 10 care recipients		1 per 10 care recipients		1 per 8 care recipients		
		Assisted living and residential board and care facilities with care recipients who receive Custodial care ~~facilities~~ — Sleeping units for care recipients Footnote c	1 per 2 ~~10~~ sleeping units		1 per 2 ~~8~~ sleeping units		1 per 8 sleeping units	~~1 per 100~~	~~1 service sink~~
		Assisted living and residential board and care facilities with care recipients who receive Custodial care ~~facilities~~ — Dwelling units for care recipients	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit		1 kitchen sink per dwelling unit

NO.	CLASSIFICATION	DESCRIPTION		WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
				MALE	FEMALE	MALE	FEMALE			
			Employee facilities	1 per 60 care recipient units		1 per 60 care recipient units			1 per 100	1 service sink per floor
			Visitor facilities	1 per 75 care recipient units.		1 per 75 care recipient units.				
		Nursing homes	Sleeping units for care recipients Footnote c	1 per 2 care recipient sleeping units		1 per 2 care recipient sleeping units		1 per 8 care recipient sleeping units		
			Employee facilities	1 per 60 care recipient units		1 per 60 care recipient sleeping units			1 per 100	1 service sink per floor
			Visitor facilities	1 per 75 care recipient units.		1 per 75 care recipient sleeping rooms				
		~~Medical care recipients in hospitals and nursing homes~~ Footnote b	Sleeping units for care recipients	1 per ~~room~~[c] care recipient sleeping unit		1 per ~~room~~[c] care recipient sleeping unit		1 per ~~15~~ 100 care recipient sleeping unit	~~1 per 100~~	~~1 service sink per floor~~
			Care recipient treatment areas	1 per 25 care recipient treatment rooms		1 per 50 care recipient treatment rooms			1 per 100	
			Employee facilities	1 per 25 care recipient sleeping units or treatment room	1 per 35 care recipient sleeping units or treatment room	1 per 50 care recipient sleeping units or treatment room			1 per 100	1 service sink per floor
			Visitor facilities	1 per 75 care recipient sleeping room or treatment room	1 per 100 care recipient sleeping room or treatment room	1 per 50 care recipient sleeping room or treatment room			1 per 500	—
		Employees in hospitals and nursing homes[b]		1 per 25		1 per 35		—	1 per 100	—
		Visitors in hospitals and nursing homes		1 per 75		1 per 100		—	1 per 500	—
		Prisons[b]		1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
		Reformatories, detention centers, and correctional centers[b]	Cells	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
			Employees ~~in reformitories, detention centers and correctional centers~~[b]	1 per 25		1 per 35		—	1 per 100	—
		Adult day care and child day care		1 per 15		1 per 15		1	1 per 100	1 service sink
6	Mercantile	Retail stores, service stations, shops, salesrooms, markets and shopping centers		1 per 500		1 per 750		—	1 per 1,000	1 service sink[e]
7	Residential	Hotels, motels, boarding houses (transient)		1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
		Dormitories, fraternities, sororities and boarding houses (not transient)		1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		Apartment house		1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		Congregate living facilities with 16 or fewer ~~persons~~ care recipients receiving custodial care		1 per 10 care recipients		1 per 10 care recipients		1 per 8 care recipients	~~1 per 100~~	1 ~~service~~ kitchen sink
		One- and two-family dwellings and lodging houses with five or fewer guestrooms		1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit
		Congregate living facilities with 16 or fewer persons		1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage	Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.		1 per 100		1 per 100		—	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacen~~t atient~~ care recipient sleeping units shall be permitted provided that each~~patient~~ care recipient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

f. The required number and type of plumbing fixtures for outdoor public swimming pools shall be in accordance with Section 609 of the International Swimming Pool and Spa Code.

Reason: The calculations for occupant load in the IBC does not distinguish between employees, customers, patients, inmates, etc.

The above recommendation for reformatories, detention centers and correctional centers translates the recommended staffing/patient ratio to the number of beds.

Example: A detention center has an average ratio of one employee to eight inmates (1:8). Assume a 1000 bed facility would require a minimum of 125 employees (1000/8=125). The 2021 IPC required 1 water closets per 25 employees and using the 1:8 ratio would required 5 water closets. 1,000 bed facility with 5 water closets for employees = 1 water closet required for every 200 beds. Lavatory criteria is 1.4 times the requirements for water closets (35/25 = 1.4). 200 beds*1.4 = 280 employees per lavatory, rounded up to 1 lavatory per 300 employees.

The calculation for the number of visitors to patient beds for hospitals and nursing homes was developed as follows;
1,000 bed facility
1 visitor per bed on average
1,000 visitors at 1 wc per 75 visitors = 13 water closets required
1,000 beds / 13 wac = 1 wc per 75 beds

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 22.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The design requirements for licensing these types of care facilities already require these minimum numbers of plumbing fixtures. This proposal simply brings the table in alignment with what is already being done by the care industry. Although the proposal adds more “requirements” to the code (leading one to believe that there is an increase in cost), the care industry has been providing these numbers of fixtures for some time. As no additional materials or labor result from stating what is already being done, there is no impact to the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a] (See Sections 403.1.1 and 403.2)

NO.	CLASSIFICATION		DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
				MALE	FEMALE	MALE	FEMALE			

NO.	CLASSIFICATION		DESCRIPTION		WATER CLOSETS (URINALS: SEE SECTION 424.2) MALE	WATER CLOSETS (URINALS: SEE SECTION 424.2) FEMALE	LAVATORIES MALE	LAVATORIES FEMALE	BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
	1	Assembly	Theaters and other buildings for the performing arts and motion pictures[d]		1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
			Nightclubs, bars, taverns, dance halls and buildings for similar purposes[d]		1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
			Restaurants, banquet halls and food courts[d]		1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
			Casino gaming areas		1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400	1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400	1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750		—	1 per 1,000	1 service sink
			Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums[d]		1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
			Passenger terminals and transportation facilities[d]		1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
			Places of worship and other religious services[d]		1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink
			Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities		1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
			Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities[f]		1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
2	Business		Buildings for the transaction of business, non-medical professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses		1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink[e]
			Ambulatory care facilities and Outpatient clinics		1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50	1 per 50			1 per 100	1 service sink per floor
3	Educational		Educational facilities		1 per 50		1 per 50		—	1 per 100	1 service sink
4	Factory and industrial		Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials		1 per 100		1 per 100		—	1 per 400	1 service sink
5	Institutional		Alcohol and drug centers[b] Congregate care facilities[b] Group homes[b] Halfway houses[b] Social rehabilitation facilities[b] Foster care facilities[b]		1 per 10 care recipients		1 per 10 care recipients		1 per 8 care recipients		
			Assisted living and residential board and care facilities with care recipients who receive Custodial care	Sleeping units for care recipients[c]	1 per 2 sleeping units		1 per 2 sleeping units		1 per 8 sleeping units		

NO.	CLASSIFICATION		DESCRIPTION		WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
					MALE	FEMALE	MALE	FEMALE			
				Dwelling units for care recipients	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit		1 kitchen sink per dwelling unit
				Employee facilities	1 per 60 care recipient units		1 per 60 care recipient units			1 per 100	1 service sink per floor
				Visitor facilities	1 per 75 care recipient units.		1 per 75 care recipient units.				
			Nursing homes	Sleeping units for care recipients	1 per 2 care recipient sleeping units		1 per 2 care recipient sleeping units		1 per 8 care recipient sleeping units		
				Employee facilities	1 per 60 care recipient units		1 per 60 care recipient sleeping units			1 per 100	1 service sink per floor
				Visitor facilities	1 per 75 care recipient units.		1 per 75 care recipient sleeping rooms				
			Hospitals[b] ~~Footnote b~~	Sleeping units for care recipients	1 per care recipient sleeping unit		1 per care recipient sleeping unit		1 per 100 care recipient sleeping unit		
				Care recipient treatment areas	1 per 25 care recipient treatment rooms		1 per 50 care recipient treatment rooms			1 per 100	
				Employee facilities	1 per 25 care recipient sleeping units or treatment room	1 per ~~35~~ 25 care recipient sleeping units or treatment room	1 per 50 care recipient sleeping units or treatment room			1 per 100	1 service sink per floor
				Visitor facilities	1 per 75 care recipient sleeping room or treatment room	1 per ~~100~~ 75 care recipient sleeping room or treatment room	1 per 50 care recipient sleeping room or treatment room			1 per 500	—
			Employees in hospitals and nursing homes[b]		1 per 25		1 per 35		—	1 per 100	—
			Visitors in hospitals and nursing homes		1 per 75		1 per 100		—	1 per 500	—
			Prisons[b]		1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
			Reformatories, detention centers, and correctional centers[b]	Cells	1 per ~~15~~ cell		1 per ~~15~~ cell		1 per 15	1 per 100	1 service sink
				Congregate Living Facilities	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
				Employees	1 per 25		1 per 35		—	1 per 100	—
			Adult day care and child day care		1 per 15		1 per 15		1	1 per 100	1 service sink
6	Mercantile		Retail stores, service stations, shops, salesrooms, markets and shopping centers		1 per 500		1 per 750		—	1 per 1,000	1 service sink[e]
7	Residential		Hotels, motels, boarding houses (transient)		1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
			Dormitories, fraternities, sororities and boarding houses (not transient)		1 per 10		1 per 10		1 per 8	1 per 100	1 service sink

NO.	CLASSIFICATION		DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
				MALE	FEMALE	MALE	FEMALE			
			Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
			Congregate living facilities with 16 or fewer care recipients receiving custodial care	1 per 10 care recipients		1 per 10 care recipients		1 per 8 care recipients		1 kitchen sink
			One- and two-family dwellings and lodging houses with five or fewer guestrooms	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit
			Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage		Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.	1 per 100		1 per 100		—	1 per 1,000	1 service sink

Committee Reason: For the modification: The term "hospitals" was inadvertently left out and the fixture ratios for males and females needed to be the same as these facilities are typically provided as single user toilet room configuration. A congregate living facility row was added to the reformatories/detention centers row because most facilities do not have cells for individuals but have rooms for small to medium size groups of individuals.
For the proposal as modified: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P21-21 AM

P24-21 Part I

Original Proposal

IPC: 403.1.1, 403.2, 405.3.5

Proponents: Emma Gonzalez-Laders, NYS DOS Division of Building Standards and Codes, NYS DOS Division of Building Standards and Codes (emma.gonzalez-laders@dos.ny.gov); China Clarke, New York State Dept of State, New York State Dept of State (china.clarke@dos.ny.gov)

THIS IS A 2 PART CODE CHANGE. PART I AND PART II WILL BE HEARD BY PLUMBING CODE COMMITTEE.

2021 International Plumbing Code

Revise as follows:

403.1.1 Fixture calculations. To determine the occupant load of each sex, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple *occupancies*, such fractional numbers for each *occupancy* shall first be summed and then rounded up to the next whole number.

Exceptions:

1. The total occupant load shall not be required to be divided in half where *approved* statistical data indicate a distribution of the sexes of other than 50 percent of each sex.
2. Where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load. In such multiple-user facilities, each fixture type shall be in accordance with ICC A117.1 ~~and each urinal that is provided shall be located in a stall.~~
3. Distribution of the sexes is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 403.1.2.

403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile *occupancies* in which the maximum occupant load is 100 or fewer.
4. Separate facilities shall not be required in business *occupancies* in which the maximum occupant load is 25 or fewer.
5. Separate facilities shall not be required to be designated by sex where single-user toilet rooms are provided in accordance with Section 403.1.2.
6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by ~~both sexes~~ <u>all persons regardless of sex</u> and privacy <u>is provided</u> for water closets <u>and urinals</u> ~~is provided~~ in accordance with Section 405.3.4. ~~Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.~~

405.3.5 Urinal partitions. Each urinal utilized by the *public* or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm)

or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater. Urinals located in facilities designed for the use of all persons regardless of sex shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet room with a lockable door.
2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

Reason: Sections 1210 and 2902 of the 2021 IBC are complementary to each other, thus, pointers are provided in Sections 2902 and 1210.1. However, their focus and purpose are different.
The purpose of Chapter 29 of the IBC, as stated in the commentary, is "to provide a building with the necessary**number** of plumbing fixtures of a specific type and quality." The commentary explains in great detail the methodology and difficulties in establishing the appropriate number of fixtures for each type of facility. Those difficulties continue beyond the code books as code users attempt to establish the appropriate number of fixtures for specific buildings and facilities. Much clarification is still needed in this section to enable users to make the appropriate determination.

On the other hand, and also according to the commentary, "the purpose of Chapter 12 is to establish minimum conditions for the**interior environment** of a building." Conditions that include not only the physical but also the psychological needs of the occupants, including space perception and privacy.

In keeping with that distinction, this proposal seeks to maintain issues pertaining to the interior environment of toilet facilities in Chapter 12 and to streamline Section 2902 to include only those requirements that address the calculation and the distribution of the number and type of plumbing fixtures required.

Also, in response to public comment received from design professionals, this proposal seeks to resolve the practical challenges and misuse that results from placing urinals in stalls and to remove unnecessarily repetitive language. Specifically, and in summary, this proposal seeks to:

1. Relocate the privacy requirements for urinals from exception2 in 2902.1.1 to Section 1210.3.2 of the 2021 IBC.
2. Relocate the performance language to accomplish privacy for urinals from exception 6 in Section 2902.2 to Section 1210.3.2 of the 2021 IBC.
3. Modify Section 1210.3.2 by incorporating the differences in language that were made to Section 2903.1.5 of the 2021 IBC in the last code cycle.
4. Since Section 2903.1.4 pertaining to privacy for water closets is a duplicate of Section 1210.3.1 and Section 2901.1 already includes a pointer to Section 1210, to remove the duplicate section in Chapter 29 of the 2021 IBC.
5. Since Section 2903.1.5 pertaining to privacy for urinals is a duplicate of Section 1210.3.2 and Section 2901.1 already includes a pointer to Section 1210, to remove the duplicate section in Chapter 29 of the 2021 IBC.

Sections 2903.1.4 and 2903.1.5 were modified by public comment during the last code cycle as Code Change No: G133-18. According to the proponent's justification, the proposal intended to bring *"language from the IPC into the IBC where designers that utilize the IBC can find this information more readily. [since] Most architectural firms do not have an IPC in their office."* However, those provisions already existed in the IBC and adding them to Chapter 29 was unnecessary.

This proposal neither introduces new nor eliminates existing language or code requirements. It seeks instead to consolidate all privacy provisions into one place (Chapter 12) and to ensure that the provisions included in Chapter 29 are consistent with the stated Scope of the Chapter.

Bibliography: Code Change Proposal G133-18 as Modified by Public Comment. Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC; David Collins.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal neither adds nor subtracts code requirements and simply re-organizes existing provisions and deletes duplicate provisions within the IBC.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

403.2 Separate facilities.

Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile *occupancies* in which the maximum occupant load is 100 or fewer.
4. Separate facilities shall not be required in business *occupancies* in which the maximum occupant load is 25 or fewer.
5. Separate facilities shall not be required to be designated by sex where single-user toilet rooms are provided in accordance with Section 403.1.2.
6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by all persons regardless of sex and privacy is provided for water closets ~~and urinals~~ in accordance with Section 405.3.4 and for urinals in accordance with Section 405.3.5.

Committee Reason: For the modification: The correction section number for urinals needed to be included. (14-0)
For the proposal As Modified: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P24-21 Part I AM

P24-21 Part II

Original Proposal

IBC: [P] 1210.3.2, [P] 2903.1.5, [P] 2903.1.4

Proponents: Emma Gonzalez-Laders, NYS DOS Division of Building Standards and Codes, NYS DOS Division of Building Standards and Codes (emma.gonzalez-laders@dos.ny.gov); China Clarke, New York State Dept of State, New York State Dept of State (china.clarke@dos.ny.gov)

2021 International Building Code

Revise as follows:

[P] 1210.3.2 Urinal partitions. Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be no less than 30 inches (762 mm).The walls or partitions shall begin at a height not ~~more~~greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater. Urinals located in facilities designed for the use of all persons regardless of sex shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

Exceptions:

1. Urinal partitions shall not be required in a single-occupant or family or assisted-use toilet room with a lockable door.
2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

[P] ~~2903.1.5 Urinal partitions.~~ ~~Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.~~

~~Exceptions:~~

1. ~~Urinal partitions shall not be required in a single-occupant or family/assisted-use toilet room with a lockable door~~.
2. ~~Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.~~

[P] ~~2903.1.4 Water closet compartment.~~ ~~Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.~~

~~Exceptions:~~

1. ~~Water closet compartments shall not be required in a single-occupant toilet room with a lockable door~~.
2. ~~Toilet rooms located in child day care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.~~
3. ~~This provision is not applicable to toilet areas located within Group I-3 housing areas~~.

Reason: Sections 1210 and 2902 of the 2021 IBC are complementary to each other, thus, pointers are provided in Sections 2902 and 1210.1. However, their focus and purpose are different.
The purpose of Chapter 29 of the IBC, as stated in the commentary, is “to provide a building with the necessary**number** of plumbing

fixtures of a specific type and quality." The commentary explains in great detail the methodology and difficulties in establishing the appropriate number of fixtures for each type of facility. Those difficulties continue beyond the code books as code users attempt to establish the appropriate number of fixtures for specific buildings and facilities. Much clarification is still needed in this section to enable users to make the appropriate determination.

On the other hand, and also according to the commentary, "the purpose of Chapter 12 is to establish minimum conditions for the **interior environment** of a building." Conditions that include not only the physical but also the psychological needs of the occupants, including space perception and privacy.

In keeping with that distinction, this proposal seeks to maintain issues pertaining to the interior environment of toilet facilities in Chapter 12 and to streamline Section 2902 to include only those requirements that address the calculation and the distribution of the number and type of plumbing fixtures required.

Also, in response to public comment received from design professionals, this proposal seeks to resolve the practical challenges and misuse that results from placing urinals in stalls and to remove unnecessarily repetitive language. Specifically, and in summary, this proposal seeks to:

1. Relocate the privacy requirements for urinals from exception2 in 2902.1.1 to Section 1210.3.2 of the 2021 IBC.
2. Relocate the performance language to accomplish privacy for urinals from exception 6 in Section 2902.2 to Section 1210.3.2 of the 2021 IBC.
3. Modify Section 1210.3.2 by incorporating the differences in language that were made to Section 2903.1.5 of the 2021 IBC in the last code cycle.
4. Since Section 2903.1.4 pertaining to privacy for water closets is a duplicate of Section 1210.3.1 and Section 2901.1 already includes a pointer to Section 1210, to remove the duplicate section in Chapter 29 of the 2021 IBC.
5. Since Section 2903.1.5 pertaining to privacy for urinals is a duplicate of Section 1210.3.2 and Section 2901.1 already includes a pointer to Section 1210, to remove the duplicate section in Chapter 29 of the 2021 IBC.

Sections 2903.1.4 and 2903.1.5 were modified by public comment during the last code cycle as Code Change No: G133-18. According to the proponent's justification, the proposal intended to bring *"language from the IPC into the IBC where designers that utilize the IBC can find this information more readily. [since] Most architectural firms do not have an IPC in their office."* However, those provisions already existed in the IBC and adding them to Chapter 29 was unnecessary.

This proposal neither introduces new nor eliminates existing language or code requirements. It seeks instead to consolidate all privacy provisions into one place (Chapter 12) and to ensure that the provisions included in Chapter 29 are consistent with the stated Scope of the Chapter.

Bibliography: Code Change Proposal G133-18 as Modified by Public Comment. Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC; David Collins.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal neither adds nor subtracts code requirements and simply re-organizes existing provisions and deletes duplicate provisions within the IBC.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal consolidates the requirement and reduces words in the code. (14-0)

Final Hearing Results

P24-21 Part II AS

P25-21

Original Proposal

IPC: 403.1.1, 403.1.2

Proponents: Emma Gonzalez-Laders, NYS DOS Division of Building Standards and Codes, NYS DOS Division of Building Standards and Codes (emma.gonzalez-laders@dos.ny.gov); China Clarke, New York State Dept of State, New York State Dept of State (china.clarke@dos.ny.gov); David Collins, The Preview Group, Inc, The American Institute of Architects (dcollins@preview-group.com)

2021 International Plumbing Code

Revise as follows:

403.1.1 Fixture calculations. To determine the occupant load of each sex, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple *occupancies*, such fractional numbers for each *occupancy* shall first be summed and then rounded up to the next whole number.

Exceptions:

1. The total occupant load shall not be required to be divided in half where *approved* statistical data indicate a distribution of the sexes of other than 50 percent of each sex.
2. Where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load. In such multiple-user facilities, each fixture type shall be in accordance with ICC A117.1 and each urinal that is provided shall be located in a stall.
3. ~~Distribution of the sexes is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 403.1.2.~~

403.1.2 Single-user toilet and bathing room fixtures. The plumbing fixtures located in single-user toilet and bathing rooms, including family or assisted-use toilet and bathing rooms ~~that are required by Section 1110.2.1 of the International Building Code~~, shall contribute toward the total number of required plumbing fixtures for a building or tenant space, and shall be deducted proportionately from the required gender ratios of Table 403.1. Single-user toilet and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified as being available for use by all persons regardless of ~~their~~ sex. The total number of fixtures shall be permitted to be based on the required number of separate facilities or based on the aggregate of any combination of single-user or ~~separate~~multi-user facilities.

Reason: Exception 3 to Section 2902.1.1 of the 2021 IBC was added during the last code cycle and it indicates that *"distribution of the sexes is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 2902.1.2."* Section 403.1.1 of the 2021 IPC is nearly identical. The section referenced (2902.1.1) pertains to single-user facilities and how their number contributes to the total required fixture counts. Neither Section, however, provides any guidance on how the required gender rations are to be maintained in accordance with Table 2902.1. This ambiguity may lead some code users to assume that the lower ratios can be used, while other code users would assume that the more restrictive requirement should apply (in accordance with Section 102.1). In either scenario, the resulting number of fixtures would be either too low and not serve the needs of facility users or too high and not serve the needs of developers by unreasonably increasing cost.

Also, this exception may suggest that proportionality in the distribution of toilet fixtures by gender is not required. This is contrary to the intent of the proponents, based on conversations with one of them, and also contrary to the intent of the different Table values found in the Plumbing Code and the Building Code as stated in the commentary, which is to provide *"an 'equality of fixture availability' in those particular occupancies"* with *"historically […] long lines of females waiting to use toilet facilities while male facilities had no lines."*

A better way to address the issue of proportionate distribution and how single-user facilities are to be deducted from the total required number of fixtures is to explicitly say so in Section 2902.1.2, and we, therefore, propose that the language *"and shall be deducted proportionately from the required gender ratios of Table 2902.1"* be added to that section.

Additionally, the reference in Section 2902.1.2 of the IBC and Section 403.1.2 of the IPC to *"family or assisted-use toilet and bathing rooms that are required by Section 1110.2.1"* is unnecessary and may incorrectly suggest that ONLY those facilities required by Section 1110.2.1 of the IBC can be counted and *"contribute toward the total number of required plumbing fixtures,"* where we believe that the intent is to have ALL single-user fixtures contribute to those totals, regardless of being required or provided voluntarily, therefore, we propose that the reference to Section 1110.2.1 be deleted.

And, to say "single-user and separated facilities" may incorrectly suggest that single-user facilities could be separated by gender, contrary to the 2nd sentence in the Section. We believe the intent to be for ALL facilities, single- or multi-user, separated or not, to contribute to the total fixture count. Therefore, we propose that the word *"separated"* in the last sentence of the code provision be replaced with the word *"multi-user."*

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not eliminate any existing code provisions, nor does it create new provisions. Instead, it provides consistency across related code sections.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

403.1.2 Single-user toilet and bathing room fixtures. The plumbing fixtures located in single-user toilet<u>or single-user</u> ~~and~~ bathing rooms, including family or assisted-use toilet and bathing rooms, shall contribute toward the total number of required plumbing fixtures for a building or tenant space~~, and~~. <u>The number of fixtures in single-user toilets, single-user bathing fixtures and family or assisted-use toilets</u>shall be deducted proportionately from the required gender ratios of Table 403.1. Single-user toilet and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified as being available for use by all persons regardless of sex.
The total number of fixtures shall ~~be permitted to~~ be based on the required number of separate facilities or based on the aggregate of any combination of single-user or <u>male and female designated</u> ~~multi-user~~ facilities.

Committee Reason: For the modification: The clarifies the section to make sure that requirement covers all facilities. (14-0)
For the proposal As Modified: Exception No. 3 was always out of place. There has always been a problem with how to count the fixtures. This clears up the confusion. (14-0)

Public Comments

Public Comment 1

Proponents: Emma Gonzalez-Laders, NYS DOS Division of Building Standards and Codes, NYS DOS Division of Building Standards and Codes (emma.gonzalez-laders@dos.ny.gov); David Collins, The Preview Group, Inc, The American Institute of Architects (dcollins@preview-group.com); China Clarke, New York State Dept of State, New York State Dept of State (china.clarke@dos.ny.gov) requests As Modified by Public Comment

Further modify as follows:

2021 International Plumbing Code

403.1.2 Single-user toilet and bathing room fixtures . The plumbing fixtures located in single-user toilet or single-user bathing rooms, including family or assisted-use toilet and bathing rooms, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. The number of fixtures in single-user toilets, single-user bathing fixtures and family or assisted-use toilets shall be deducted proportionately from the required gender ratios of Table 403.1. Single-user toilet and bathing rooms, and family or assisted-use

toilet rooms and bathing rooms shall be identified as being available for use by all persons regardless of sex.
The total number of fixtures shall be based on the required number of separate facilities or based on the aggregate of any combination of single-user or ~~male and fema~~le ~~designated~~multiple-user facilities.

Commenter's Reason: A seemingly simple word change had an unintended misapplication. The intent of the last sentence is to indicate that all plumbing fixtures available for public use count regardless of whether provided in single- or multi-user facilities and regardless of whether those multi-user facilities are separated by gender or not. As currently written, the wording "male and female designated facilities" would suggest that the fixtures located in multi-user facilities designed to serve all persons regardless of sex should not be counted, which is incorrect and was not the intent of the proponent.
A simple fix to substitute the words "male and female designated" with "multi-user" resolves that unintended misaplication.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This proposal is editorial and a matter of clarification. It has no cost implication.

Final Hearing Results

P25-21 AMPC1

P28-21

Original Proposal

IPC: SECTION 310, 310.1, 310.3, TABLE 403.1, 403.1.2, 403.1.3, 403.2, 403.3.1, 403.3.2, 403.3.5, 403.3.6, 403.4, 405.3.2, 405.3.4, 405.3.5

Proponents: Sarah Rice, The Preview Group, The Preview Group (srice@preview-group.com)

2021 International Plumbing Code

Revise as follows:

SECTION 310
~~WASHROOM AND~~ TOILET FACILITIES ~~ROOM~~ REQUIREMENTS

310.1 Light and ventilation. ~~Washrooms and toilet rooms~~ Toilet facilities shall be illuminated and ventilated in accordance with the *International Building Code* and *International Mechanical Code* .

310.3 Interior finish. Interior finish surfaces of toilet facilities ~~rooms~~ shall comply with the *International Building Code* .

TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a] (See Sections 403.1.1 and 403.2)

Portions of table not shown remain unchanged.

NO.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
			MALE	FEMALE	MALE	FEMALE			
5	Institutional	Medical care recipients in hospitals and nursing homes	1 per room[c]		1 per room[c]		1 per 15	1 per 100	1 service sink per floor

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

c. A single-user toilet facility ~~occupant toilet room~~ with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

f. The required number and type of plumbing fixtures for outdoor public swimming pools shall be in accordance with Section 609 of the International Swimming Pool and Spa Code.

403.1.2 Fixtures in Single-user toilet facilities and bathing room ~~fixtures.~~ The plumbing fixtures located in single-user toilet facility and single-user bathing rooms, including family or assisted-use toilet facilities and bathing rooms that are required by Section 1110.2.1 of the International Building Code, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet facilities and bathing rooms, and family or assisted-use toilet facilities ~~rooms~~ and bathing rooms shall be identified as being available for use by all persons regardless of their sex. The total number of fixtures shall be permitted to be based on the required number of separate facilities or based on the aggregate of any combination of single-user or separate facilities.

403.1.3 Lavatory distribution. Where two or more toilet facilities ~~rooms~~ are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets.

403.2 Separate facilities. Where plumbing fixtures are required, separate toilet facilities shall be provided for each sex.

Exceptions:

1. Separate toilet facilities shall not be required for dwelling units and sleeping units.
2. Separate toilet facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.
3. Separate toilet facilities shall not be required in mercantile *occupancies* in which the maximum occupant load is 100 or fewer.
4. Separate toilet facilities shall not be required in business *occupancies* in which the maximum occupant load is 25 or fewer.
5. Separate toilet facilities shall not be required to be designated by sex where single-user toilet rooms are provided in accordance with Section 403.1.2.
6. Separate toilet facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets is provided in accordance with Section 405.3.4. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

403.3.1 Access. The route to the *public* toilet facilities required by Section 403.3 shall not pass through kitchens, storage rooms or closets. Access to the required toilet facilities shall be from within the building or from the exterior of the building. The public shall have access to the required toilet facilities at all times that the building is occupied.

403.3.2 Prohibited ~~toilet room~~ location for toilet facilities. Toilet facilities ~~rooms~~ shall not open directly into a room used for the preparation of food for service to the public.

403.3.5 Pay toilet facilities. Where pay toilet facilities are installed, such toilet facilities shall be in excess of the required minimum toilet facilities. Required toilet facilities shall be free of charge.

403.3.6 Door locking. Where a toilet facility ~~room~~ is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet facilities ~~rooms~~.

403.4 Signage. Required *public* toilet facilities shall be provided with signs that designate the sex, as required by Section 403.2. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with Section 1111 of the International Building Code.

405.3.2 Public lavatories. In employee and *public* toilet facilities ~~rooms~~, the required lavatory shall be located in the same room as the required water closet.

405.3.4 Water closet compartment. Each water closet utilized by the *public* or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

Exceptions:

1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door.
2. Toilet facilities ~~rooms~~ located in child day care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.
3. This provision is not applicable to toilet areas located within Group I-3 housing areas.

405.3.5 Urinal partitions. Each urinal utilized by the *public* or employees shall occupy a separate area with walls or partitions to provide privacy. The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm). The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm)

or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet<u>facility</u> ~~room~~ with a lockable door.
2. Toilet <u>facilities</u> ~~rooms~~ located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

Reason: This is one of several code changes which is intended to implement a consistent use of the term "toilet facility".

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a correlation code change between the IPC and IBC and has no affect on the the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This is a good cleanup of out-of-date terminology. (14-0)

Final Hearing Results

P28-21 AS

P32-21

Original Proposal

IPC: 403.2.1

Proponents: Pennie Feehan, Chair of PMGCAC, Chair of PMGCAC (PMGCAC@iccsafe.org)

2021 International Plumbing Code

Delete without substitution:

~~**403.2.1 Family or assisted-use toilet facilities serving as separate facilities.** Where a building or tenant space requires a separate toilet facility for each sex and each toilet facility is required to have only one water closet, two family or assisted-use toilet facilities shall be permitted to serve as the required separate facilities. Family or assisted-use toilet facilities shall not be required to be identified for exclusive use by either sex as required by Section 403.4.~~

Reason: Section 403.2.1 was added in the 2012 IPC to allow small occupancies (needing only 1 WC for males and 1 WC for females) to have these separate sex, single-user toilet facilities labeled for use by <u>both</u> sexes. The purpose was to reduce wait times if one of the facilities was being used for more than an "average" length of time. This was a small step towards what has been called in the past, "unisex" labeling of a single-user toilet facility.

Another section in the IPC (403.1.2) has "morphed" through the 2015 and 2018 editions to result in the 2021 edition requiring that all single-user toilet facilities be labeled "for use by all persons regardless of their sex." Therefore, Section 403.2.1 is redundant and needs to be deleted to eliminate confusion.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC

has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 25.

Cost Impact: The code change proposal will decrease the cost of construction
Because the two single-user toilet facilities are required to be identical, where they are in a cluster, only one of the facilities is required to be of accessible design (in accordance with the building code's accessibility exception.) The one toilet facility will be smaller and without accessible fixtures and hardware (grab bars). Therefore, the cost for the one toilet facility will be less.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P32-21 AS

P35-21

Original Proposal

IPC: 403.3.6

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Plumbing Code

Revise as follows:

403.3.6 Door locking. Where a toilet room is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.

Exception: The egress door of a multiple occupant toilet room shall be permitted to be lockable from inside the room where all the following criteria are met:

1. The egress door shall be lockable from the inside of the room only by authorized personnel by the use of a key or other approved means.
2. The egress door shall be readily openable from the egress side with not more than one releasing motion and without the use of a key or special knowledge or effort.
3. The egress door shall be capable of being unlocked from outside the room with a key or other approved means.

Reason: Complementing the requirements in 2021 IBC Section 1010.2.8 regarding locking arrangements in educational occupancies, the proposed exception would facilitate door locking of multiple occupant toilet rooms in emergency situations by authorized personnel. Our BHMA members are recognizing that schools desire the same intruder protection in multiple occupant toilet rooms as classrooms – but the code explicitly does not permit locking of the egress doors of multiple occupant toilet rooms.
Proposed Criteria 1 limits the ability to lock the egress doors of a multiple occupant toilet room to authorized individuals provided with the key or other approved means.

Proposed Criteria 2 is consistent with long standing requirements in the IBC to require doors in the means of egress to, from the egress side, be openable (unlock and unlatch) with not more than one releasing motion and without using a key, or special knowledge or effort.

Proposed Criteria 3 is consistent with locks permitted on classroom doors per IBC Section 1010.2.8.

An additional benefit of this proposed exception is the proposed exception would allow, for example, a male custodian to lock the door when cleaning the women's restroom, and prevent "surprise" use of the restroom.

The proposed exception prevents unauthorized personnel from locking the door from the inside, which meets the original intent of this section.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The exception is "shall be permitted" and non-mandatory. Of course, if building owners choose to install locks on egress doors from multiple occupant toilet rooms, a cost would be incurred.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal seems to be all over the map. For example, how can be required for key locking from the inside of the door where the door must be unlockable from the inside of the door without the use of a key? (12-2)

Public Comments

Public Comment 1

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

403.3.6 Door locking. Where a toilet room is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.

Exception: The egress door of a multiple occupant toilet room shall be permitted to be lockable from inside the room where all the following criteria are met:

1. The egress door shall be lockable from the inside of the room only by authorized personnel by the use of a key or other approved means.
2. The egress door shall be readily openable from~~the egress side with not more than one releasing motion and without the use of a key or special knowledge or efforteffort.~~ the inside of the toilet room in accordance with IBC Section 1010.2.
3. The egress door shall be capable of being unlocked from outside the room with a key or other approved means.

Commenter's Reason: The proponent for this proposal failed to inform the committee members of the need and benefits of the proposed revisions, and failed to communicate the similarities of the proposed revisions to existing requirements in the IBC for door locking.
The current IPC requires the egress door of a multiple occupant toilet room to not be lockable from inside the toilet room. For many occupancies, that's appropriate.

However, considering active shooter situations in K-12 schools, for example, there's a real concern that teachers with their students would not have a safe refuge from a shooter in a multi-occupant toilet room if the toilet room door cannot be lockable from inside the room. Picture a kindergarten teacher leading the class to the cafeteria when shots ring out, and the multi-occupant toilet room is the nearest potential place of refuge and safety.

This proposal, improved with the public comment modification, provides appropriate requirements via the proposed exception to 403.3.6 for building owners that wish to provide the ability for authorized personnel to lock the door from the inside of a multi-occupant toilet room. This proposed option is not limited to K-12 schools as the ability for authorized personnel to lock the door from inside of a toilet room may be desired in other occupancies.

The criteria for permitting the egress door of a multi-occupant toilet room to be lockable from inside the room includes:

1. Requiring the use of a key, or other approved means, to lock the door from the inside.

a. This restricts the ability to lock the door from the inside to only those authorized to do so. In a K-12 school, that could be teachers, administrators, and custodians. The provision for "other approved means" would permit, for example, electronic remote locking of doors for a building-wide lockdown.

2. Revising Item 2, and requiring the egress door to be openable from inside the toilet room in accordance with IBC Section 1010.2 – which is a current requirement for egress doors – is repeated here to stress the importance. IBC Section 1010.2 and subsections requires egress doors to be openable with a single motion, and without the use of a key or special knowledge or effort, and includes requirements for hardware height, locks and latches, etc.

a. Door hardware is readily available from multiple manufacturers that is lockable from inside the room only by authorized personnel (by a key, etc.), and unlockable by anybody inside the room without using a key, tool, special knowledge or effort.

3. Requiring the door to the multi-occupant toilet room to be unlockable from outside of the room by a key or other approved means ensures authorized personnel have the ability to gain access to the toilet room, should that need arise.

a. This requirement is consistent with current requirements in the IBC for Group E and Group B occupancies for locks permitted on classrooms, offices, and other occupied rooms per IBC Section 1010.2.8.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The exception is “shall be permitted” and non-mandatory. Of course, if building owners choose to install locks on egress doors from multiple occupant toilet rooms, a cost would be incurred.

Final Hearing Results

P35-21 AMPC1

P36-21

Original Proposal

IPC: 403.4

Proponents: Emma Gonzalez-Laders, NYS DOS Division of Building Standards and Codes, NYS DOS Division of Building Standards and Codes (emma.gonzalez-laders@dos.ny.gov); China Clarke, New York State Dept of State, New York State Dept of State (china.clarke@dos.ny.gov); Rebecca Krefting, Skidmore College, Self (rkreftin@skidmore.edu)

2021 International Plumbing Code

Revise as follows:

403.4 Signage. Required *public* facilities shall be provided with signs that ~~designate the~~indicate whether the facility is to be used by males, by females, or by all persons regardless of sex~~, as required by Section 403.2~~. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with Section 1111 of the International Building Code.

Reason: This proposal seeks to bring IPC Section 403.4 (IBC Section 2902.4) into alignment with the changes made to IPC Sections 403.1.1 and 403.1.2 (IBC Sections 2902.1.1 and 2902.1.2) of the 2021 IPC (IBC) in the last code cycle.
Provisions for the design of multi-user facilities designed to serve all persons regardless of their sex were introduced during the last code cycle. IPC Section 403.1.1 (IBC 2902.1.1) of the 2021 IPC (IBC) includes an exception applicable to the fixture count calculations for such facilities. Also, IPC Section 403.1.2 (IBC 2902.1.2) of the 2021 IPC (IBC) indicates that *"single-user facilities … shall be identified as being available for use by all persons regardless of their sex."* However, Section IPC 403.4 (IBC 2902.4) was not changed accordingly and, as it stands, it contradicts the previously quoted section. Additionally, the purpose of this section is to require signage, it is not to determine how facilities are separated or not, therefore, the reference to Section IPC 403.2 (IBC 2902.2) is unnecessary and can only add confusion.

Bibliography: Section 2902.2 of the 2021 IBC was referenced in the Reason Statement. It is copied here for convenience.

[P] 2902.2 Separate facilities.

Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for *dwelling units* and *sleeping units*.

2. Separate facilities shall not be required in structures or tenant spaces with a total *occupant load*, including both employees and customers, of 15 or fewer.

3. Separate facilities shall not be required in mercantile occupancies in which the maximum *occupant load* is 100 or fewer.

4. Separate facilities shall not be required in business occupancies in which the maximum *occupant load* is 25 or fewer.

5. Separate facilities shall not be required to be designated by sex where single-user toilets rooms are provided in accordance with Section 2902.1.2.

6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets are installed in accordance with Section 405.3.4 of the *International Plumbing Code*. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not eliminate any existing code provisions, nor does it create new provisions. Instead, it provides consistency across related code sections.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This is a simple editorial fix. There is no new requirement. (14-0)

Final Hearing Results	
P36-21	AS

P37-21 Part II

Original Proposal

IBC: 1210.2.3 (New)

Proponents: Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., Adult Changing Table Committee (jbengineer@aol.com)

2021 International Building Code

Add new text as follows:

1210.2.3 Adult changing table surround. Walls and partitions within 2 feet (610 mm) of the adult changing table shall have a smooth, hard, nonabsorbent surface, to a height of not less than 72 inches (1829 mm) above the floor, and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture.

Reason: The Adult Changing Table Committee of ICC A117.1 developed this code change to address the installation of adult changing stations that are installed on a voluntary basis. There is no mandate within this code change. A companion code change being proposed to Chapter 11 of the Building Code would mandate adult changing stations in certain buildings. This proposed change is consistent with the proposed change to mandate adult changing stations. This proposal will supplement the requirements being proposed to Chapter 11. However, this proposed change can also stand on its own if the proposed change to Chapter 11 is not accepted. If this change is accepted, Chapter 29 of the Building Code would be correlated with the addition of the requirements to the existing sections. If an adult changing station is installed, this code change provides the requirements for public access, cleanliness, and sanitation. The access to an adult changing station is outlined in the first section which lists the rooms in which an adult changing station can be installed. The first two options are obvious in that they would be installed in an individual toilet or bathing room. The third option would allow the changing station to be installed in a men's or ladies room or all gender toilet room having multiple fixtures. Privacy requirements are specified to allow the adult diaper changing to take place out of public view. The fourth option would be a separate room similar to a lactating room in a commercial building or nurses station in a school.

The initial sanitation requirements are specified in the proposed new section 1210.2.3. This section would require surround material similar to the requirement for urinals. It would provide a surface that is readily cleanable and not impacted by moisture.

Every toilet or bathing room has a lavatory. The new requirement would stipulate that when an adult changing station is installed in a privacy compartment or separate room a lavatory would be required for that room to allow for cleanup during and after diaper changing. If there is a separate room without plumbing located in the close proximity, an alcohol-based hand sanitizer dispenser could be used as a substitute for a lavatory.

Since the adult changing station involves the changing of adult diapers, a waste receptacle is required to dispose of the diaper. To minimize the odor from the diaper, the waste receptacle is required to be self-closing. While the Committee considered mandating ventilation for the waste receptacle, it was decided to at a minimum require self closing.

A floor drain is also required to facilitate the washing of the area in the event of an accident during the diaper changing operation. While floor drains are common in toilet rooms and bathing rooms, the Plumbing Code does not mandate the fixture. This section would result in mandating the floor drain when an adult changing station is installed.

It is intended that Section 1210.2.3 be scoped to the IPC committee.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This change is adding optional requirements if someone choses to install an adult changing station. There are no mandates for such an installation in this change. As such, there is no impact to the cost of construction.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The part about "within 2 feet" doesn't indicate which direction. Is it horiontally? (8-6)

Public Comments

Public Comment 1

Proponents: Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., Adult Changing Table Committee (jbengineer@aol.com); Marsha Mazz, Director Accessibility Codes and Standards, United Spinal Association, Accessibility Services, United Spinal Association (mmazz@accessibility-services.com); Lawrence Perry, Lawrence G. Perry, AIA, self (lperryaia@aol.com); Gene Boecker, Code Consultants, Inc., Code Consultants, Inc. (geneb@codeconsultants.com); Laurel Wright, NCDOI/OSFM - Retired, self (lwwright8481@icloud.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1210.2.3 Adult changing table surround . Walls and partitions within 2 feet (610 mm) measured horizontally from each end of the adult changing table and to a height of not less than 72 inches (1829 mm) above the floorshall have a smooth, hard, nonabsorbent surface, ~~to a height of not less than 72 inches (1829 mm) above the floor,~~ and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture.

Commenter's Reason: The Plumbing code committee wanted clearer language for where the nonabsorbent surface would be provided. This public comment addresses that concern.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This change is only a clarification of the original intent.

Final Hearing Results

P37-21 Part II AMPC1

P40-21

Original Proposal

IPC: 407.2

Proponents: Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

2021 International Plumbing Code

Revise as follows:

407.2 Bathtub waste outlets and overflows. Bathtubs shall be equipped with a waste outlet that is not less than $1^1/_2$ inches (38 mm) in diameter. The waste outlet shall be equipped with a watertight stopper. Where an overflow is installed in a bathtub, the piping from the overflow outlet shall be connected upstream of the fixture trap. The overflow outlet shall discharge to the trap whether the waste outlet is closed or open. ~~the overflow shall be not less than $1^1/_2$ inches (38 mm) in diameter~~.

Reason: There are several bathtubs that have overflows that are not a perfect circle and an 1-1/2 inch diameter requirement could prevent the installation of non-circular overflows. What is important is if a bathtub does have an overflow, that standing water is only permitted in the overflow when the fixture is filled to the point of overflow and that the overflow does not bypass the trap of the bathtub.
This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 17.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change is only a clarification of the existing requirements to allow for newer designs of tub overflows on the market. Clarifications of the code do not have a cost impact.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: There can be a lot of different shapes for overflows. This is a manufacturer's decision. The code doesn't require an overflow. (9-5)

Final Hearing Results

P40-21 AS

P41-21

Original Proposal

IPC: 410.1

Proponents: Emily Toto, ASHRAE, ASHRAE (etoto@ashrae.org)

2021 International Plumbing Code

Revise as follows:

410.1 Approval. ~~Drinking fountains shall conform to ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1 or ASME A112.19.3/CSA B45.4, and *water coolers* shall conform to ASHRAE 18~~. Drinking fountains, *water coolers* and *water dispensers* shall conform to NSF 61, Section 9. Drinking fountains shall also conform to ASME A112.19.1/CSA B45.2 or ASME A112.19.2/CSA B45.1. Electrically operated, refrigerated drinking *water coolers* and *water dispensers* shall be listed and labeled in accordance with UL 399.

Reason: ASHRAE 18 has been withdrawn so it is appropriate to remove from this list. The proposed modification to the sentence order is intended to clarify the requirements that apply to each product type.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is editorial in nature and does not include new or revised requirements.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
410.1Approval. Drinking fountains, *water coolers* and *water dispensers* shall conform to NSF 61, Section 9. Drinking fountains shall also conform to ASME A112.19.1/CSA B45.2, ~~or~~ ASME A112.19.2/CSA B45.1 or ASME A112.19.3/CSA B45.4. Electrically operated, refrigerated drinking *water coolers* and *water dispensers* shall be listed and labeled in accordance with UL 399.

Committee Reason: For the modification: The A112 standard was inadvertently struck out and is needed. (14-0)
For the proposal As Modified: ASHRAE 18 is no longer a valid standard.(12-2)

Final Hearing Results

P41-21 AM

P46-21

Original Proposal

IPC: 412.10

Proponents: Jason Shank, ASSE International, ASSE International (jshank@plumbers55.com)

2021 International Plumbing Code

Revise as follows:

412.10 Head shampoo sink faucets.
Head shampoo sink faucets shall be supplied with hot water that is limited to not more than 120°F (49°C). Each faucet shall have integral check valves to prevent crossover flow between the hot and cold water supply connections. The means for regulating the maximum temperature shall be one of the following:

1. A limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70.
2. A water heater conforming to ASSE~~1082~~ 1084.
3. A temperature-actuated, flow-reduction device conforming to ASSE 1062.

Reason: ASSE 1082 is designed for the following - This standard is for water heaters that control the outlet temperature to specific limits and are installed within a hot water distribution system but not at point-of-use.
Being this code section is in regards to point of use the ASSE 1082 is the wrong application. The correct application is the ASSE 1084 which is designed for the following - Water heaters covered by this standard have a cold water inlet connection, a means of heating the water, a means of controlling the water temperature, a means of limiting the temperature to a maximum of 120 °F (48.9 °C), and have an outlet connection to connect to downstream fixture fittings.
This water heater is intended to supply tempered water at point of use in order to reduce and control the risks of scalding. This water heater is not intended to limit thermal shock. This water heater is not a substitute for an automatic compensative valve complying with ASSE 1016 / ASME A112.1016 / CSA B125.16.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The change still is requiring a TLD.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

412.10 Head shampoo sink faucets. Head shampoo sink faucets shall be supplied with hot water that is limited to not more than 120°F (49°C). Each faucet shall have integral check valves to prevent crossover flow between the hot and cold water supply connections. The means for regulating the maximum temperature shall be one of the following:

1. A limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70.
2. A water heater conforming to ASSE1082 or 1084.
3. A temperature-actuated, flow-reduction device conforming to ASSE 1062.

Committee Reason: For the modification: An ASSE 1082 water heater is not limited to serving multiple shampoo sinks. (14-0)
For the proposal As Modified: Both types of water heaters are acceptable for the application. (14-0)

Final Hearing Results

P46-21 AM

P47-21

Original Proposal

IPC: 412.2, ASSE Chapter 15 (New)

Proponents: Jason Shank, ASSE International, ASSE International

2021 International Plumbing Code

Revise as follows:

412.2 Hand showers. Hand-held showers shall conform to ASME A112.18.1/CSA B125.1. Hand-held showers shall provide backflow protection in accordance with ASME A112.18.1/CSA B125.1 or shall be protected against backflow by a device complying with ASME A112.18.3 or ASSE 1014.

Add new standard(s) as follows:

ASSE

ASSE International
18927 Hickory Creek Drive, Suite 220
Mokena, IL 60448

1014-2020 Performance Requirements for Backflow Prevention Devices for Hand-held Showers

Reason: By adding the ASSE 1014 to this section it allows another option of equal protection to this code section.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposed change adds an extra option.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: ASSE 1014 is the correct standard for a backflow device for a hand-held shower. (14-0)

Final Hearing Results

P47-21 AS

P49-21

Original Proposal

IPC: 419.6 (New)

Proponents: Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., Bradley Corp. (JBENGINEER@aol.com); James Kendzel, American Supply Association, American Supply Association (jkendzel@asa.net)

2021 International Plumbing Code

Add new text as follows:

419.6 Soap dispenser. Each public lavatory shall have an accompanying soap dispenser.

Reason: One thing we have learned from the COVID-19 pandemic is the importance of washing ones hand with soap. Surprisingly, the code does not require soap dispensers for public lavatories. However, most engineers and architects specify soap dispensers. Plumbing contractors install soap dispensers when located in a counter top lavatory.
This is an important health issue that the Plumbing Code must address.

Bibliography: https://www.rwjf.org/en/blog/2020/03/a-happy-habit-of-healthy-handwashing.html
https://www.cdc.gov/handwashing/when-how-handwashing.html
https://globalhandwashing.org/wp-content/uploads/2020/09/GHD-2020-Fact-Sheet-English.pdf
https://globalhandwashing.org/wp-content/uploads/2020/10/Handwashing-Learning-Brief.pdf
https://globalhandwashing.org/wp-content/uploads/2015/03/Handwashing-Literature-Review_Jan-thru-June-2013_v2-clean-1.pdf

Cost Impact: The code change proposal will increase the cost of construction
Because this change will mandate the installation of soap dispensers, for those projects that providing soap dispenser was not part of the building's design feature, there will be added cost. The cost of the dispensers will vary depending on the type of dispenser chosen.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
419.6 Soap dispenser. Soap dispensers shall be provided for public lavatories.~~Each public lavatory shall have an accompanying soap dispenser.~~

Committee Reason: For the modification: This is better/more concise language. There isn't a need to have a dispenser for each lavatory but only a soap dispenser be available at a public lavatory or public lavatories. (10-4)
For the proposal As Modified: This is necessary for good hygiene after using the toilet facilities. (13-1)

Final Hearing Results

P49-21 AM

P50-21

Original Proposal

IPC: 423.3

Proponents: Jason Shank, ASSE International, ASSE International

2021 International Plumbing Code

Revise as follows:

423.3 Footbaths and pedicure baths. The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub and footbaths, shall be limited to not greater than 120ºF (49ºC) by a water-temperature-limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or by a water heater complying with ASSE ~~1082~~ 1084.

Reason: ASSE 1082 is designed for the following - This standard is for water heaters that control the outlet temperature to specific limits and are installed within a hot water distribution system but not at point-of-use. Being this code section is in regards to point of use the ASSE 1082 is the wrong application. The correct application is the ASSE 1084 which is designed for the following - Water heaters covered by this standard have a cold water inlet connection, a means of heating the water, a means of controlling the water temperature, a means of limiting the temperature to a maximum of 120 °F (48.9 °C), and have an outlet connection to connect to downstream fixture fittings. This water heater is intended to supply tempered water at point of use in order to reduce and control the risks of scalding. This water heater is not intended to limit thermal shock. This water heater is not a substitute for an automatic compensative valve complying with ASSE 1016 / ASME A112.1016 / CSA B125.16.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change proposal will not increase or decrease the cost of construction

The change still is requiring a TLD.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

423.3 Footbaths and pedicure baths. The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub and footbaths, shall be limited to not greater than 120ºF (49ºC) by a water-temperature-limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or by a water heater complying with ASSE 1082 or 1084.

Committee Reason: For the modification: An ASSE 1082 water heater can serve multiple pedicure baths. (12-2)
For the proposal As Modified: Action is consistent with actions on P46-21 and P48-21. (12-2)

Final Hearing Results

P50-21 AM

P51-21

Original Proposal

IPC: 423.4 (New), ASSE Chapter 15 (New), UL Chapter 15 (New)
Proponents: Jason Shank, ASSE International, ASSE International

2021 International Plumbing Code

Add new text as follows:

423.4 Water Dispensers. All potable water dispensers directly connected to the plumbing system shall comply with one of the following:

1. Beverage faucets shall comply with ASME A112.18.1/CSA B125.1
2. Dispensers that supply electrically heated or cooled water shall comply with ASSE 1023
3. Electronic devices that heat water shall comply with UL 499

Add new standard(s) as follows:

ASSE

ASSE International
18927 Hickory Creek Drive, Suite 220
Mokena, IL 60448

1023-19 *Performance Requirements for Electrically Heated or Cooled Water Dispensers*

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062-2096

499-2014 Standard for Electric Heating Appliances with revisions through February 23, 2017

Reason: Water dispensers are being used more and more. By adding this proposal it provides some regulations to what is allowed in the plumbing system.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is enforcing what is common practice already in the industry.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

~~**423.4**~~ **412.12Electrically heated or cooled water dispensers**. All potable water dispensers directly connected to the plumbing system shall comply with one of the following:

1. ~~Beverage faucets shall comply with ASME A112.18.1/CSA B125.1~~
2. ~~Dispensers that supply~~ Eelectrically heated or cooled water dispensers shall comply with ASSE 1023.
3. ~~Electronic devices that heat water shall comply with UL 499~~

Chapter 15, UL

~~499-2014: Standard for Electric Heating Appliances with revisions through February 23, 2017~~

Committee Reason: For the modification: Clarified that UL 499 and ASME A112. 18.1/CSA B125.1 are not needed as both are referenced in the ASSE 1023 standard. (14-0)

For the proposal As Modified: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P51-21 AM

P52-21

Original Proposal

IPC: 424.2

Proponents: Emma Gonzalez-Laders, NYS DOS Division of Building Standards and Codes, NYS DOS Division of Building Standards and Codes (emma.gonzalez-laders@dos.ny.gov); China Clarke, New York State Dept of State, New York State Dept of State (china.clarke@dos.ny.gov)

2021 International Plumbing Code

Revise as follows:

424.2 Substitution for water closets. In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets for males according to Table 403.1 in assembly and educational *occupancies*. Urinals shall not be substituted for more than 50 percent of the required water closets for males according to Table 403.1 in all other *occupancies.*

Reason: This proposal seeks to fix an unintended consequence of the addition of code provisions for multi-user facilities designed to serve all persons regardless of their sex without correlating those changes to the provisions of Section 424.2 of the 2021 IPC.
Provisions for the design of multi-user facilities designed to serve all persons regardless of their sex were introduced during the last code cycle. Exception 2 to Section 2902.1.1 of the 2021 IBC indicates that *"where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load."* Also, Section 424.2 of the IPC indicates that urinals may substitute up to 67% of the required water closets in assembly and educational spaces. However, for most assembly uses there is a different number of plumbing fixtures required for males and females in accordance with Table 403.1. Substituting 67% of **ALL** required fixtures would result in a larger number of urinals and a lower number of toilet fixtures available for females. For instance, if a multi-user facility were to be designed for use by all persons regardless of their sex for an A-1 occupancy with an occupant load of 1,000 persons, 8 toilet fixtures are required for females (1,000/125) and 4 toilet fixtures are required for males (1,000/65), of which, a maximum of 2 can be urinals. On the other hand, if urinals were to substitute for the toilet requirements for the 100% of the occupant load - applying exception 2 to Section 2902.1.1 of the 2021 IBC - then 8 fixtures could be urinals, leaving only 4 water closets for the use of all persons male and female.

This is contrary to the more than three-decade-long effort to provide "potty parity," or the equitable provision of public toilet facilities for females and males.

It is also contrary to the intent of the different Table values found in the Plumbing Code and the Building Code as stated in the commentary, which is to provide *"an 'equality of fixture availability' in those particular occupancies"*with *"historically […] long lines of females waiting to use toilet facilities while male facilities had no lines."*

We do not believe this disparity in the two provisions was intentional, rather an oversight and lack of consideration of the implications that provisions in one code could have on the provisions of another code.

Bibliography: Potty Parity Act introduced in Congress; codes continue to address issue. Roulo, Candace. May 03, 2010. Contractor Magazine. https://www.contractormag.com/home/article/20875882/potty-parity-act-introduced-in-congress-codes-continue-to-address-issue
The Long Lines for Women's Bathrooms Could Be Eliminated. Why Haven't They Been? Pinsker, Joe. January 23, 2019. The Atlantic Magazine. https://www.theatlantic.com/family/archive/2019/01/women-men-bathroom-lines-wait/580993/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not eliminate any existing code provisions, nor does it create new provisions. Instead, provides consistency across related code sections.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: There is a need to know how to do substitution of water closets with urinals where the toilet facility serves all persons regardless of sex. (12-2)

Final Hearing Results	
P52-21	AS

P54-21 Part I

Original Proposal

IPC: 501.9 (New)

Proponents: Jeremy Brown, NSF International, NSF International (brown@nsf.org)

2021 International Plumbing Code

Add new text as follows:

501.9 Lead Content. Water heaters shall comply with NSF 372 and shall have a weighted average lead content of 0.25% or less.

Reason: Section 605.2.1 was created to implement lead content requirements of the US Safe Drinking Water Act (SDWA). In September 2020, the EPA finalized its final rule for interpreting the Safe Drinking Water Act. The final rule did change scope of products affected by the lead content requirements and cited water heaters as fixtures used for potable water according the final rule. See SDWA definition below: "Fixture means a receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Fixtures used for potable uses shall include but are not limited to: (1) Drinking water coolers, drinking water fountains, drinking water bottle fillers, dishwashers; (2) Plumbed in devices, such as point-of-use treatment devices, coffee makers, and refrigerator ice and water dispensers; and (3) Water heaters, water meters, water pumps, and water tanks, unless such fixtures are not used for potable uses." Final rule is found at https://www.federalregister.gov/documents/2020/09/01/2020-16869/use-of-lead-free-pipes-fittings-fixturessolder-and-flux-for-drinking-water Water heaters are singled out for proposed code sections because they are not consistently interpreted as intended to convey or dispense drinking water. As such they need a specific code section to require lead content to be consistent with the SDWA. I have submitted this code change as well as a similar one to give the committee options for how this could be approved.

Bibliography: NSF/ANSI/CAN 372-2020 Drinking Water System Components-Lead Content

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The SDWA already mandates that water heaters be third party certified and lead free so this proposal does not increase the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
501.9 Lead Content. Water heaters that arepart of the potable water distribution systemshall comply with NSF 372 and shall have a weighted average lead content of 0.25% or less.

Committee Reason: For the modification: Clarification is needed to allow for water heaters that are not used for potable water distribution. (10-4)
For the proposal As Modified: This aligns the code with the USEPA final rule on reduced lead (0.25%) for components that contact drinking water. A water heater is considered to supply drinking water. (12-2)

Final Hearing Results

P54-21 Part I AM

P54-21 Part II

Original Proposal

IRC: P2801.9 (New)

Proponents: Jeremy Brown, NSF International, NSF International (brown@nsf.org)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Residential Code

Add new text as follows:

P2801.9 Lead Content. Water heaters shall comply with NSF 372 and shall have a weighted average lead content of 0.25% or less.

Reason: Section P2906.2.1 was created to implement lead content requirements of the US Safe Drinking Water Act (SDWA) and requires NSF 372. In September 2020, the EPA finalized its final rule for interpreting the Safe Drinking Water Act. The final rule did change scope of products affected by the lead content requirements and cited water heaters as fixtures used for potable water according the final rule. See SDWA definition below:
"Fixture means a receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Fixtures used for potable uses shall include but are not limited to: (1) Drinking water coolers, drinking water fountains, drinking water bottle fillers, dishwashers; (2) Plumbed in devices, such as point-of-use treatment devices, coffee makers, and refrigerator ice and water dispensers; and (3) Water heaters, water meters, water pumps, and water tanks, unless such fixtures are not used for potable uses."

Final rule is found at https://www.federalregister.gov/documents/2020/09/01/2020-16869/use-of-lead-free-pipes-fittings-fixturessolderand- flux-for-drinking-water Water heaters are singled out for proposed code sections because they are not consistently interpreted as intended to convey or dispense drinking water. As such they need a specific code section to require lead content to be consistent with the SDWA. I have submitted this code change as well as a similar one to give the committee options for how this could be approved.

NSF/ANSI/CAN 372 is the American and Canadian National Standards for determining lead content of drinking water system components.

Bibliography: NSF/ANSI/CAN 372-2020 Drinking Water System Components-Lead Content

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The SDWA already mandates that water heaters be third party certified and lead free so this proposal does not increase the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The final rules from the USEPA concerning the reduced lead level for components in drinking water systems states that a water heater does supply drinking water as the water could be used for drinking, especially from a lavatory faucet. (11-0)

Final Hearing Results

P55-21

Original Proposal

IPC: 504.7, ASTM Chapter 15 (New), UL Chapter 15 (New)

Proponents: Guy McMann, Jefferson County Govt., Colorado Association of Plumbing and Mechanical Officials (CAPMO) (gmcmann@jeffco.us)

2021 International Plumbing Code

Revise as follows:

504.7 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other *approved* materials.
4. A plastic pan installed beneath a gas fired water heater shall be constructed of material having a flame spread index of 25 or less and a smoked developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.
5. Water heaters installed in pans shall comply with Section 314.2.3.2

~~A plastic pan shall not be installed beneath a gas-fired water heater.~~4

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

E84-2018B Standard Test Methods for Surface Burning Characteristics of Building Materials

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062-2096

723-2018 Test for Surface Burning Characteristics of Building Materials

Reason: This language was installed during the 2018 cycle and will make the IPC consistent with what's in the IRC Section 2801.6 as there are now listed pans for this application.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This language is editorial in nature and will not affect cost.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

504.7 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.

2. Plastic not less than 0.036 inch (0.9 mm) in thickness.

3. Other *approved* materials.

4. ~~A plastic pan installed beneath a gas-fired water heater shall be constructed of material having a flame spread index of 25 or less and a smoked developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.~~

5. ~~Water heaters installed in pans shall comply with Section 314.2.3.2~~

A plastic pan installed beneath a gas-fired water heater shall be constructed of material having a flame spread index of 25 or less and a smoke developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.

Water heaters installed in pans shall comply with Section 314.2.3.2.

Committee Reason: For the modification: The correction is to place Item 4 and Item 5 in the main paragraph where they make more sense. (12-2)
For the proposal As Modified: The Committee agreed with the the published reason statement. (11-3)

Final Hearing Results

P55-21 AM

P61-21 Part I

Original Proposal

IPC: TABLE 605.3, ASTM Chapter 15 (New)

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 605.3 WATER SERVICE PIPE

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe	ASTM D1527; ASTM D2282
Chlorinated polyvinyl chloride (CPVC) plastic pipe	ASTM D2846; ASTM F441; ASTM F442; CSA B137.6
Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)	ASTM F2855
Copper or copper-alloy pipe	ASTM B42; ASTM B43; ASTM B302
Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)	ASTM B75; ASTM B88; ASTM B251; ASTM B447
Cross-linked polyethylene (PEX) plastic pipe and tubing	ASTM F876; AWWA C904; CSA B137.5
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	ASTM F1281; ASTM F2262; CSA B137.10
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Ductile iron water pipe	AWWA C151/A21.51; AWWA C115/A21.15
Galvanized steel pipe	ASTM A53
Polyethylene (PE) plastic pipe	ASTM D2239; ASTM D3035; AWWA C901; CSA B137.1
Polyethylene (PE) plastic tubing	ASTM D2737; AWWA C901; CSA B137.1
Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe	ASTM F1282; CSA B137.9
Polyethylene of raised temperature (PE-RT) plastic tubing	ASTM F2769; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic pipe	ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3
Stainless steel pipe (Type 304/304L)	ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778
Stainless steel pipe (Type 316/316L)	ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

Reason: Adding Stainless Steel tubing to account for both pipe and tubing materials. ASTM A554 Standard Specification for Welded Stainless Steel Mechanical Tubing is equivalent to other standards ASTM A269/A269M; ASTM A312; ASTM A778 already included in this table and should be added to increase the options for materials to be used in water service pipe installations.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Adding an additional standard option for stainless steel pipe to be listed to will not increase or decrease the cost of construction. If anything, it has potential to decrease the cost since this increases the number of suppliers of pipe that can be purchased.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: Stainless steel tubing is indicated in several product standards. (13-0)

Public Comments

Public Comment 1

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

TABLE 605.3 WATER SERVICE PIPE

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe	ASTM D1527; ASTM D2282
Chlorinated polyvinyl chloride (CPVC) plastic pipe	ASTM D2846; ASTM F441; ASTM F442; CSA B137.6
Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)	ASTM F2855
Copper or copper-alloy pipe	ASTM B42; ASTM B43; ASTM B302
Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)	ASTM B75; ASTM B88; ASTM B251; ASTM B447
Cross-linked polyethylene (PEX) plastic pipe and tubing	ASTM F876; AWWA C904; CSA B137.5
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	ASTM F1281; ASTM F2262; CSA B137.10
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Ductile iron water pipe	AWWA C151/A21.51; AWWA C115/A21.15
Galvanized steel pipe	ASTM A53
Polyethylene (PE) plastic pipe	ASTM D2239; ASTM D3035; AWWA C901; CSA B137.1
Polyethylene (PE) plastic tubing	ASTM D2737; AWWA C901; CSA B137.1
Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe	ASTM F1282; CSA B137.9
Polyethylene of raised temperature (PE-RT) plastic tubing	ASTM F2769; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic pipe	ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3
Stainless steel pipe (Type 304/304L)	ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778
Stainless steel pipe (Type 316/316L)	ASTM A269/A269M; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778

Commenter's Reason: Based on IPC Committee feedback and additional comments on other proposals, I suggest removing ASTM A554 from this proposal as it is deemed as a mechanical/structural tubing standard. With this modification, there will be consistency across similar tables in the IMC and IRC as well as other tables that were Accepted as Modified by the IPC Committee.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Removal of this standard will have no impact on the cost of construction.

Final Hearing Results

P61-21 Part I AMPC1

P62-21 Part I

Original Proposal

IPC: TABLE 605.4, ASTM Chapter 15 (New)

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 605.4 WATER DISTRIBUTION PIPE

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing	ASTM D2846; ASTM F441; ASTM F442; CSA B137.6
Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)	ASTM F2855
Copper or copper-alloy pipe	ASTM B42; ASTM B43; ASTM B302
Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)	ASTM B75; ASTM B88; ASTM B251; ASTM B447
Cross-linked polyethylene (PEX) plastic tubing	ASTM F876; CSA B137.5
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	ASTM F1281; ASTM F2262; CSA B137.10
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Ductile iron pipe	AWWA C115/A21.15; AWWA C151/A21.51
Galvanized steel pipe	ASTM A53
Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pipe	ASTM F1282
Polyethylene of raised temperature (PE-RT) plastic tubing	ASTM F2769; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Stainless steel pipe (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel pipe (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

Reason: Adding Stainless Steel tubing to account for both pipe and tubing materials. ASTM A229 and ASTM A554 is equivalent to other standards ASTM A312; ASTM A778 already included in this table and should be added to increase the options for materials to be used in water service pipe installations.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Adding an additional standard option for stainless steel pipe to be listed to will not increase or decrease the cost of construction. If anything, it has potential to decrease the cost since this increases the number of suppliers of pipe that can be purchased.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The addition will provide more options available to the designer. (13-0)

Public Comments

Public Comment 1

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

TABLE 605.4 WATER DISTRIBUTION PIPE

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing	ASTM D2846; ASTM F441; ASTM F442; CSA B137.6
Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)	ASTM F2855
Copper or copper-alloy pipe	ASTM B42; ASTM B43; ASTM B302
Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)	ASTM B75; ASTM B88; ASTM B251; ASTM B447
Cross-linked polyethylene (PEX) plastic tubing	ASTM F876; CSA B137.5
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	ASTM F1281; ASTM F2262; CSA B137.10
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Ductile iron pipe	AWWA C115/A21.15; AWWA C151/A21.51
Galvanized steel pipe	ASTM A53
Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pipe	ASTM F1282
Polyethylene of raised temperature (PE-RT) plastic tubing	ASTM F2769; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Stainless steel pipe (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel pipe (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel tubing (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778

Commenter's Reason: Based on IPC Committee feedback and additional comments on other proposals, I suggest removing ASTM A554 from this proposal as it is deemed as a mechanical/structural tubing standard. With this modification, there will be consistency across similar tables in the IMC and IRC as well as other tables that were Accepted as Modified by the IPC Committee.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Removal of this standard will have no impact on the cost of construction.

Final Hearing Results

P62-21 Part I AMPC1

P62-21 Part II

Original Proposal

IRC: TABLE P2906.5, ASTM Chapter 44 (New)

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us)

2021 International Residential Code

Revise as follows:

TABLE P2906.5 WATER DISTRIBUTION PIPE

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC) plastic pipe and tubing	ASTM D2846; ASTM F441; ASTM F442/F442M; CSA B137.6
Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC) plastic pipe	ASTM F2855
Copper or copper-alloy pipe	ASTM B42; ASTM B43; ASTM B302
Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)	ASTM B75/B75M; ASTM B88; ASTM B251; ASTM B447
Cross-linked polyethylene (PEX) plastic tubing	ASTM F876; CSA B137.5
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	ASTM F1281; ASTM F2262; CSA B137.10
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE) pipe	ASTM F1986
Galvanized steel pipe	ASTM A53
Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pipe	ASTM F1282
Polyethylene of raised temperature (PE-RT) plastic tubing	ASTM F2769; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Stainless steel (Type 304/304L) pipe	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel (Type 316/316L) pipe	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel (Type 304/304L) tubing	ASTM A269; ASTM A312; ASTM A554; ASTM A778
Stainless steel (Type 316/316L) tubing	ASTM A269; ASTM A312; ASTM A554; ASTM A778

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

Reason: Stainless steel material as indicated in the IPC is proposed to be added for applications where stainless steel pipe, tubing and fittings are necessary for corrosion resistance and also aligns with IPC. Add ASTM A269 and A554 which are equivalent to those standards included as additional standard options for product listing.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Adding an additional standard option for stainless steel pipe to be listed to will not increase or decrease the cost of construction. If anything, it has potential to decrease the cost since this increases the number of suppliers of pipe and tubing that can be purchased.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

TABLE P2906.5 WATER DISTRIBUTION PIPE	
Stainless steel (Type 304/304L) pipe	ASTM A269; ASTM A312; ~~ASTM A554;~~ ASTM A778
Stainless steel (Type 316/316L) pipe	ASTM A269; ASTM A312; ~~ASTM A554;~~ ASTM A778
Stainless steel (Type 304/304L) tubing	ASTM A269; ASTM A312; ~~ASTM A554;~~ ASTM A778
Stainless steel (Type 316/316L) tubing	ASTM A269; ASTM A312; ~~ASTM A554;~~ ASTM A778

Committee Reason: For the modification: The standard is not appropriate for water distribution piping material.
For the proposal as modified: This proposal adds another option for water distribution piping. (11-0)

Final Hearing Results

P62-21 Part II AM

P63-21 Part I

Original Proposal

IPC: TABLE 605.5, ASTM Chapter 15 (New)

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 605.5 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic	ASTM D2468
Cast iron	ASME B16.4
Chlorinated polyvinyl chloride (CPVC) plastic	ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F1476; ASTM F1548; ASTM F3226
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; CSA B137.5
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.18
Gray iron and ductile iron	ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53;
Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10
Malleable iron	ASME B16.3
Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1974
Polyethylene (PE) plastic pipe	ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Stainless steel (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Steel	ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548; ASTM F3226

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

Reason: ASTM A269 and A554 are standards for Stainless tubing equivalent with existing ASTM A312 and A778 standards and should be included to allow for additional material standards. ASTM F3226 *Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems* is equivalent to other standards already listed for this material, is included for other materials in this table, and should be added to Steel to increase the options for materials to be used in water supply fitting installations.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Adding an additional standard option for steel pipe fittings to be listed to will not increase or decrease the cost of construction. If anything, it has potential to decrease the cost since this increases the number of suppliers of fittings that can be purchased.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposed standard ASTM A554 is for "ornamental and structural and exhaust applications". This is inappropriate for plumbing piping. (11-2)

Public Comments

Public Comment 1

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

TABLE 605.5 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic	ASTM D2468
Cast iron	ASME B16.4
Chlorinated polyvinyl chloride (CPVC) plastic	ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F1476; ASTM F1548; ASTM F3226
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; CSA B137.5
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.18
Gray iron and ductile iron	ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53;
Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10
Malleable iron	ASME B16.3
Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1974
Polyethylene (PE) plastic pipe	ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel (Type 304/304L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Stainless steel (Type 316/316L)	ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Steel	ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548; ASTM F3226

Commenter's Reason: This public comment addresses the committee's concerns with the suitability of ASTM A554 as a standard for this code and the reason for disapproval was the addition of ASTM A554. Based on Committee feedback and additional comments, this public comment removes ASTM A554 from this proposal as it is deemed as a mechanical/structural tubing standard. With this modification, there will be consistency across similar tables in the IMC and IRC. P61 Part 1 and P62 Part 1 included the addition of ASTM A269 and were approved by the committee. ASTM F3226 is already included as a standard for Copper and Stainless materials in this table and should be included for Steel as well as the material is covered in the scope of this standard and is performance tested as other alloys in the standard.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Removal of this standard will have no impact on the cost of construction.

Final Hearing Results

P63-21 Part I AMPC1

P63-21 Part II

Original Proposal

IRC: TABLE P2906.6, ASTM Chapter 44 (New)

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us)

2021 International Residential Code

Revise as follows:

TABLE P2906.6 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic	ASTM D2468
Cast iron	ASME B16.4
Chlorinated polyvinyl chloride (CPVC) plastic	ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F3226
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; CSA B137.5
Gray iron and ductile iron	AWWA C110/A21.10; AWWA C153/A21.53
Malleable iron	ASME B16.3
Insert fittings for Polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10
Polyethylene (PE) plastic	ASTM D2609; CSA B137.1
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM D2683; ASTM D3261; ASTM F1055; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel (Type 304/304L) pipe	ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F3226
Stainless steel (Type 316/316L) pipe	ASTM A269; ASTM A312; ASTM A554; ASTM A778; ASTM F3226
Steel	ASME B16.9; ASME B16.11; ASME B16.28; ASTM F3226

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

A554-16 Standard Specification for Welded Stainless Steel Mechanical Tubing

Reason: ASTM A269 and A554 are proposed Stainless Steel standards that are included in other nationally recognized codes and are commonly used in potable water applications. ASTM F3226 *Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems,* includes Steel and Stainless steel alloy, is currently included for copper and copper alloy in this table, and should be added to the others to increase the options for materials to be used in water supply fitting installations.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
ASTM A269, A554, and F3226 are additional optional standards to which press-connect fittings can be constructed and/or listed to. By providing the additional proposed standards, fittings made from these materials offer additional options for the specifier and/or installer with no additional cost impact as they are optional and not mandatory standard requirements.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

TABLE P2906.6 PIPE FITTINGS	

Stainless steel (Type 304/304L) pipe	ASTM A269; ASTM A312; ~~ASTM A554;~~ ASTM A778; ASTM F3226
Stainless steel (Type 316/316L) pipe	ASTM A269; ASTM A312; ~~ASTM A554;~~ ASTM A778; ASTM F3226

Committee Reason: For the modification: The standard is not appropriate for water distribution piping material.
For the proposal as modified: This adds another option for water distribution piping. (11-0)

Final Hearing Results

P63-21 Part II AM

P64-21 Part I

Original Proposal

IPC: TABLE 605.5, ASTM Chapter 15 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 605.5 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic	ASTM D2468
Cast iron	ASME B16.4
Chlorinated polyvinyl chloride (CPVC) plastic	ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F1476; ASTM F1548; ASTM F3226
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; ASTM F3347; CSA B137.5
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; ASTM F3347; CSA B137.18
Gray iron and ductile iron	ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53;
Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10
Malleable iron	ASME B16.3
Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1974
Polyethylene (PE) plastic pipe	ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel (Type 304/304L)	ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Stainless steel (Type 316/316L)	ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Steel	ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F3347-20A — Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Reason: ASTM F3347 is titled, "Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing and contains information for metallic fittings for both PEX and PERT systems intended for use in residential and commercial, hot and cold, potable water distribution systems as well as sealed central heating, including under-floor heating/cooling systems, and residential fire sprinkler systems.

Bibliography: ASTM F3347, Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal adds a new standard for PEX and PERT fittings and is not expected to raise or lower the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (13-0)

Final Hearing Results

P64-21 Part I AS

P64-21 Part II

Original Proposal

IRC: TABLE P2906.6, ASTM Chapter 44 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

2021 International Residential Code

Revise as follows:

TABLE P2906.6 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic	ASTM D2468
Cast iron	ASME B16.4
Chlorinated polyvinyl chloride (CPVC) plastic	ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F3226
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; ASTM F3347; CSA B137.5
Gray iron and ductile iron	AWWA C110/A21.10; AWWA C153/A21.53
Malleable iron	ASME B16.3
Insert fittings for Polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10
Polyethylene (PE) plastic	ASTM D2609; CSA B137.1
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM D2683; ASTM D3261; ASTM F1055; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; ASTM F3347; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel (Type 304/304L) pipe	ASTM A312; ASTM A778
Stainless steel (Type 316/316L) pipe	ASTM A312; ASTM A778
Steel	ASME B16.9; ASME B16.11; ASME B16.28

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

F3347-20a — Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Reason: ASTM F3347 is titled, "Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing and contains information for metallic fittings for both PEX and PERT systems intended for use in residential and commercial, hot and cold, potable water distribution systems as well as sealed central heating, including under-floor heating/cooling systems, and residential fire sprinkler systems.

Bibliography: ASTM F3347, Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal adds a standard for PEX and PERT fittings and is not expected to increase or decrease the costs of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This adds another option for piping material. (11-0)

Final Hearing Results

P64-21 Part II AS

P65-21 Part I

Original Proposal

IPC: TABLE 605.5, ASTM Chapter 15 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 605.5 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic	ASTM D2468
Cast iron	ASME B16.4
Chlorinated polyvinyl chloride (CPVC) plastic	ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F1476; ASTM F1548; ASTM F3226
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; ASTM F3348; CSA B137.5
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; ASTM F3348; CSA B137.18
Gray iron and ductile iron	ASTM F1476; ASTM F1548; AWWA C110/A21.10; AWWA C153/A21.53;
Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10
Malleable iron	ASME B16.3
Metal (brass) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1974
Polyethylene (PE) plastic pipe	ASTM D2609; ASTM D2683; ASTM D3261; ASTM F1055; CSA B137.1
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel (Type 304/304L)	ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Stainless steel (Type 316/316L)	ASTM A312; ASTM A778; ASTM F1476; ASTM F1548; ASTM F3226
Steel	ASME B16.9; ASME B16.11; ASME B16.28; ASTM F1476; ASTM F1548

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F3348-20b — Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Reason: ASTM F3348 is titled, "Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing" and contains information on plastic fittings for PEX and PERT systems and should be included in the fittings table. The fittings are intended for use in residential and commercial, hot and cold, potable water distribution systems as well as sealed central heating, including under-floor heating/cooling systems, and residential fire sprinkler systems.

Bibliography: ASTM F3348, Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal adds a standard for fittings and is not expected to raise or lower the costs of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This is needed to cover press connect fittings that are available. (13-0)

Final Hearing Results

P65-21 Part I AS

P65-21 Part II

Original Proposal

IRC: TABLE P2906.6, ASTM Chapter 44 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

2021 International Residential Code

Revise as follows:

TABLE P2906.6 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic	ASTM D2468
Cast iron	ASME B16.4
Chlorinated polyvinyl chloride (CPVC) plastic	ASSE 1061; ASTM D2846; ASTM F437; ASTM F438; ASTM F439; CSA B137.6
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.26; ASME B16.51; ASSE 1061; ASTM F3226
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061; ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; ASTM F2735; ASTM F3348; CSA B137.5
Gray iron and ductile iron	AWWA C110/A21.10; AWWA C153/A21.53
Malleable iron	ASME B16.3
Insert fittings for Polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1281; ASTM F1282; ASTM F1974; CSA B137.9; CSA B137.10
Polyethylene (PE) plastic	ASTM D2609; CSA B137.1
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM D2683; ASTM D3261; ASTM F1055; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; ASTM F3348; CSA B137.18
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic	ASTM D2464; ASTM D2466; ASTM D2467; CSA B137.2; CSA B137.3
Stainless steel (Type 304/304L) pipe	ASTM A312; ASTM A778
Stainless steel (Type 316/316L) pipe	ASTM A312; ASTM A778
Steel	ASME B16.9; ASME B16.11; ASME B16.28

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

F3348-20b — Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Reason: ASTM F3348 is titled, "Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing" and contains information on plastic fittings for PEX and PERT systems and should be included in the fittings table. The fittings are intended for use in residential and commercial, hot and cold, potable water distribution systems as well as sealed central heating, including under-floor heating/cooling systems, and residential fire sprinkler systems.

Bibliography: ASTM F3348 Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal adds a standard for PEX and PERT fittings and is not expected to increase or decrease the costs of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This adds another option for piping material. (11-0)

Final Hearing Results

P65-21 Part II AS

P67-21

Original Proposal

IPC: TABLE 605.5

Proponents: Pennie L Feehan, Pennie L Feehan Consulting, Copper Development Association (penniefeehan@me.com)

2021 International Plumbing Code

Revise as follows:

TABLE 605.5 PIPE FITTINGS

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Metal (brass copper alloy) insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1974

Reason: Brass and Bronze are Copper Alloys. Copper Alloy is the correct term.

Cost Impact: The code change proposal will increase the cost of construction
This code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal is consistent with changes in terminology that were approved in the past few code cycles. (14-0)

Final Hearing Results

P67-21 AS

P68-21 Part I

Original Proposal

IPC: TABLE 605.7

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 605.7 VALVES

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC) plastic	ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASTM F1970; CSA B125.3; IAPMO Z1157; MSS SP-122
Copper or copper alloy	ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASME B16.34; CSA B125.3; IAPMO Z1157; MSS SP-67; MSS SP-80; MSS SP-110; MSS SP-139
Cross-linked polyethylene (PEX) plastic	ASME A112.4.14; ASME A112.18.1/CSA B125.1; CSA B125.3; IAPMO Z1157; NSF 359
Gray iron and ductile iron	AWWA C500; AWWA C504; AWWA C507; IAPMO Z1157; MSS SP-67; MSS SP-70; MSS SP-71; MSS SP-72; MSS SP-78
Polypropylene (PP) plastic	ASME A112.4.14; ASTM F2389; IAPMO Z1157
Polyvinyl chloride (PVC) plastic	ASME A112.4.14; ASTM F1970; IAPMO Z1157; MSS SP-122
Stainless steel (Type 304/304L)	IAPMO Z1157
Stainless steel (Type 316/316L)	IAPMO Z1157

Reason: Adding line items for Stainless steel pipe (Type 304/304L) and Stainless steel pipe (Type 316/316L) to make the table reflective of what is currently available in the market and widely used in commercial applications. Including IAPMO Z1157 *Ball Valves* as an appropriate standard which is equivalent to other standards already included in this table as well as already listed with other materials and should be added to both Stainless steel pipe (Type 304/304L) and Stainless steel pipe (Type 316/316L) to increase the options for valves to be used in water supply installations.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Adding an additional standard option for stainless steel valves to be listed to will not increase or decrease the cost of construction. If anything, it has potential to decrease the cost since this increases the number of suppliers of valves that can be purchased.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Public Comments

Public Comment 1

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

TABLE 605.7 VALVES

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC) plastic	ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASTM F1970; CSA B125.3; IAPMO Z1157; MSS SP-122
Copper or copper alloy	ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASME B16.34; CSA B125.3; IAPMO Z1157; MSS SP-67; MSS SP-80; MSS SP-110; MSS SP-139
Cross-linked polyethylene (PEX) plastic	ASME A112.4.14; ASME A112.18.1/CSA B125.1; CSA B125.3; IAPMO Z1157; NSF 359
Gray iron and ductile iron	AWWA C500; AWWA C504; AWWA C507; IAPMO Z1157; MSS SP-67; MSS SP-70; MSS SP-71; MSS SP-72; MSS SP-78
Polypropylene (PP) plastic	ASME A112.4.14; ASTM F2389; IAPMO Z1157
Polyvinyl chloride (PVC) plastic	ASME A112.4.14; ASTM F1970; IAPMO Z1157; MSS SP-122
Stainless steel (Type 304/304L)	IAPMO Z1157, ASME A112.4.14
Stainless steel (Type 316/316L)	IAPMO Z1157, ASME A112.4.14

Commenter's Reason: Add ASME A112.4.14 *Manually Operated Valves for Use in Plumbing Systems,* to Stainless Steel 304/304L and 316/316L in this table as this standard covers valves in stainless steel as well as other materials already covered by ASME A112.4.14 in this table.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Adding this standard already included in this table for other materials does not increase or decrease the cost.

Final Hearing Results

P68-21 Part I AMPC1

P68-21 Part II

Original Proposal

IRC: TABLE P2903.9.4, IAPMO Chapter 44 (New)

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us)

2021 International Residential Code

Revise as follows:

TABLE P2903.9.4 VALVES

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC) plastic	ASME A112.4.14, ASME A112.18.1/CSA B125.1, ASTM F1970, CSA B125.3, MSS SP-122
Copper or copper alloy	ASME A112.4.14, ASME A112.18.1/CSA B125.1, ASME B16.34, CSA B125.3, IAPMO Z1157, MSS SP-67, MSS SP-80, MSS SP-110, MSS SP-139
Gray and ductile iron	ASTM A126, AWWA C500, AWWA C504, AWWA C507, MSS SP-42, MSS SP-67, MSS SP-70, MSS SP-71, MSS SP-72, MSS SP-78
Cross-linked polyethylene (PEX) plastic	ASME A112.4.14, ASME A112.18.1/CSA B125.1, CSA B125.3, IAPMO Z1157, NSF 359
Polypropylene (PP) plastic	ASME A112.4.14, ASTM F2389
Polyvinyl chloride (PVC) plastic	ASME A112.4.14, ASTM F1970, MSS SP-122
Stainless Steel	IAPMO Z1157

Add new standard(s) as follows:

IAPMO

IAPMO Group
4755 E. Philadelphia Street
Ontario, CA 91761-USA

Z1157-2014e1 Ball Valves

Reason: The proposed IAPMO Z1157 ANSI accredited standard covers ball valves NPS-1/8 to NPS-4, with minimum rated working pressures of 125psi at 73°F, intended for use in water supply and distribution systems, and specifies requirements for materials, physical characteristics, performance, testing, and markings. The proposed standard is currently referenced in other nationally recognized codes such as the IPC and will provide the user the opportunity to choose additional valves listed to this standard for these applications. Stainless steel material is proposed to be added for applications where stainless steel pipe, tubing and fittings are necessary for corrosion resistance. The proposed stainless steel standards are also referenced in other nationally recognized codes and are commonly used for potable water distribution and hydronic applications.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The addition of this standard into the IRC does not increase or decrease the cost of construction, but allows for an additional option for selecting valves that are listed for use in these applications. The inclusion of this standard does not mandate the use of an IAPMO Z1157 listed ball valve, it provides it as an option. Adding Stainless Steel as an option does not impact the cost but provides an additional material option for the specifier and/or installer.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (11-0)

Public Comments

Public Comment 1

Proponents: Lisa Reiheld, Viega LLC, Viega LLC (lisa.reiheld@viega.us) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

TABLE P2903.9.4 VALVES

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC) plastic	ASME A112.4.14, ASME A112.18.1/CSA B125.1, ASTM F1970, CSA B125.3, MSS SP-122
Copper or copper alloy	ASME A112.4.14, ASME A112.18.1/CSA B125.1, ASME B16.34, CSA B125.3, IAPMO Z1157, MSS SP-67, MSS SP-80, MSS SP-110, MSS SP-139
Gray and ductile iron	ASTM A126, AWWA C500, AWWA C504, AWWA C507, MSS SP-42, MSS SP-67, MSS SP-70, MSS SP-71, MSS SP-72, MSS SP-78
Cross-linked polyethylene (PEX) plastic	ASME A112.4.14, ASME A112.18.1/CSA B125.1, CSA B125.3, IAPMO Z1157, NSF 359
Polypropylene (PP) plastic	ASME A112.4.14, ASTM F2389
Polyvinyl chloride (PVC) plastic	ASME A112.4.14, ASTM F1970, MSS SP-122
Stainless Steel	IAPMO Z1157, ASME A112.4.14

Commenter's Reason: Add ASME A112.4.14 *Manually Operated Valves for Use in Plumbing Systems*, to Stainless Steel in this table as the standard covers valves in stainless steel as well as other materials already covered by ASME A112.4.14 in this table.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Adding this standard already included in this table for other materials does not increase or decrease the cost.

Final Hearing Results

P68-21 Part II AMPC1

P74-21 Part I

Original Proposal

IPC: 605.14.2, ASTM Chapter 15 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

605.14.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. Joints shall be made in accordance with the pipe manufacturer's installation instructions. Solvent-cemented joints shall be permitted above or below ground.
Where such instructions require that a primer be used, the primer shall be applied to the joint surfaces and a solvent cement orange in color and conforming to ASTM F493 shall be applied to the joint surfaces. The joint shall be made while the cement is fluid and in accordance with ASTM D2855.
Where such instructions allow for a one-step solvent cement, yellow in color and conforming to ASTM F493, to be used, the joint surfaces shall not require application of a primer before the solvent cement is applied. The joint shall be made while the cement is wet and in accordance with ~~ASTM D2846 or ASTM F493~~. ASTM F3328.
~~Solvent-cemented joints shall be permitted above or below ground~~.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

ASTM D2855-15	Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets
F3328-18	Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

Reason: Add the ASTM D2855 and ASTM F3328 standards to the CPVC and CPVC composite solvent cementing joining section.

ASTM D2855-15 is, "Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets"

ASTM F3328-18 is, "Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets"

These standards are the standards that represent how the joint is made in the two-step (primer and cement) or one-step (cement) process. ASTM D2846 and ASTM F493 are intended for the chlorinated poly(vinyl chloride) plastic hot- and cold-water distribution system and CPVC cement.

Bibliography: ASTM F3328 Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly(Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

ASTM D2855 Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or

Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The inclusion of the standards is not expected to increase or decrease the costs of construction, but only to ensure the joints are correctly made, if by one step, or two step methods.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The standard for the procedure for making these type of joints is required. (13-0)

Final Hearing Results

P74-21 Part I AS

P74-21 Part II

Original Proposal

IRC: P2906.9.1.2, P2906.9.1.3, ASTM Chapter 44 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

2021 International Residential Code

Revise as follows:

P2906.9.1.2 CPVC plastic pipe. Joint surfaces shall be clean and free from moisture. Joints shall be made in accordance with the pipe, fitting or solvent cement manufacturer's installation instructions.
Solvent cement joints shall be permitted above or below ground.
Where such instructions require a primer to be used, an *approved* primer shall be applied, and a solvent cement, orange in color and conforming to ASTM F493, shall be applied to joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D2855.
Where such instructions allow for a one-step solvent cement, yellow or red in color and conforming to ASTM F493, to be used, the joint surfaces shall not require application of a primer before the solvent cement is applied. The joint shall be made while the cement is wet, and in accordance with ~~ASTM D2846 or ASTM F493~~. ASTM F3328
~~Solvent cement joints shall be permitted above or below ground~~.

P2906.9.1.3 CPVC/AL/CPVC pipe. Joint surfaces shall be clean and free from moisture, and an *approved* primer shall be applied. Solvent cement, orange in color and conforming to ASTM F493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ~~ASTM D2846 or ASTM F493~~ ASTM D2855. Solvent-cemented joints shall be installed above or below ground.

Exception: A primer shall not be required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM F493.
2. The solvent cement used is yellow in color.
3. The solvent cement is used only for joining $^{1}/_{2}$-inch (12.7 mm) through 1-inch (25 mm) diameter CPVC/AL/CPVC pipe and CPVC fittings.
4. The CPVC fittings are manufactured in accordance with ASTM D2846.
5. The joint is made in accordance with ASTM F3328.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

D2855-20	Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets
F3328-19	Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly(Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This adds an option to use a one step cement for PVC and provides a standard for assembling these types of joints. (7-4)

Final Hearing Results

P74-21 Part II AS

P75-21 Part I

Original Proposal

IPC: 605.14.2

Proponents: Forest Hampton, Lubrizol, Inc., Lubrizol, Inc. (forest.hampton@lubrizol.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

605.14.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. Joints shall be made in accordance with the pipe manufacturer's installation instructions. Where such instructions require that a primer be used, the primer shall be applied to the joint surfaces and a solvent cement orange in color and conforming to ASTM F493 shall be applied to the joint surfaces. Where such instructions allow for a one-step solvent cement, yellow or green in color and conforming to ASTM F493, to be used, the joint surfaces shall not require application of a primer before the solvent cement is applied. The joint shall be made while the cement is wet and in accordance with ASTM D2846 or ASTM F493. Solvent-cemented joints shall be permitted above or below ground.

Reason: Currently, it can be difficult to see the yellow solvent cement ring on a tan CTS CPVC joint during inspection. A high contrast cement has been asked for from the field to aid in the inspection of CPVC joints. The color green was chosen because of its high contrast against the tan pipe and fittings and green is not currently used to identify any other type of cement.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The addition of another one-step solvent cement color will not change the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This adds an option to help with field inspection. (14-0)

Final Hearing Results

P75-21 Part I AS

P75-21 Part II

Original Proposal

IRC: P2906.9.1.2

Proponents: Forest Hampton, Lubrizol, Inc., Lubrizol, Inc. (forest.hampton@lubrizol.com)

2021 International Residential Code

Revise as follows:

P2906.9.1.2 CPVC plastic pipe. Joint surfaces shall be clean and free from moisture. Joints shall be made in accordance with the pipe, fitting or solvent cement manufacturer's installation instructions. Where such instructions require a primer to be used, an *approved* primer shall be applied, and a solvent cement, orange in color and conforming to ASTM F493, shall be applied to joint surfaces. Where such instructions allow for a one-step solvent cement, yellow, green, or red in color and conforming to ASTM F493, to be used, the joint surfaces shall not require application of a primer before the solvent cement is applied. The joint shall be made while the cement is wet, and in accordance with ASTM D2846 or ASTM F493. Solvent cement joints shall be permitted above or below ground.

Reason: Currently, it can be difficult to see the yellow solvent cement ring on a tan CTS CPVC joint during inspection. A high contrast cement has been asked for from the field to aid in the inspection of CPVC joints. The color green was chosen because of its high contrast against the tan pipe and fittings and green is not currently used to identify any other type of cement.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The addition of another one-step solvent cement color will not change the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (11-0)

Final Hearing Results

P75-21 Part II AS

P76-21 Part I

Original Proposal

IPC: 605.15.2, ASTM Chapter 15 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

605.15.2 Solvent cementing. Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F493, shall be applied to joint surfaces. The joint shall be made while the cement is wet, and in accordance with ~~ASTM D2846 or ASTM F493~~ASTM D2855. Solvent cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM F493.
2. The solvent cement used is yellow in color.
3. The solvent cement is used only for joining $^1/_2$-inch (12.7 mm) through 2-inch-diameter (51 mm) CPVC/AL/CPVC pipe and CPVC fittings.
4. The CPVC fittings are manufactured in accordance with ASTM D2846.
5. The joint is made in accordance with ASTM F3328.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

D2855-20	Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly(Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets
F3328-19	Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

Reason: There are sections of the IPC and IRC allowing either two- or one-step use of PVC and CPVC cements in limited circumstances. The sections currently refer to inappropriate standards and the one and two step joining standards, ASTM F3328 and ASTM D2855, would be more appropriate to add.

For reference, these are the titles of the standards being changed in the proposal;

ASTM D2855-15 is, “Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets”

ASTM F3328-18 is, “Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets”

ASTM F493 -14 is, “Standard Specification for Solvent Cements for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe and Fittings”

ASTM D2846/D2846M-19a is, “Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot-and Cold-Water Distribution Systems”

Bibliography: ASTM D2855 “Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets”
ASTM F3328 “Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets”

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal adds standards on properly making one or two step solvent cement joints and is not expected to increase or decrease the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (13-0)

Final Hearing Results

P76-21 Part I AS

P76-21 Part II

Original Proposal

IRC: P2906.9.1.3, ASTM Chapter 44 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

2021 International Residential Code

Revise as follows:

P2906.9.1.3 CPVC/AL/CPVC pipe. Joint surfaces shall be clean and free from moisture, and an *approved* primer shall be applied. Solvent cement, orange in color and conforming to ASTM F493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ~~ASTM D2846 or ASTM F493~~ASTM D2855. Solvent-cemented joints shall be installed above or below ground.

Exception: A primer shall not be required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM F493.
2. The solvent cement used is yellow in color.
3. The solvent cement is used only for joining $^1/_2$-inch (12.7 mm) through 1-inch (25 mm) diameter CPVC/AL/CPVC pipe and CPVC fittings.
4. The CPVC fittings are manufactured in accordance with ASTM D2846.
5. The joint is made in accordance with ASTM F3328.

Add new standard(s) as follows:

ASTM

ASTM
International 100 Barr Harbor Drive,
P.O. Box C700 West Conshohocken,
PA 19428

D2855-20	Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly(Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets
F3328-19	Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This provides more updated standards for assembling solvent weld joints. (9-2)

Final Hearing Results

P85-21

Original Proposal

IPC: 606.1

Proponents: Guy McMann, Jefferson County Govt., Colorado Association of Plumbing and Mechanical Officials (CAPMO) (gmcmann@jeffco.us)

2021 International Plumbing Code

Revise as follows:

606.1 Location of full-open valves. *Full-open valves* shall be installed in the following locations:

1. On the building water service pipe from the public water supply near the curb.
2. On the water distribution supply pipe at the entrance into the structure.
   2.1. In multiple-tenant buildings, three stories and fewer, where a common water supply piping system is installed to supply other than one- and two-family dwellings, a main shutoff valve shall be provided for each tenant.
3. On the discharge side of every water meter.
4. On the base of every water riser pipe in occupancies other than multiple-family residential*occupancies* that are two stories or less in height and in one- and two-family residential *occupancies*.
5. On the top of every water down-feed pipe in*occupancies* other than one- and two-family residential*occupancies*.
6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
7. On the water supply pipe to a gravity or pressurized water tank.
8. On the water supply pipe to every water heater.

Reason: This new language clarifies that this was intended to apply to smaller strip malls and the like. It was not intended to apply to high rise buildings as the text suggests.

Cost Impact: The code change proposal will decrease the cost of construction
This language will eliminate the need for high rise building to have separate shutoffs.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The choice of 3 stories appears to be arbitrary. There isn't any indication that this exception was originally about strip malls. The committee believes that each tenant space should have a shutoff valve. (11-3)

Public Comments

Public Comment 1

Proponents: Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., Self (jbengineer@aol.com); Dan Buuck, National

Association of Home Builders, National Association of Home Builders (dbuuck@nahb.org) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

606.1 Location of full-open valves . *Full-open valves* shall be installed in the following locations:

1. On the building water service pipe from the public water supply near the curb.
2. On the water distribution supply pipe at the entrance into the structure.
   2.1. In multiple-tenant buildings, three stories~~and~~ or less in height ~~fewer~~, where a common water supply piping system is installed to supply other than one- and two-family dwellings, a main shutoff valve shall be provided for each tenant.
3. On the discharge side of every water meter.
4. On the base of every water riser pipe in occupancies other than multiple-family residential*occupancies* that are two stories or less in height and in one- and two-family residential *occupancies*.
5. On the top of every water down-feed pipe in*occupancies* other than one- and two-family residential*occupancies*.
6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
7. On the water supply pipe to a gravity or pressurized water tank.
8. On the water supply pipe to every water heater.

Commenter's Reason: Once the plumbing design is four stories or more in height, there is a change from horizontal to vertical piping as a cost savings measure. When the piping is vertical, it is not possible to provide a separate shut off valve for the entire tenant space. This would add considerable cost to the water piping system. In a vertical piping arrangement, often times the fixture between tenants are back to back. Each fixture has a shut off as does the riser. Hence, there is adequate ability to isolate the water supply to plumbing fixtures.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This Public Comment merely clarifies the original intent of the change.

Final Hearing Results

P85-21 AMPC1

P87-21 Part I

Original Proposal

IPC: TABLE 604.4, USEPA (New), (New)

Proponents: Edward R. Osann, Natural Resources Defense Council, Natural Resources Defense Council (eosann@nrdc.org); Sharon Bonesteel, salt river project, salt river project (sharon.bonesteel@srpnet.com); David Collins, The Preview Group, Inc., The Preview Group, Inc. (dcollins@preview-group.com); Anthony Floyd, City of Scottsdale, City of Scottsdale (afloyd@scottsdaleaz.gov)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 604.4 MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND FIXTURE FITTINGS

Portions of table not shown remain unchanged.

PLUMBING FIXTURE OR FIXTURE FITTING	MAXIMUM FLOW RATE OR QUANTITY[b]
Shower head[a,c]	2.0 2.5 gpm at 80 psi

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. A hand-held shower spray is a shower head.

b. Consumption tolerances shall be determined from referenced standards.

c. Shower heads shall comply with USEPA WaterSense Specification for Showerheads.

Add new text as follows:

Add new standard(s) as follows:

USEPA WaterSense Specification for Showerheads Version 1.1, July 26, 2018

Reason: Showerheads operating at 2.0 gpm at 80 psi are commonly available and perform well. The U.S. EPA's WaterSense specification of 2.0 gpm was first adopted in 2010, along with criteria that ensure adequate spray pattern, spray force, and minimum flow at pressures less than 80 psi. Based on the most recent reports of participating manufacturers, more than 10,000 models from over 200 brands currently meet all WaterSense specifications, demonstrating the widespread availability and commercial viability of efficient showerheads. One factor in customer acceptance is the growing use of built-in pressure compensation, by which a showerhead will perform at its rated flow, even in buildings or portions of buildings with low water pressure.

For designers of plumbing systems, it is important to match the building's water distribution system with the anticipated performance of fixture fittings such as showerheads. Plumbing systems designed to meet the 2024 IPC should accommodate the nation's ongoing transition to high-efficiency showerheads. Water, energy, and materials will be saved if plumbing distribution systems are right-sized at the time of construction.

The WaterSense label is easily recognizable, and will allow building officials to easily verify compliance with this provision.

There are significant water, energy, and greenhouse gas savings that would accrue nationwide if all newly installed showerheads met the WaterSense specification beginning in 2025, the earliest practical application of the IPC as modified by this proposal. Even accounting for several states that have already require efficient showerheads, the potential for further savings are substantial. These savings, drawn from

the supporting analysis of a November 2020 report by the Appliance Standards Awareness Project, would reach the following:

Estimated Savings from Efficient (2.0 gpm) Showerheads Effective 2025

Annual Savings in 2035

- Electricity (TWh) 4.1
- Nat gas & oil (TBtu) 25.8
- Water (billion gallons) 79.5
- Utility bills (billion 2019 $) 1.9
- CO2 reductions (MMT)
- --- Low-carbon grid scenario 1.9
- --- AEO reference case 2.7

Annual Savings in 2050

- Electricity (TWh) 4.1
- Nat gas & oil (TBtu) 25.8
- Water (billion gallons) 79.5
- Utility bills (billion 2019 $) 2.1
- CO2 reductions (MMT)
- --- Low-carbon grid scenario 1.7
- --- AEO reference case 2.5

Cumulative Savings through 2050

- Energy (Quads) 1.3
- Water (billion gallons) 1,669
- Utility bills (billion 2019 $) 41.4
- CO2 reductions (MMT)
- --- Low-carbon grid scenario 38.4
- --- AEO reference case 54.8

Cost-effectively reducing unnecessary water use is an integral part of the stated purpose of the International Plumbing Code. As noted in Chapter 1 of the 2021 Edition, "101.3 Purpose. The purpose of this code is to establish minimum requirements to provide a reasonable level of safety, health, property protection, and general welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of plumbing equipment and systems." Nothing is more fundamental to health, safety, property protection, and general welfare than the maintenance of adequate water supplies. Water-saving technologies, such as showerheads meeting EPA WaterSense criteria, help building occupants save water, energy, and utility bills, while helping to ensure that drinking water supplies are maintained at safe and reliable levels, protecting human health and firefighting capability, as well as environmental resources.

Bibliography: U.S. Environmental Protection Agency, *WaterSense Specification for Showerheads, version 1.1*, July 26, 2018, available at <https://www.epa.gov/watersense/showerheads#Showerhead%20Specification>.
Mauer, J. and deLaski, A., *A Powerful Priority: How Appliance Standards Can Help Meet U.S. Climate Goals and Save Consumers Money,* Appliance Standards Awareness Project and American Council for an Energy-Efficient Economy, November 2020, available at <https://appliance-standards.org/document/report-overview-powerful-priority-how-appliance-standards-can-help-meet-us-climate-goals>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Showerheads that meet WaterSense criteria are widely available and competitively priced.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: TABLE 604.4 MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND FIXTURE FITTINGS

PLUMBING FIXTURE OR FIXTURE FITTING	MAXIMUM FLOW RATE OR QUANTITY[b]
Shower head[a,c]	2.0 gpm at 80 psi

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. A hand-held shower spray is a shower head.

b. Consumption tolerances shall be determined from referenced standards.

c. Shower heads shall comply with all requirements for high-efficiency showerheads in ASME A112.18.1/CSA B125.1~~USEPA WaterSense Specification for Showerheads~~.

~~USEPA~~
~~WaterSense Specification for Showerheads Version 1.1, July 26, 2018~~

Committee Reason: For the modification: Referencing the Water Sense standard would be a mistake as that non-consensus standard is likely to ratchet down to lower flow rates. It is better to refer to the requirements for high-efficiency showerheads that are already addressed in the current (consensus) ASME product standard. (8-6)
For the proposal As Modified: The Committee agreed with the published reason statement. (8-7)

Final Hearing Results

P87-21 Part I AM

P89-21

Original Proposal

IPC: 607.2.1 (New)

Proponents: Joseph J. Summers, Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

2021 International Plumbing Code

Add new text as follows:

607.2.1 Commercial energy provisions. In occupancies that are required to comply with the Commercial provisions of the International Energy Conservation Code, the developed length of hot or tempered water piping shall limited in accordance with Sections C404.5.1 through C404.5.2.1 of that code.

Reason: Requirements for hot water pipe sizing and lengths has been in the Commercial Provisions of the Energy code for several edition. Because the IPC did not have a pointer to the requirements, the requirements were sometimes overlooked. Adding the pointer clarifies the cod.
This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 9.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The requirement for hot water pipe sizing is already in the current code. This proposal only adds a pointer to the requirements and as such, there is no additional labor or materials to impact the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (13-1)

Final Hearing Results

P89-21 AS

P92-21

Original Proposal

IPC: TABLE 608.1

Proponents: Jason Shank, ASSE International, ASSE International

2021 International Plumbing Code

Revise as follows:

TABLE 608.1 APPLICATION OF BACKFLOW PREVENTERS

Portions of table not shown remain unchanged.

DEVICE	DEGREE OF HAZARD[a]	APPLICATION[b]	APPLICABLE STANDARDS
Backflow prevention assemblies:			
Double check backflow prevention assembly ~~and double check fire protection backflow prevention assembly~~	Low hazard	Backpressure or backsiphonage Sizes ~~3/8″–16″~~ 1/4"-16"	ASSE 1015; AWWA C510; CSA B64.5; CSA B64.5.1
Double check detector fire protection backflow prevention assemblies	Low hazard	Backpressure or backsiphonage Sizes ~~2″~~ 1"–16″	ASSE 1048
Pressure vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/2″–2″	ASSE 1020; CSA B64.1.2
Reduced pressure principle backflow prevention assembly ~~and reduced pressure principle fire protection backflow assembly~~	High or low hazard	Backpressure or backsiphonage Sizes ~~3/8~~ 1/4″–16″	ASSE 1013; AWWA C511; CSA B64.4; CSA B64.4.1
Reduced pressure detector fire protection backflow prevention assemblies	High or low hazard	Backsiphonage or backpressure (automatic sprinkler systems)	ASSE 1047
Spill-resistant vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/4″–2″	ASSE 1056; CSA B64.1.3
Backflow preventer plumbing devices:			
Antisiphon-type fill valves for gravity water closet flush tanks	High hazard	Backsiphonage only	ASSE 1002/ASME A112.1002/CSA B125.12; CSA B125.3
Backflow preventer for carbonated beverage machines	Low hazard	Backpressure or backsiphonage Sizes ~~1/4″–3/8″~~ 1/4"-1/2"	ASSE 1022
Backflow preventer with intermediate atmospheric vents	Low hazard	Backpressure or backsiphonage Sizes 1/4″–3/4″	ASSE 1012; CSA B64.3
Backflow preventer with intermediate atmospheric vent and pressure-reducing valve.	Low hazard	Backpressure or backsiphonage Sizes ~~1/4″–3/4″~~ 1/2"-3/4"	ASSE 1081
Dual-check-valve-type backflow preventer	Low hazard	Backpressure or backsiphonage Sizes 1/4″–~~1″~~ 2"	ASSE 1024; CSA B64.6
Hose connection backflow preventer	High or low hazard	Low head backpressure, rated working pressure, backpressure or backsiphonage Sizes 1/2″–1″	ASME A112.21.3; ASSE 1052; CSA B64.2.1.1
Hose connection vacuum breaker	High or low hazard	Low head backpressure or backsiphonage Sizes 1/2″, 3/4″, 1″	ASME A112.21.3; ASSE 1011; CSA B64.2; CSA B64.2.1
Laboratory faucet backflow preventer	High or low hazard	Low head backpressure and backsiphonage Sizes 1/8" - 8"	ASSE 1035; CSA B64.7
Pipe-applied atmospheric-type vacuum breaker	High or low hazard	Backsiphonage only Sizes ~~1/4″–4″~~	ASSE 1001; CSA B64.1.1
Vacuum breaker wall hydrants, frost-resistant, automatic-draining-type	High or low hazard	Low head backpressure or backsiphonage Sizes 3/4″, 1″	ASME A112.21.3; ASSE 1019; CSA B64.2.2
Other means or methods:			
Air gap	High or low hazard	Backsiphonage or backpressure	ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard	Backsiphonage or backpressure	ASME A112.1.3
Barometric loop	High or low hazard	Backsiphonage only	(See Section 608.14.4)

For SI: 1 inch = 25.4 mm.

a. Low hazard—See Pollution (Section 202).
   High hazard—See Contamination (Section 202).

b. See Backpressure, low head (Section 202, Backflow).
   See Backsiphonage (Section 202, Backflow).

Reason: The changes being proposed are updates to the language and sizes in the current versions of these standards.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
These devices are still being required.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This is a simple update on the sizes that are available for backflow preventers. (14-0)

Final Hearing Results

P92-21 AS

P99-21

Original Proposal

IPC: 608.17.1.2, ASSE Chapter 15 (New)

Proponents: Chris Haldiman, Watts Water Technologies, Watts Water Technologies (chris.haldiman@wattswater.com); Cameron Rapoport, Watts, Watts (cameron.rapoport@wattswater.com)

2021 International Plumbing Code

Revise as follows:

608.17.1.2 Coffee machines and noncarbonated drink dispensers. The water supply connection to each coffee machine and each noncarbonated beverage dispenser shall be protected against backflow by a backflow preventer conforming to ASSE 1022, ~~or~~ ASSE 1024, ASSE 1032 or protected by an *air gap* .

Add new standard(s) as follows:

ASSE

ASSE International
18927 Hickory Creek Drive, Suite 220
Mokena, IL 60448

1032- 2004(R2021) Dual Check Valve Type Backflow Preventers for Carbonated Beverage Dispensers – Post Mix Type

Reason: Post-mix type carbonated beverage dispensers present a higher hazard than non-carbonated beverage dispensers, and therefore the added protection of an atmospheric vent in an ASSE 1022 compliant device is appropriate. However, non-carbonated beverage dispensers present less of a hazard as they do not produce carbonic acid, and therefore a dual check would be an appropriate device. There are two ASSE standards for dual checks, 1032 and 1024.
Though ASSE 1032 states it is specifically for carbonated beverage, examination of the standard leaves no reason it would not be appropriate for non-carbonated beverage. Additionally, ASSE 1032 are more commonly available in appropriate sizes (1/4”, 3/8”) than ASSE 1024 devices, and with more appropriate end connections given that their intended application is for beverage dispensing.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no cost impact, it just offers increased device choices.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The current title of the standard (and the scope of the standard is for "carbonated" beverage dispensers. This might create confusion in a code section addressing only non-carbonated dispensers. The standard needs to be changed before proposing this to the code. (14-0)

Final Hearing Results

P99-21 AS

P106-21

Original Proposal

IPC: TABLE 702.3

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 702.3 BUILDING SEWER PIPE

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2661; ASTM D2680; ASTM F628; ASTM F1488; CSA B181.1
Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS 35, SDR 35 (PS 45), PS 50, PS 100, PS 140, SDR 23.5 (PS 150) andPS 200; with a solid, cellular core or composite wall	ASTM D2751; ASTM F1488
Cast-iron pipe	ASTM A74; ASTM A888; CISPI 301
Concrete pipe	ASTM C14; ASTM C76; CSA A257.1; CSA A257.2
Copper or copper-alloy tubing (Type K or L)	ASTM B75; ASTM B88; ASTM B251
Polyethylene (PE) plastic pipe (SDR-PR)	ASTM F714
Polypropylene (PP) plastic pipe	ASTM F2736; ASTM F2764; CSA B182.13
Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2665; ASTM F891; ASTM F1488
Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS 140 and PS 200; with a solid, cellular core or composite wall	ASTM F891; ASTM F1488; ASTM D3034; CSA B182.2; CSA B182.4
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall	ASTM D2949; ASTM F1488
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CSA B181.3
Stainless steel drainage systems, Types 304 and 316L	ASME A112.3.1
Vitrified clay pipe	ASTM C4; ASTM C700

For SI: 1 inch = 25.4 mm.

Reason: ASTM F2736 was withdrawn by ASTM (see ASTM.org/Standards/F2736.htm). The reason for removing it from Table 702.3 (Building Sewer Pipe), is to help keep the IPC Code current. ASTM F2736 double wall pipe was moved into ASTM F2764, which is currently listed in IPC Table 702.3. ASTM F2736 corrugated single wall pipe moved to ASTM F3219. Because corrugated single wall pipe is not appropriate for building sewer pipe, it is not being proposed for addition to Table 702.3.
NOTE: Although ASTM D3219 is not being proposed for addition to the IPC, it is indicated by ASTM as the replacement for ASTM F2736. I felt that the committee may want to review it,. Therefore, I have requested that ASTM include ASTM D3219 on ASTM's web portal for ICC Committee Member viewing of standards.

Bibliography:

1. ASTM F2736 - Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe (Withdrawn 2018)
2. ASTM F2764 - Standard Specification for 6 to 60 in. [150 to 1500 mm] Polypropylene (PP) Corrugated Double and Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
3. ASTM F3219 - Standard Specification for 3 to 30 in. (75 to 750 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Fittings

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is simply an editorial cleanup of a standard that is no longer used for the product/

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. The code should not reference standards that are no longer valid. (14-0)

Final Hearing Results

P106-21	AS

P107-21

Original Proposal

IPC: TABLE 702.3, ASTM Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 702.3 BUILDING SEWER PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe (Profile Wall)	ASTM F2763

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F2763-16 Standard Specification for 12 to 60 in. [300 to 1500 mm] Dual and Triple Profile-Wall Polyethylene (PP) Pipe and Fittings for Sanitary Sewer Applications

Reason: ASTM F2763 is a 12 to 60 inch corrugated dual and triple wall sanitary sewer product with pipe wall stiffness at a minimum of 46 psi. The standard is being added for communities that may want a higher stiffness corrugated HDPE pipe. The standard has been in place since 2011.

Bibliography: ASTM F2763 - Standard Specification for 12 to 60 in. [300 to 1500 mm] Dual and Triple Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Because installation standards vary, so do the installed cost of ASTM F2763 pipe. Typically when corrugated HDPE pipes are used, there is a savings on installation costs.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This is a valid standard to include in the code to provide another option for building sewer piping. (14-0)

Final Hearing Results

P107-21 AS

P108-21

Original Proposal

IPC: TABLE 702.3, ASTM Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 702.3 BUILDING SEWER PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe (corrugated wall)	ASTM F2947/F2947M

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F2947/F2947M-20 Standard Specification for 150 to 1500 mm [6 to 60 in] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

Reason: ASTM F2947/F2947M - Standard Specification for 150 to 1500 mm [6 to 60 in.] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications is a pipe product with a variable stiffness outer wall based on pipe diameter. The product has an enhanced liner for improved hydraulic conductivity. The standard incorporates recycled content material without compromising the products longevity or performance. Recent improvements to the standard makes it a viable addition to IPC at this time.

Bibliography: ASTM F2947/F2947M - Standard Specification for 150 to 1500 mm [6 to 60 in.] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Based on installation requirements and the products that are commonly being used, ASTM F2947/F2947M pipe may or may not provide a construction cost savings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P108-21 AS

P111-21

Original Proposal

IPC: 702.6, 901.3, TABLE 702.6 (New), 902.1.1 (New), ASTM Chapter 15 (New)

Proponents: Brian Helms, Charlotte Pipe and Foundry, Charlotte Pipe and Foundry (brian.helms@charlottepipe.com)

2021 International Plumbing Code

Revise as follows:

702.6 Chemical waste drainage system. A chemical wastedrainage system, including its vent system, shall be completely ~~separated~~ independent from the sanitary drainage system. Separate drainage systems for chemical waste and vent pipes shall conform to one of the standards indicated in Table 702.6. The chemical waste shall be treated in accordance with Section 803.2 before discharging to the sanitary drainage system. ~~Separate drainage systems for chemical wastes and vent pipes shall be of an~~*approved* ~~material that is~~ Chemical waste drainage system pipe and fitting materials shall be resistant to temperature, corrosion and degradation for the concentrations of chemicals involved per manufacturer recommendations.

901.3 Chemical waste drainage vent systems. The vent system for a chemical waste drainage system shall be independent of ~~the sanitary vent system and shall terminate separately~~ any sanitary drainage vent system. The termination of a chemical waste drainage vent system shall be through the roof to the outdoors or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste drainage systems shall be constructed of one of the materials ~~*approved* in accordance with Section~~ listed in table 702.6 and shall be tested for chemical resistance in accordance with ASTM F1412.

Add new text as follows:

TABLE 702.6 CHEMICAL WASTE DRAINAGE SYSTEM PIPE AND FITTINGS

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC)	ASTM F2618
Borosilicate glass	ASTM C1053
High silicon iron	ASTM A518/A518M
Polypropylene (PP)	ASTM F1412
Polyvinylidene flouride (PVDF)	ASTM F1673

902.1.1 Chemical waste drainage system vents. The pipe and fitting materials for a chemical waste drainage vent system shall be in accordance with Section 702.6. The methods utilized for construction and installation of such venting system shall be in accordance with the pipe and fitting manufacturers' instructions.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F2618-19 Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems

A518/A518M-99(2018) Standard Specification for Corrosion-Resistant High-Silicon Iron Castings

Reason: Chemical waste drainage applications are very different from sanitary drainage applications regulated in Chapter 7. Chemical waste drainage applications can vary in complexity and may be included projects ranging from K-12 chemistry labs to biomedical facilities. Many chemical waste drainage applications require pipe and fitting systems that have both higher temperature capability and resistance to a variety of chemicals and substances that typical DWV are not suitable for. Pipe and fitting materials that are manufactured to standards for chemical waste drainage applications are specifically designed to convey waste that may be detrimental to DWV and other non-pressure systems and that may be harmful to the health and safety of the public.
The code currently provides very specific direction on allowable materials for sanitary drainage systems but is not as specific for chemical waste in 702.6. Currently, the code states that these systems have to be separated from the sanitary system in section 702.6 and even gives direction on system design in section 803.2, but is very vague on what materials are acceptable for chemical waste applications.

Section 702.6 currently requires an "approved" material for chemical waste systems. By definition in Chapter 2, "approved" means that the material should be "acceptable to the code official." This proposal removes this statement as well as the responsibility of the official to determine whether the materials used are suitable for both temperature and chemical resistance requirements that can be unique to each project. Instead this proposal replaces this language with the addition of a table that includes ALL piping systems manufactured to standards specifically for chemical waste drainage and that are also third party listed for these applications for easy enforcement of the code.

Since no single piping system is chemically resistant to every chemical and substance that man has made, manufacturers recommendations regarding chemical resistance, temperature capability and installation should be referenced by the installer or designer when choosing a material for chemical waste drainage. References to manufacturers recommendations have been included in this proposal.

This proposal also adds new text for chemical waste drainage system vents as well. Materials used for venting chemical waste drainage systems are exposed to the same chemicals and substances (in gas form) that the drainage system is and should be held to the same requirements.

The current requirements for chemical waste drainage systems are too vague and unenforceable. This code change proposal clarifies the code requirements by revising section 702.6 and adding a table for allowable materials for chemical waste drainage applications. In addition, it revises section 901.3 and adds new text for chemical waste vent materials.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change proposal will not increase or decrease the cost of construction because it is intended to clarify allowable, third party certified products appropriate for chemical waste drainage applications.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
TABLE 702.6 CHEMICAL WASTE DRAINAGE SYSTEM PIPE AND FITTINGS

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC)	ASTM F2618
Borosilicate glass	ASTM C1053
High silicon iron	ASTM A518/A518M
~~Polypropylene (PP)~~ Polyolefin	ASTM F1412, CSA B181.3
Polyvinylidene fluoride (PVDF)	ASTM F1673, CSA B181.3

Committee Reason: For the modification: The CSA standard (already in the reference standards chapter) is also applicable to these products. Polyolefin is a broader term for these products.
For the proposal as modified: The Committee agreed that this a needed addition to the code to help the the code official approve piping waste piping. However, the Committee requests that the proponent bring this back back in public comment to change the phrase "resistant to temperature" to "suitable for the temperature of the waste." (14-0)

Public Comments

Public Comment 1

Proponents: Brian Helms, Charlotte Pipe and Foundry, Charlotte Pipe and Foundry (brian.helms@charlottepipe.com) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

702.6 Chemical waste drainage system. A chemical waste drainage system, including its vent system, shall be completely independent from the sanitary drainage system. Separate drainage systems for chemical waste and vent pipes shall conform to one of the standards indicated in Table 702.6. The chemical waste shall be treated in accordance with Section 803.2 before discharging to the sanitary drainage system. Chemical waste drainage system pipe and fitting materials shall be resistant to ~~temperature,~~ corrosion and degradation for the concentrations of chemicals involved per manufacturer recommendations.

901.3 Chemical waste ~~drainage vent~~ drainage vent systems . The vent system for a chemical waste drainage system shall be independent of any sanitary drainage vent system. The termination of a chemical waste drainage vent system shall be through the roof to the outdoors or to an air admittance valve that complies with ASSE 1049. Air admittance valves for chemical waste drainage systems shall be constructed of one of the materials listed in table 702.6 and shall be tested for chemical resistance in accordance with ASTM F1412.

TABLE 702.6 CHEMICAL WASTE DRAINAGE SYSTEM PIPE AND FITTINGS

MATERIAL	STANDARD
Chlorinated polyvinyl chloride (CPVC)	ASTM F2618
Borosilicate glass	ASTM C1053
High silicon iron	ASTM A518/A518M
Polyolefin	ASTM F1412, CSA B181.3
Polyvinylidene flouride (PVDF)	ASTM F1673, CSA B181.3

902.1.1 Chemical waste drainage system vents . The pipe and fitting materials for a chemical waste drainage vent system shall be in accordance with Section 702.6. The methods utilized for construction and installation of such venting system shall be in accordance with the pipe and fitting manufacturers' instructions.

Commenter's Reason: During the Committee Action Hearings, Vice Chair Gregg Gress expressed concern regarding the use of the phrase, "resistant to temperature". This phrase has been removed per his recommendation. A material's temperature capability is included in the manufacturers recommendations, which is already included in the proposal.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction The public comment as well the original proposal and modification will not increase or decrease the cost of construction.

Final Hearing Results

P111-21 AMPC1

P117-21 Part I

Original Proposal

IPC: 705.10.2, ASTM Chapter 15 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

705.10.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D2855. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where both of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D2564.
2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in nonpressure applications in sizes up to and including 4 inches (102 mm) in diameter.
3. <u>The joint is made in accordance with ASTM F3328.</u>

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

<u>F3328-19</u> <u>Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets</u>

Reason: ASTM F3328-18 is titled, "Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets" and is intended to instruct users on how to make one step joints in PVC and CPVC.

Bibliography: ASTM F3328 Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The use of an ASTM instructional type standard is not expected to raise or lower the costs of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (13-0)

Final Hearing Results

P117-21 Part I AS

P117-21 Part II

Original Proposal

IRC: P3003.9.2, ASTM Chapter 44 (New)

Proponents: Michael Cudahy, PPFA, PPFA (mikec@cmservices.com)

2021 International Residential Code

Revise as follows:

P3003.9.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer, or other *approved* primer, that conforms to ASTM F656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D2855. Solvent-cement joints shall be installed above or below ground.

Exception: A primer shall not be required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D2564.
2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in nonpressure applications in sizes up to and including 4 inches (102 mm) in diameter
3. The joint is made in accordance with ASTM F3328.

Add new standard(s) as follows:

ASTM

ASTM
International 100 Barr Harbor Drive,
P.O. Box C700 West Conshohocken,
PA 19428

F3328-19	Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: These instructions are necessary to properly make the joint. (6-5)

Final Hearing Results

P117-21 Part II AS

P120-21 Part I

Original Proposal

IPC: TABLE 702.1, TABLE 702.2, TABLE 702.4, 705.13.1, ASTM Chapter 15 (New)

Proponents: William Chapin, Professional Code Consulting, LLC, Professional Code Consulting, LLC (bill@profcc.us)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 702.1 ABOVE-GROUND DRAINAGE AND VENT PIPE

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2661; ASTM F628; ASTM F1488; CSA B181.1
Cast-iron pipe	ASTM A74; ASTM A888; CISPI 301
Copper or copper-alloy pipe	ASTM B42; ASTM B43; ASTM B302
Copper or copper-alloy tubing (Type K, L, M or DWV)	ASTM B75; ASTM B88; ASTM B251; ASTM B306
Galvanized steel pipe	ASTM A53
Glass pipe	ASTM C1053
Polyolefin pipe	ASTM F1412; ASTM F3371; CSA B181.3
Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200), and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2665; ASTM F891; ASTM F1488; CSA B181.2
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall	ASTM D2949; ASTM F1488
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CSA B181.3
Stainless steel drainage systems, Types 304 and 316L	ASME A112.3.1

TABLE 702.2 UNDERGROUND BUILDING DRAINAGE AND VENT PIPE

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2661; ASTM F628; ASTM F1488; CSA B181.1
Cast-iron pipe	ASTM A74; ASTM A888; CISPI 301
Copper or copper-alloy tubing (Type K, L, M or DWV)	ASTM B75; ASTM B88; ASTM B251; ASTM B306
Polyethylene (PE) plastic pipe (SDR-PR)	ASTM F714
Polyolefin pipe	ASTM F714; ASTM F1412; ASTM F3371; CSA B181.3
Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2665; ASTM F891; ASTM F1488; CSA B181.2
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall	ASTM D2949; ASTM F1488
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CSA B181.3
Stainless steel drainage systems, Type 316L	ASME A112.3.1

For SI: 1 inch = 25.4 mm.

TABLE 702.4 PIPE FITTINGS

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters	ASME A112.4.4; ASTM D2661; ASTM F628; CSA B181.1
Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters	ASTM D2751
Cast iron	ASME B16.4; ASME B16.12; ASTM A74; ASTM A888; CISPI 301
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME B16.26; ASME B16.29
Glass	ASTM C1053
Gray iron and ductile iron	AWWA C110/A21.10
Polyethylene	ASTM D2683
Polyolefin	ASTM F1412; ASTM F3371; CSA B181.3
Polyvinyl chloride (PVC) plastic in IPS diameters	ASME A112.4.4; ASTM D2665; ASTM F1866
Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters	ASTM D3034
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D.	ASTM D2949
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CSA B181.3

MATERIAL	STANDARD
Stainless steel drainage systems, Types 304 and 316L	ASME A112.3.1
Steel	ASME B16.9; ASME B16.11; ASME B16.28
Vitrified clay	ASTM C700

For SI: 1 inch = 25.4 mm.

705.13.1 Heat-fusion joints. Heat-fusion joints for polyolefin pipe and tubing joints shall be installed with socket-type heat-fused polyolefin fittings or electrofusion polyolefin fittings. Joint surfaces shall be clean and free from moisture. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM F1412, ASTM F3371 or CSA B181.3.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F3371-19 Standard Specification for Polyolefin Pipe and Fittings for Drainage, Waste, and Vent

Reason: ASTM F1412 for corrosive waste is currently being used for typical DWV applications. There is no restriction within F1412 to not allow this and still should be referenced, but it is overly restrictive for manufacturer to make polyolefin pipe/fittings for typical DWV applications to have to go to the extreme of a chemical resistance test in F1412 if the product was not to be used for corrosive waste. For this reason, ASTM F3371 was developed and published as it includes the same requirements as F1412 minus the chemical resistance testing. Also note that other ASTM standards for DWV application do not include a chemical resistance test.

Bibliography: ASTM F3371-19 Standard Specification for Polyolefin Pipe and Fittings for Drainage, Waste, and Vent

Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Options to comply with the code usually allow for decreases in the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P120-21 Part I AS

P120-21 Part II

Original Proposal

IRC: TABLE P3002.1(1), TABLE P3002.1(2), TABLE P3002.2, P3003.11.1, ASTM Chapter 44 (New)

Proponents: William Chapin, Professional Code Consulting, LLC, Professional Code Consulting, LLC (bill@profcc.us)

2021 International Residential Code

Revise as follows:

TABLE P3002.1(1) ABOVE-GROUND DRAINAGE AND VENT PIPE

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2661; ASTM D2680; ASTM F628; ASTM F1488; CSA B181.1
Cast-iron pipe	ASTM A74; ASTM A888; CISPI 301
Copper or copper-alloy pipe	ASTM B42; ASTM B43; ASTM B302
Copper or copper-alloy tubing (Type K, L, M or DWV)	ASTM B75/B75M; ASTM B88; ASTM B251/B251M; ASTM B306
Galvanized steel pipe	ASTM A53/A53M
Polyolefin pipe	ASTM F3371; CSA B181.3
Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2665; ASTM F891; ASTM F1488; CSA B181.2
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall	ASTM D2949; ASTM F1488
Stainless steel drainage systems, Types 304 and 316L	ASME A112.3.1

For SI: 1 inch = 25.4 mm.

TABLE P3002.1(2) UNDERGROUND BUILDING DRAINAGE AND VENT PIPE

PIPE	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2661; ASTM F628; ASTM F1488; CSA B181.1
Cast-iron pipe	ASTM A74; ASTM A888;CISPI 301
Copper or copper-alloy tubing (Type K, L, M or DWV)	ASTM B75/B75M; ASTM B88; ASTM B251; ASTM B306
Polyethylene (PE) plastic pipe (SDR-PR)	ASTM F714
Polyolefin pipe	ASTM F714; ASTM F1412;ASTM F3371; CSA B181.3
Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2665; ASTM F891; ASTM F1488; CSA B181.2
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall	ASTM D2949; ASTM F1488
Stainless steel drainage systems, Type 316L	ASME A112.3.1

For SI: 1 inch = 25.4 mm.

TABLE P3002.2 BUILDING SEWER PIPE

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall	ASTM D2661; ASTM F628; ASTM F1488
Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS35, SDR 35 (PS 45), PS50, PS100, PS140, SDR 23.5 (PS 150) and PS200; with a solid, cellular core or composite wall	ASTM D2751; ASTM F1488
Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS140 and PS 200; with a solid, cellular core or composite wall	ASTM D3034; ASTM F891; ASTM F1488; CSA B182.2; CSA B182.4
Cast-iron pipe	ASTM A74; ASTM A888; CISPI 301
Concrete pipe	ASTM C14; ASTM C76; CSA 8–93; CSA A257.2
Copper or copper-alloy tubing (Type K or L)	ASTM B75/B75M; ASTM B88; ASTM B251/B251M
Polyethylene (PE) plastic pipe (SDR-PR)	ASTM F714
Polyolefin pipe	ASTM F1412; ASTM F3371;CSA B181.3
Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with solid, cellular core or composite wall	ASTM D2665; ASTM D2949; ASTM D3034; ASTM F1412; CSA B182.2; CSA B182.4
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid, cellular core or composite wall	ASTM D2949, ASTM F1488
Stainless steel drainage systems, Types 304 and 316L	ASME A112.3.1
Vitrified clay pipe	ASTM C425; ASTM C700

For SI: 1 inch = 25.4 mm.

P3003.11.1 Heat-fusion joints. Heat-fusion joints for polyolefin pipe and tubing joints shall be installed with socket-type heat-fused polyolefin fittings or electrofusion polyolefin fittings. Joint surfaces shall be clean and free from moisture. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM F1412, ASTM F3371. or CSA B181.3.

Add new standard(s) as follows:

ASTM ASTM International 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428

F3371-19 Standard Specification for Polyolefin Pipe and Fittings for Drainage, Waste, and Vent Applications

Reason: ASTM F1412 for corrosive waste is currently being used for typical DWV applications. There is no restriction within F1412 to not allow this and still should be referenced, but it is overly restrictive for manufacturer to make polyolefin pipe/fittings for typical DWV applications to have to go to the extreme of a chemical resistance test in F1412 if the product was not to be used for corrosive waste. For this reason, ASTM F3371 was developed and published as it includes the same requirements as F1412 minus the chemical resistance testing. Also note that other ASTM standards for DWV application do not include a chemical resistance test.

Bibliography: ASTM F3371-19 Standard Specification for Polyolefin Pipe and Fittings for Drainage, Waste, and Vent Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal adds another option for piping, Options in the code tend to decrease the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This adds another option for piping material for these applications. (11-0)

Final Hearing Results

P120-21 Part II AS

P124-21

Original Proposal

IPC: 705.16, 705.2.4 (New), 705.10.5 (New)

Proponents: Pennie Feehan, Chair of PMGCAC, Chair of PMGCAC (PMGCAC@iccsafe.org)

2021 International Plumbing Code

Revise as follows:

705.16 Joints between different materials. Joints between different piping materials shall be made with a mechanical joint ~~of the compression or mechanical-sealing type~~ conforming to ASTM C1173, ASTM C1460 or ASTM C1461. Connectors and adapters shall be *approved* for the application and such joints shall have an elastomeric seal conforming to ASTM C425, ASTM C443, ASTM C564, ASTM C1440, ASTM F477, CSA A257.3M or CSA B602, or as required in Sections 705.16.1 through 705.16.7. Joints between glass pipe and other types of materials shall be made with adapters having a TFE seal. Joints shall be installed in accordance with the manufacturer's instructions.

Add new text as follows:

705.2.4 Mechanical joints above ground. Mechanical joint couplings used above ground to connect ABS pipe to ABS pipe shall be of the shielded type and shall be marked by the manufacturer as being recommended for the application.

705.10.5 Mechanical joints above ground. Mechanical joint couplings used above ground to connect PVC pipe to PVC pipe shall be of the shielded type and shall be marked by the manufacturer as being recommended for the application.

Reason: This proposal has two purposes:
The change in Section 705.16 removes contradictory information on coupling types. A coupling cannot be both mechanical and a compression joint. Removing the existing language does not prohibit the use of compression gaskets which are already covered by the elastomeric gasket standards referenced.

The addition of new sections 705.2.4 and 705.10.5 is to clear up questions as to whether mechanical joint couplings can be used to connect the same types of piping material, specifically PVC to PVC and ABS to ABS. Section 705.16 speaks to using mechanical couplings to connect different piping materials. Examples are, galvanized steel-to-PVC, and cast iron-to-PVC. The obvious question is: If one end of elastomeric-type mechanical coupling is suitable to install on a PVC pipe, why wouldn't the other end be suitable to be installed on a PVC pipe? Mechanical couplings made for connecting the same sizes of steel and PVC pipes are dimensionally identical on both ends. Several manufacturers of these type of couplings mark their same size (on both ends) couplings suitable for PL-ST to PL-ST. For example:

1-1/2 inch CI, PL or ST to 1-1/2 inch CI, PL or ST

2 inch CI, PL or ST to 2 inch CI, PL or ST

3 inch PL, ST or XHCI to 3 inch PL, ST or XHCI

4 inch PL, ST or XHCI to 4 inch PL, ST or XHCI

6 inch PL, ST or XHCI to 6 inch PL, ST or XHCI

There are many situations where use of this type of coupling is necessary to perform the work. Examples are "cutting in" a wye into a stack or horizontal drain for the addition of fixtures and repairing a broken section of piping. Is it likely that someone would install a new piping system using these mechanical couplings? No because the cost of these couplings are much more than solvent-welded couplings.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMG CAC). The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development-process/pmg-code-action-committee-pmgcac/ Reference PMGCAC Working Document Item 23.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal only clarifies the code. Clarifications of existing requirements do not change material or labor costs and therefore, do not impact the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P124-21 AS

P135-21

Original Proposal

IPC: TABLE 1102.7, TABLE 1102.4, ASTM Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F2306/F2306M; ASTM F2763

TABLE 1102.4 BUILDING STORM SEWER PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M; ASTM F2763

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F2763-16 Standard Specification for 12 to 60 in. [300 to 1500 mm] Dual and Triple Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

Reason: ASTM F2763 is proposed for addition to table 1102.4 - BUILDING STORM SEWER PIPE because it has a uniform pipe stiffness o no less than 46 psi. The pipe was developed for the sanitary sewer market, but because of its high performance the product excellent for use in storm drainage applications. ASTM F2763 also covers fittings, which is why it is being proposed for addition to Table 1102.7 - PIPE FITTINGS

Bibliography: ASTM F2763 - Standard Specification for 12 to 60 in. [300 to 1500 mm] Dual and Triple Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Based on the products ASTM F2763 pipe is competing against, the installation costs could be less but certainly not more.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P135-21 AS

P136-21

Original Proposal

IPC: TABLE 1102.4, CSA Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 1102.4 BUILDING STORM SEWER PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M;CSA B182.8

Add new standard(s) as follows:

CSA

CSA Group
8501 East Pleasant Valley Road
Cleveland, OH 44131-5516

B182.8-18 Profile Polyethylene (PE) Storm Sewer and Drainage Pipe and Fittings

Reason: CSA 182.8 is the standard for profile polyethylene (PE) storm sewer and drainage pipe and fittings. The standard is commonly referenced in Canada. The reference will help tie both standards together.

Bibliography: CSA B182.8 - Profile polyethylene (PE) storm sewer and drainage pipe and fittings

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The addition of CSA B182.8 is similar to existing ASTM standards in Table 1102.4 and will not increase of decrease the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P136-21 AS

P138-21

Original Proposal

IPC: TABLE 1102.7, TABLE 1102.4, ASTM Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polypropylene (PP) plastic pipe	ASTM F2764

TABLE 1102.4 BUILDING STORM SEWER PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polypropylene (PP) pipe	ASTM F2764; ASTM F2881; CSA B182.13

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F2764/2764M-19 Standard Specification for 6 to 60 in. [150 to 1500 mm] Polypropylene (PP) Corrugated Double and Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications

Reason: ASTM F2764/F2764M is being proposed for addition to Table 1102.4 - BUILDING STORM SEWER PIPE because it is an excellent storm sewer product. On projects where a higher preforming corrugated polypropylene pipe is desired, ASTM F2764/F2764M should be called out over ASTM F2881, which is already a part of Table 1102.4. ASTM F2764/F2764M is also a fittings standard, which is why it is being recommended for addition to Table 1102.7 - PIPE FITTINGS.

Bibliography: ASTM F2764/F2764M - Standard Specification for 6 to 60 in. [150 to 1500 mm] Polypropylene (PP) Corrugated Double and Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Although the ASTM F2764/F2764M is more expensive than listed standard ASTM F2881, based on installation requirements it may be more or less expensive to install.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P139-21

Original Proposal

IPC: TABLE 1102.7, ASTM Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polypropylene (PP) plastic pipe	ASTM F2881/F2881M

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F2881/F2881M-19 Standard Specification for 12 to 60 in. [300 to 1500 mm] Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

Reason: ASTM F2881/F2881M exists in Table 1102.4 - BUILDING STORM SEWER PIPE and inadvertently was not added to Table 1102.7 - PIPE FITTINGS. The standard covers fittings that are commonly used in storm sewers.

Bibliography: ASTM F2881/F2881M - Standard Specification for 12 to 60 in. [300 to 1500 mm] Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Based on installation requirements, these fittings may be more or less expensive than existing systems.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P139-21 AS

P140-21 Part I

Original Proposal

IPC: TABLE 1102.5

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 1102.5 SUBSOIL DRAIN PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F405; ASTM F667; CSA B182.1; CSA B182.6; CSA B182.8

Reason: ASTM F405 was withdrawn by ASTM. The content of F405 for the most part is contained in ASTM F667, which is already referenced in Table 1102.5, and is proposed for addition to IRC Tables P3009.11 and P3302.1 (see proposal 7039).

Bibliography: ASTM F405 - Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings (Withdrawn 2015)
ASTM F667/F667M - Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The products specified in ASTM F405 were moved to ASTM F667. The impact to construction is neutral.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: ASTM F405 has been withdrawn from the standards review process. The code should not reference withdrawn standards. (14-0)

Final Hearing Results

P140-21 Part I AS

P140-21 Part II

Original Proposal

IRC: TABLE P3009.11, TABLE P3302.1

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (shawn.coombs@ads-pipe.com)

2021 International Residential Code

Revise as follows:

TABLE P3009.11 DISTRIBUTION PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F405

TABLE P3302.1 SUBSOIL DRAIN PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F405; CSA B182.1; CSA B182.6; CSA B182.8

Reason: ASTM F405 was withdrawn by ASTM. The content of F405 for the most part is contained in ASTM F667, which is already referenced in Table 1102.5, and is proposed for addition to IRC Tables P3009.11 and P3302.1 (see proposal 7039).

Bibliography: ASTM F405 - Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings (Withdrawn 2015)
ASTM F667/F667M - Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

Cost Impact: The products specified in ASTM F405 were moved to ASTM F667. The impact to construction is neutral.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (11-0)

Final Hearing Results

P140-21 Part II AS

P142-21

Original Proposal

IPC: TABLE 1102.4, TABLE 1102.7, ASTM Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 1102.4 BUILDING STORM SEWER PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M;ASTM F2947

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F2306/F2306M; ASTM F2947/F2947M

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F2947/F2947M-20 Standard Specification for 150 to 1500 mm [6 to 60 in.] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

Reason: ASTM F2947/F2947 is proposed for addition to Table 1102.4 - BUILDING STORM SEWER PIPE because it is a annular corrugated high performing sanitary sewer pipe made from recycled material with a variable pipe stiffness based on diameter. This product normally is used for sanitary sewer applications, but is being proposed for storm drainage systems for communities who want enhanced hydraulics, corrosion resistant, improved stiffness, and high performing joints. ASTM F2947/F2947M is also being proposed for addition to Table 1102.7 because fittings are also called out in the standard.

Bibliography: ASTM F2947/F2947M - Standard Specification for 150 to 1500 mm [6 to 60 in] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Based on how the product is installed and what the other allowable materials are, ASTM F2947/F2947M may have a higher or lower installed cost.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P142-21 AS

P143-21 Part I

Original Proposal

IPC: TABLE 1102.7

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

THIS IS A 2 PART PROPOSAL. PART I WILL BE HEARD BY THE IPC COMMITTEE. PART II WILL BE HEARD BY THE IRC-P&M COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F2306/F2306M; ASTM F667/F667M

Reason: ASTM F667/F667M covers pipe and fittings. The proposal to add this standard to Table 1102.7 - Pipe Fittings is just to highlight that the pipe standard listed on Table 1102.4 and 1102.5 covers fittings as well as pipe. It is also appropriate to add ASTM F667/F667M to the IRC Table P3302.1 - Subsoil Drain Pipe and Table P3009.1 - Distribution Pipe since ASTM F405 is listed in these standards as well, and ASTM F667/F667M is a replacement for ASTM F405.

Bibliography: ASTM F667/F667M - Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The addition of ASTM F667/F667M to Table 1102.7, Table P3302.1, and Table P3009.11 doesn't impact construction cost. It simply highlights that the standard covers pipe and fittings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P143-21 Part I AS

P143-21 Part II

Original Proposal

IRC: TABLE P3302.1, TABLE P3009.11, ASTM Chapter 44 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (shawn.coombs@ads-pipe.com)

2021 International Residential Code

Revise as follows:

TABLE P3302.1 SUBSOIL DRAIN PIPE

MATERIAL	STANDARD
Cast-iron pipe	ASTM A74; ASTM A888; CISPI 301
Polyethylene (PE) plastic pipe	ASTM F405; ASTM F667/F667M; CSA B182.1; CSA B182.6; CSA B182.8
Polyvinyl chloride (PVC) plastic pipe (type sewer pipe, SDR 35, PS25, PS50 or PS100)	ASTM D2729; ASTM D3034; ASTM F891; CSA B182.2; CSA B182.4
Stainless steel drainage systems, Type 316L	ASME A112.3.1
Vitrified clay pipe	ASTM C4; ASTM C700

TABLE P3009.11 DISTRIBUTION PIPE

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyethylene (PE) plastic pipe	ASTM F405; ASTM F667/F667M

Add new standard(s) as follows:

ASTM

ASTM
International 100 Barr Harbor Drive,
P.O. Box C700 West Conshohocken,
PA 19428

F667/F667M-16 Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

Reason: ASTM F667/F667M covers pipe and fittings. The proposal to add this standard to Table 1102.7 - Pipe Fittings is just to highlight that the pipe standard listed on Table 1102.4 and 1102.5 covers fittings as well as pipe.

Bibliography: ASTM F667/F667M - Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

Cost Impact: The addition of ASTM F667/F667M to Table 1102.7 doesn't impact construction cost. It simply highlights that the standard covers pipe and fittings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (11-0)

Final Hearing Results

P143-21 Part II AS

P144-21

Original Proposal

IPC: TABLE 1102.7, ASTM Chapter 15 (New)

Proponents: Shawn Coombs, Advanced Drainage Systems, Inc., Advanced Drainage Systems, Inc. (Shawn.coombs@ads-pipe.com)

2021 International Plumbing Code

Revise as follows:

TABLE 1102.7 PIPE FITTINGS

Portions of table not shown remain unchanged.

MATERIAL	STANDARD
Polyvinyl chloride (PVC) plastic	ASTM D2665; ASTM D3311; ASTM F1866; ASTM F3202

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

F3202-19a Standard Specification for Solid Wall Poly (Vinyl Chloride) PVC Fittings for Joining Corrugated Wall High Density Polyethylene (PE) and Propylene (PP) Piping

Reason: ASTM F3202 is proposed for addition to Table 1102.7 - PIPE FITTINGS because the fittings are used when connecting to structures and when higher quality connections (fittings) are desired for Polyethylene (PP) and Polypropylene (PP) Pipe. It is a relatively new standard that was created in 2019.

Bibliography: ASTM F3202 - Standard Specification for Solid Wall Poly (Vinyl Chloride) PVC Fittings for Joining Corrugated Wall High Density Polyethylene (PE) and Polypropylene (PP) piping.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Based on installation requirements these fittings may be less or more expensive than Polypropylene (PP) or Polyethylene (PE) fittings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

P144-21 AS

P147-21 Part II

Original Proposal

IRC: APPENDIX AX (New), SECTION AX101 (New), AX101.1 (New), AX101.2 (New), SECTION AX102 (New), AX102.1 (New), SECTION AX103 (New), AX103.1 (New), AX103.2 (New), AX103.3 (New), AX103.4 (New), AX103.5 (New), AX103.6 (New), AX103.7 (New), SECTION AX104 (New), AX104.1 (New), AX105 (New), AX106.1 (New), TABLE AX106.1 (New)

Proponents: Edward R. Osann, Natural Resources Defense Council, Natural Resources Defense Council (eosann@nrdc.org); CJ Lagan, LIXIL, LIXIL (cj.lagan@lixil.com); albert rubin, NCSU, self (rubin@ncsu.edu)

2021 International Residential Code

Add new text as follows:

APPENDIX AX NON-SEWERED SANITATION SYSTEMS

SECTION AX101
GENERAL

AX101.1 Applicability. The provisions of this chapter shall apply to the installation of non-sewered sanitation systems.

AX101.2 System requirements. Non-sewered sanitation systems shall comply with ANSI/CAN/IAPMO/ISO 30500.

SECTION AX102
DEFINITIONS

AX102.1 General. For purposes of this chapter, the following definitions shall apply.
Conditioned Space. An area, room, or space normally occupied and being heated or cooled for human habitation by any equipment.

Non-Sewered Sanitation System. A prefabricated integrated sewage treatment unit that is not connected to a public sewer or private sewage disposal system.

SECTION AX103
INSTALLATION

AX103.1 General. The installation of non-sewered sanitation systems shall be in accordance with the manufacturer's installation instructions and with Section AX103.2 through AX103.7.

AX103.2 Operating conditions. A non-sewered sanitation system in either a conditioned or unconditioned space shall be installed where the ambient temperature, ambient humidity, and altitude (atmospheric pressure) are in accordance with the manufacturer's installation instructions or product listing.

AX103.3 Clearances for servicing and maintenance. A non-sewered sanitation system shall be located to permit access and sufficient clearance for service and maintenance. Unless otherwise specified by the manufacturer's installation instructions, not less than 30 inches in depth, width, and height of working space shall be provided at any access panel.

AX103.4 Backflow prevention. A domestic water supply connection to a non-sewered sanitation system shall be protected in accordance

with Section P2902 of this code.

AX103.5 Effluent storage. Any container or vessel for the storage of effluent discharged from a non-sewered sanitation system and not integral to such system shall be installed in accordance with Section P2910.9 of this code.

AX103.6 Systems employing combustion. A non-sewered sanitation system employing combustion shall comply with the mechanical code.
Exception: A non-sewered sanitation system listed for unvented use.

AX103.7 Connection to plumbing system not required. Unless the Authority Having Jurisdiction determines otherwise, a non-sewered sanitation system is not required to be connected to the sanitary drainage system of the building or premises.

SECTION AX104
MANUAL REQUIRED

AX104.1 Operation and maintenance manual. Non-sewered sanitation systems shall have an operation and maintenance manual provided by the manufacturer.

AX105 System output. The use or disposal of all substances exiting the non-sewered sanitation system shall be determined by the Authority Having Jurisdiction.

AX106.1 General. See Table AX106.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, the standard title, and the section or sections of this appendix that reference the standard.

TABLE AX106.1 REFERENCE STANDARDS

STANDARD ACRONYM	STANDARD NAME	SECTIONS HEREIN REFERENCED
ANSI/CAN/IAPMO/ISO 30500-2019	Non-sewered sanitation systems - Prefabricated integrated treatment units - General Safety and performance requirements for design and testing	AX101.2

Reason: This proposal covers the essential considerations that a building official must assess when a non-sewered sanitation system (NSSS) as defined herein is installed in a building. Designed for operation without a sewer connection and, in many cases, without a dedicated water supply, NSSSs are anticipated to meet critical public health needs in areas with limited water and wastewater infrastructure, water supply constraints, and/or unfavorable soils for traditional on-site disposal methods. In the U.S., over 20% of the population relies on an on-site wastewater system. And even today, a portion of our population does not have access to fully functioning sanitation, largely due to lack of affordable infrastructure or to challenging site conditions.
In 2011, the Bill & Melinda Gates Foundation launched the "Reinvent the Toilet Challenge" to bring new technology to bear to achieve sustainable sanitation solutions. The target is a factory-built device that provides complete and effective treatment of human sanitary waste, unconnected to any sewer or drainage network and with minimal inputs of energy and water. Eight teams received Foundation support to develop prototypes for lab testing, field trials, and commercialization. Among these initial devices, three broad pathways for treatment technology have emerged -- electro-chemical, biological, and combustion -- and in some cases, combinations of these in the same device. Manufacturers have been involved in these efforts, and LIXIL (owner of the American Standard brand) and other companies are working to develop compliant systems for both domestic and international installations. It is the general preference of manufacturers to design and market systems that are compliant with published codes and standards, rather than one-off compliance reviews by individual jurisdictions.

To facilitate commercialization of hi-tech toilets and their acceptance by state and national regulatory bodies, an ISO standard was adopted in 2018 to establish the key performance attributes of NSSSs. Standard 30500, *Non-sewered sanitation systems - Prefabricated integrated treatment units - General safety and performance requirements for design and testing*, sets performance requirements for solid and liquid

outputs, odor, noise, air emissions, materials, safety, marking, and ergonomics, together with relevant test procedures for measuring the attainment of these requirements. This ISO standard was adopted in identical form as a U.S. and Canadian national standard in 2019, designated as ANSI/CAN/IAPMO/ISO 30500:2019.

This proposal addresses the considerations that must be taken into account by building officials regarding the placement and installation of NSSSs in buildings. The proposal would permit (but not require) the installation of a NSSS listed to the ISO standard, and provide an exception to the general requirement in the code that sanitation devices be connected to the building drainage system, unless a connection is required by the AHJ. Certain key protections, such as backflow prevention, proper ventilation of combustion-based units, and proper siting of storage tanks (if any) external to the unit are each specified in the proposal. Considerations of the use and disposal of outputs of the system are specifically referred to an AHJ, which most likely will be a health department.

Criteria for the functioning of the unit for its intended purpose are established by the ISO standard and do not need to be repeated in plumbing code language. It should be noted that the ISO standard was developed by an international group of scientists, engineers, and regulators to assure the highest levels of treatment would apply to all outputs (air, water, and solids) from the device. The performance-based standards allow a variety of technologies to be applied, so long as key metrics are achieved. The microbiological reduction requirements for solid and liquid waste are based on the quantitative microbial risk assessment (QMRA) method recognized by the World Health Organization for this purpose. The requirements of the standard mimic the highest quality standards imposed by regulatory agencies on waste-derived materials destined for reuse. The standard's test procedures are rigorous (both lab and field tests are required), and the proposal allows only NSSSs listed to the standard to be approved for installation under this appendix.

With "Reinvented Toilets" meeting the 30500 standard now on the cusp of commercialization, the arrival of such toilets at job sites across the country can reasonably be expected by the time this code update is published and adopted by states and localities, e.g., 2025. Clear code language will accelerate the availability of safe sanitation for people who lack it today. While much is still unknown about the cost, maintenance, and reliability of NSSSs, or even the business model for their installation and servicing, forward-looking communities and jurisdictions with acute sanitation needs will want to be prepared for the safe installation and use of this promising new technology as it enters the market. This proposal lays out the necessary groundwork for code officials to inspect and approve their installation, set out in an appendix available for voluntary adoption by state and local code bodies.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal creates an appendix for voluntary adoption, and thus poses no additional costs on construction built to the base code. In jurisdictions where it is adopted, the proposal authorizes, but does not require, installation of a non-sewered sanitation device, as defined. Builders remain free to install less expensive sanitary ware if they so choose. First costs of an NSSD are expected to be higher than a conventional flush toilet, but may reduce sewer connection charges. NSSDs may also allow construction on sites that might otherwise be unbuildable due to lack of sewer infrastructure or site conditions unsuitable for conventional on-site systems.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
AX103.6 Systems employing combustion.
A non-sewered sanitation system employing combustion shall comply with the mechanical code.

~~**Exception:** A non-sewered sanitation system listed for unvented use~~.

AX103.7 Connection to plumbing system not required. ~~Unless the Authority Having Jurisdiction determines otherwise, a~~A non-sewered sanitation system is not required to be connected to the sanitary drainage system of the building or premises.

Committee Reason: For the modification: Some extraneous language needed removed and the exception was found to be in conflict with the mechanical and fuel gas sections of the code.
For the proposal as modified: This is a good addition to the appendix of the code as there are some remote areas where septic systems are

not possible. The language provides guidance to the code official to be able to work with the local health authority for using this method. (11-0)

Final Hearing Results	
P147-21 Part II	AM

ADM7-22 Part I

Original Proposal

ICCPC: 101.3.3 (New); IEBC: 101.2.1 (New), [A] 101.6; IFGC: [A] 101.3; IPC: [A] 101.2, 101.2.1 (New); IPMC: 101.2.1 (New); ISPSC: 101.2.1 (New); IGCC: 101.3.2 (New)

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

[A] 101.2 Scope. The provisions of this code shall apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code shall regulate nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems and sanitary and condensate vacuum collection systems. The installation of fuel gas distribution piping and equipment, fuel-gas-fired water heaters and water heater venting systems shall be regulated by the *International Fuel Gas Code* . ~~Provisions in the appendices shall not apply unless specifically adopted~~.

Exception: Detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress, and their accessory structures not more than three stories above grade plane in height, shall comply with this code or the International Residential Code.

Add new text as follows:

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

Reason: Appendices are in all of the codes except for IZC. The intent is to put information about their adoption for inclusion in the same location in all of the codes immediately following the section on scope. This is already the case in the IBC, IFC, IMC, IPSDC and IWUIC. This section is added to ICCPC, IGCC, IPMC, and ISPSC. This section is relocated in the IEBC, IFGC, IPC and IRC. This will also be proposed to the first public draft of the IECC.
This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial coordination item.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 2021 International Existing Building Code

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted or referenced.

2021 International Code Council Performance Code

~~**101.3.3 Appendices.** Provisions in the appendices shall not apply unless specifically adopted.~~

Committee Reason: The committee stated that the reason for the approval of the first modification was that the performance code does have mandatory requirements in the appendices so that proposed section is not necessary. The stated reason for the approval of the second modification was that if an appendix is specifically referenced in the code you do need to have the authority to enforce it. The stated reason for the approval of the proposal was that it clarifies the code by allowing the codes to be more interactive which as a code set makes good sense. (Vote: 12-1)

Final Hearing Results

ADM7-22 Part I AM

ADM14-22

Original Proposal

IMC: SECTION 104, 202; IFGC: SECTION 104, SECTION 105, 202; IPC: SECTION 104, 202; ISPSC: SECTION 104, 202; IPSDC: SECTION 104, 202

Proponents: Kevin Scott, KH Scott & Associates LLC, KH Scott & Associates LLC (khscottassoc@gmail.com)

Primary sections and titles shown as deleted include the deletion of all sections and subsections within them. For clarity, the full text of these deletions are not shown.

2021 International Plumbing Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency~~ organization that is regularly engaged in conducting tests or furnishing inspection services, or furnishing product evaluation or certification where such ~~agency~~ organization has been *approved* by the code official.

Add new definition as follows:

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

~~SECTION 104~~
~~DUTIES AND POWERS OF THE CODE OFFICIAL~~
(Delete entire section and replace as follows)

Add new text as follows:

SECTION 104
DUTIES AND POWERS OF THE CODE OFFICIAL

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by and bear the stamp of a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code,

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products.

The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. The code official shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the code official shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the code official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this code, the code official shall require the building to meet the requirements of Section 1612 or Section R322 of the International Residential Code, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section 114.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the code official for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

Reason: Section 104 appears in the IMC, IFGC, IPC, ISPSC and IPSDC and contains general requirements for the authority and duties of the code official. Among these authorities and duties is the review and approval of alternate methods. The primary purpose of this code change is to update Section 104 to reflect the current manner that alternate methods and materials are evaluated, and to differentiate between evaluations from accredited evaluation agencies and evaluations from others, such as engineers. These provisions have basically been the same since the first edition in 2000, with the exception that the section on "Research Reports" was added in 2003. Industry terminology and methods have evolved over the years.

This proposal revises general code enforcement provisions to improve organization, improve clarity, and supplement existing provisions to better align the code text with how the code is commonly applied. The end goal is to provide the same wording and procedures in all of the I-Codes with regard to the Duties and Responsibilities of the Code Official. Some of the codes contain unique provisions applicable to only that code. Those nuances are retained so there are some slight differences, but the formatting will be the same in each code and the language will generally be the same in each code.

A separate code change proposal was submitted for the IFC, IWUIC, IBC, IEBC, IRC, IgCC and IPMC. The proposals are separate, however, the content and purpose is the same. Time restraints did not allow for this package to be reviewed by the PMG CAC. Therefore, it is submitted separately, however the content and format is identical.

As stated earlier, this section has been in the code a long time, and it is believed that it initially envisioned an alternative product or method review and approval process on a project-by-project basis, with substantiating tests and calculations or analyses provided with each permit application. Currently, a more efficient system has evolved where the same product evaluation reports are used in numerous projects, across many jurisdictions, and for many conditions. This evolution causes the need to revise this section to reflect current procedures.

However, the need for designers to be able to apply for one-time approval needs to be maintained, and that is the reason that "research reports" is maintained. In this case, though, when a method or material is not addressed by the code, the code official needs more information on the process that the evaluator used to determine that the method or material complies with the intent of the code.

To achieve the common format, a template is shown below which includes comments on each of the sections. Since the wording in each code is intended to be the same, the outline is not shown for every code, however there is an underline/strikeout version for each code provided. The code change for each code is provided as delete and substitute. This was done because the autoformatting process in cdpACCESS did not provide a document to easily follow. The underline/strikeout versions show the specific changes.

The following template is from the IBC. The IMC, IFGC, IPC, ISPSC and IPSDC provisions are formatted the same as this template, however some codes have additional unique provisions, and other codes don't contain all of these sections if they are not appropriate for the code content. This is the same template used for the other code change for the remaining I-Codes.

OUTLINE FOR PROPOSED SECTION 104

SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL – same title used for each code

104.1 General. – This section has been subdivided with numbered/titled subsections to break up the existing paragraph and specifically state that the code official is authorized to determine compliance with the code. While always implied and applied in this manner, the code never specifically states this important fact.

104.2 Determination of Compliance. – reformatted to identify that when reviewing projects for compliance with the code, the code official can develop policies and procedures. It also specifically states that the developed policies and the project approvals are to be based on the intent of the code.

~~104.2.1~~ Listed compliance. – In cases where the code specifies a listing standard, it is common for a code official to accept things listed to that standard without further evaluating whether the standard is germane. When a product listing is appropriate, then the fact that the product is listed and installed in accordance with the listing specifications and the manufacturer's instructions becomes the approval of the product. This section is not included in all codes since not all codes require listed equipment.

~~104.2.2~~ Technical assistance. – Nearly all the codes provide for the code official to utilize technical assistance in some form or another. This section is included as a subsection for determining compliance and will be consistent throughout the I-Codes. It is derived from, and replaces, previous text that was originally developed for and limited to hazardous materials related provisions.

104.2.2.1 Cost. – the cost for technical assistance is borne by the applicant or owner. This was previously included in a preceding paragraph and has been separated into its own subsection.

104.2.2.2 Preparer qualifications. – states that the person or agency providing the technical report must be qualified. The code official has the ability to require that the report is stamped by a registered design professional, since not all reports may need to provide this. For example, a hazardous materials classification report often does not include engineering or design. The definition is added to codes that do not currently contain the definition, such as the IWUIC. This was previously included in a preceding paragraph and has been separated into its own subsection. The new text goes beyond simply recommending changes, recognizing that the report may be a source document, as opposed to a review of documentation prepared by others.

104.2.2.3 Content. – the technical report shall include an analysis and any recommended or necessary changes.

104.2.2.4 Tests. – Tests can often provide valuable information. Where a test standard isn't specified by this code or a reference standard, the code official may wish to conduct further evaluation of the suitability of the test method used as a basis. Testing can be performed by an approved agency or by any other party/organization approved by the code official. Proposed provisions for tests are largely derived from existing code text on this topic.

~~104.2.3 104.11~~ Alternative materials, design and methods of construction and equipment. – All codes make reference to accepting some type of alternative. This section is placed under the general compliance approval section and revised to state that a proposed alternative cannot be something that is specifically prohibited by the code. If ICC members have previously voted to specifically disallow something, alternative methods should not be a means of avoiding such a prohibition. Nevertheless, a code modification would still provide an option to make exceptions for unique cases, as opposed to the door being open for an applicant to end run the intent of the code by presenting an analysis or alternative that suggests an alternative to a prohibition is OK. It is important to note that something not contemplated by the code would not be impacted by this statement. Not contemplated is not the same as a specific prohibition in the code.

104.2.3.1 Approval authority. – if the alternative is acceptable, then it is to be approved by the code official. This is from existing text.

104.2.3.2 Application and disposition. – the submittal for an alternative must be accomplished in writing. If it is not approved, the code official must so state in writing and provide reasons why it was not acceptable. This is largely from existing text, however, the requirement for a written application for alternatives was not previously located in this section, where it is appropriate to reference.

104.2.3.3 Compliance with code intent. – the alternative must comply with the code's intent.

104.2.3.4 Equivalency criteria. – the alternative must provide equivalency to the code's provisions. The list of characteristics to be addressed is included from the current code. The reference to fire-resistance is removed from the list and fire-resistance is included under safety with additional criteria regarding fire characteristics identified in Section 104.2.3.4.1.

104.2.3.4.1 Fire safety equivalency. – this section was added because "fire-resistance" was removed from the list in Section 104.2.3.4 and recognizing that fire-resistance is not the only fire related characteristic to be addressed. Fire-resistance is only one characteristic of safety with respect to fire. This section is added to clarify that the entire issue of performance under fire conditions is the concern. Previously, aspects of fire safety beyond fire resistance would have been evaluated as part of "safety" in the list with no additional guidance on what to consider. Performance under fire conditions also includes equivalency as to how the alternate will perform structurally when exposed to fire.

104.2.3.5 Tests. – this section is added so the code official can ensure that any testing conducted is performed to a scale that adequately represents the end use of the alternate. This has primarily been added in response to concerns related to Code Change F60-21, which modified Section 2603 to defer alternatives related to fire performance of foam plastics to Section 104.

104.2.3.6 ~~104.11.1 Research~~ Reports. This section is relocated and revised to address two different types of reports currently submitted for alternatives.

104.2.3.6.1 Evaluation reports. – This section is added to address reports generate by an approved agency. The definition of "approved agency" was added to several codes in the 2018 editions. The definition is proposed to be revised, as in the IBC, or added as a new definition codes do not contain this definition, as in the IFC. This evaluation report is conducted by an approved agency that is accredited to conduct the tests or evaluations appropriate for the alternative involved. When the applicant provides a product evaluation from an accredited product evaluation agency that uses publicly developed and available criteria for the evaluation, the code official may have increased confidence that the method used for the evaluation does result in a method or material that meets the intent of the code and is at least equivalent to code-prescribed construction. Public development of criteria allows for input from industry experts, the public, and building officials in determining the methods used to evaluate code intent and equivalence, somewhat similar to the code development process where consensus is important. The accreditation ensures that the organization uses a consistent process to perform the evaluations. This section is meant to reflect the current use of evaluation reports from accredited evaluation agencies or organizations.

104.2.3.6.2 Other reports. – this section is added to address reports generated by persons or agencies other than an approved agency. It specifies that the person or agency providing the report must be qualified and must be approved by the code official. The code official has the authority to require the stamp of a registered design professional. When an applicant provides an evaluation from other than an accredited agency, or from a source that does not use publicly developed and available criteria, the code official needs more information in order to perform a proper review. Not only does the code official need to evaluate the product, but also evaluate the method that the applicant has used to determine compliance with code intent and code equivalence. So, in that case, it is proposed that the applicant would also have to provide the criteria that was used to do the evaluation, justification for use of that criteria, and data used for the evaluation, so a

complete review can be made.

104.2.3.7 Peer review. – this section is added to address a method of review currently utilized by many jurisdictions. The peer review is an outside, third-party review that is submitted to the code official for use in cases where a jurisdiction may not have qualified resource in-house to perform a sufficient review of an alternative compliance proposal. Again, the peer reviewer must be qualified and approved by the code official.

~~104.2.4 104.10~~ Modifications. – this section is relocated under the section of compliance. Minor edits occurred to provide consistent language throughout the codes.

104.3 ~~104.2~~ Applications and permits. – this section is relocated and revised to provide consistent wording.

104.4 ~~Inspections.~~ – this section is relocated to 104.2.2. Some of the language in this section is not relocated since those portions are already covered in Section 110.104.4 ~~104.6~~ Right of entry. – This section is relocated and revised to provide consistent wording. The issue of right of entry is the same with all enforcement issues.

~~104.4.1~~ Warrant. – this section was not found in all codes, so it was added to the IBC to provide the ability to utilize a warrant. This function is allowed by the courts and currently utilized by jurisdictions.

104.5 Identification. – no change

104.6 ~~104.3~~ Notices and orders. – relocated and revised for consistent wording.

104.7 ~~Department~~ Official records. – This section revised to provide consistent wording and is reformatted by creating subsections. Each subsection addresses a different type of record that the is to be retained. This format clarifies that these records are required to be maintained.

~~104.7.1~~ Approvals.

~~104.7.2~~ Inspections.

~~104.7.3~~ Code alternatives and modifications.

~~104.7.4~~ Tests.

~~104.7.5~~ Fees.

104.8 Liability. – this section deals with protection from liability of the code official. The sections are revised to provide consistent wording throughout all I-Codes.

~~104.8.1~~ Legal defense. – this section deals with legal defense for the code official. The sections are revised to provide consistent wording throughout all I-Codes.

104.9 ~~105.5~~ Approved materials and equipment. – no change

~~104.9.1 105.4 Used materials~~ Material and equipment reuse. – this section addresses the reuse of materials and equipment. The section is revised to provide consistent wording throughout the codes to say that the code official must approve any materials to be reused.

104.10 ~~Modifications~~ – this section is relocated to 104.2.4 for formatting.

104.11 ~~Alternative materials, design and methods of construction and equipment.~~ – this section is relocated to 104.2.3 for formatting.

~~104.11.1 Research reports.~~ – this section is relocated to 104.2.3.6 for formatting.

~~104.11.2 Tests.~~ – this section is relocated 104.2.2.4, 104.2.3.5 and 104.8.4 for formatting.

Additional unique changes are as follows:

1. Sections in IMC 105 are relocated to IMC 104, so Section 105 is deleted. This also occurs in the IFGC and IPSDC.
2. A minor change was made to the definition of “approved agency” which removes the repeat of the word that is to be defined, agency, and replaces it with organization. Another revision allows the agency to furnish product evaluation in addition to certification, since evaluation and certification are two different things. Evaluation is for materials and methods not addressed by the code, and certification is for materials and methods that are addressed by the code.

A strikeout/underline version of each code follows to identify specific revisions.

The proposal in strikeout and underline text format can be viewed here:

https://www.cdpaccess.com/proposal/8835/25768/files/download/3016/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is a reformatting and clarification of the requirements already in the codes.

Public Hearing Results

Committee Action **As Modified**

The complete approved proposal including all of the approved committee modifications can be viewed in cdpACCESS as the public comment ready version.

https://www.cdpaccess.com/proposal/8835/26739/preview/

Committee Modification: 2021 International Mechanical Code

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies~~,~~ and procedures~~, rules and regulations~~ in order to clarify the application of this code's provisions. Such interpretations, policies~~,~~ and procedures~~, rules and regulations~~:

1.	Shall be in compliance with the intent and purpose of this code.
2.	Shall not have the effect of waiving requirements specifically provided for in this codeor other applicable codes and ordinances.

[A] 104.2.1 Listed compliance. Where this code or a referenced standard requires equipment, materials, products or services to belisted and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the code official.

~~Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.~~

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the~~safety~~ properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Such tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.2 Application and disposition. Where required, a~~A~~ request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1.	Quality
2.	Strength
3.	Effectiveness
4.	Durability
5.	Safety, other than fire safety

6. Fire safety

[A]104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products and use of the evaluation report shall require approval by the code official for the installation. The alternate material, design or method of construction and product evaluated shall be within the scope of the code official's recognition accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report and where required, provided to the code official, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A]104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code. Notices of violations shall be in accordance with Section 114.

[A] 104.7.2 Inspections. The code official shall have the authority to conduct inspections, or shall accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render

interpretations of this code and to adopt policies~~,~~ and procedures~~, rules and regulations~~ in order to clarify the application of this code's provisions. Such interpretations, policies~~,~~ and procedures~~, rules and regulations~~:

1.	Shall be in compliance with the intent and purpose of this code.
2.	Shall not have the effect of waiving requirements specifically provided for in this codeor other applicable codes and ordinances.

[A] 104.2.1 Listed compliance. Where this code or a reference standard requires equipment, materials, products or services to belisted and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the code official.

~~Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.~~

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the~~safety~~ properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Such tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.2 Application and disposition. Where required, a~~A~~ request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1.	Quality
2.	Strength
3.	Effectiveness
4.	Durability
5.	Safety, other than fire safety

6. Fire safety

~~[A]104.2.3.4.1 Fire safety equivalency~~. ~~Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also~~

~~include a structural system analysis.~~

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency~~accredited to evaluate or certify products~~ and use of the evaluation report shall require approval by the code official for the installation. The alternate material, design or method of construction and product evaluated shall be within the scope of the code official's recognition ~~accreditation~~ of the approved agency. Criteria used for the evaluation shall be identified within the report and where required, provided to the code official~~, developed using a process that includes input from the public and made available for review by the public~~.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits ~~for the erection, and alteration, demolition and moving of buildings and structures~~, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A]104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code. Notices of violations shall be in accordance with Section 114.

[A] 104.7.2 Inspections. The code official shall have the authority to conduct inspections, or shall accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

2021 International Plumbing Code

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies~~,~~ and procedures~~, rules and regulations~~ in order to clarify the application of this code's provisions. Such interpretations, policies~~,~~ and procedures~~, rules and regulations~~:

1.	Shall be in compliance with the intent and purpose of this code.
2.	Shall not have the effect of waiving requirements specifically provided for in this codeor other applicable codes and ordinances.

[A] 104.2.1 Listed compliance. Where this code or a reference standard requires equipment, materials, products or services to belisted and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the code official.

~~Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to~~

~~be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.~~

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the~~safety~~ properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Such tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.2 Application and disposition. Where required, a~~A~~ request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1.	Quality
2.	Strength
3.	Effectiveness
4.	Durability
5.	Safety, other than fire safety

6. Fire safety

~~**[A]104.2.3.4.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency~~accredited to evaluate or certify products~~ and use of the evaluation report shall require approval by the code official for the installation. The alternate material, design or method of construction and product evaluated shall be within the scope of the code official's recognition ~~accreditation~~ of the approved agency. Criteria used for the evaluation shall be identified within the report and where required, provided to the code official~~, developed using a process that includes input from the public and made available for review by the public~~.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization

acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits ~~for the erection, and alteration, demolition and moving of buildings and structures~~, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A]104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code. Notices of violations shall be in accordance with Section 114.

[A] 104.7.2 Inspections. The code official shall have the authority to conduct inspections, or shall accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

2021 International Swimming Pool and Spa Code

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies~~,~~ and procedures~~, rules and regulations~~ in order to clarify the application of this code's provisions. Such interpretations, policies~~,~~ and procedures~~, rules and regulations~~:

1.	Shall be in compliance with the intent and purpose of this code.
2.	Shall not have the effect of waiving requirements specifically provided for in this codeor other applicable codes and ordinances.

[A] 104.2.1 Listed compliance. Where this code or a reference standard requires equipment, materials, products or services to belisted and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the code official.

~~Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.~~

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the~~safety~~ properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Such tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.2 Application and disposition. Where required, a~~A~~ request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1.	Quality
2.	Strength
3.	Effectiveness
4.	Durability
5.	Safety, other than fire safety

6. Fire safety

[A]104.2.3.4.1 Fire safety equivalency. ~~Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency~~accredited to evaluate or certify products~~ and use of the evaluation report shall require approval by the code official for the installation. The alternate material, design or method of construction and product evaluated shall be within the scope of the code official's recognition ~~accreditation~~ of the approved agency. Criteria used for the evaluation shall be identified within the report and where required, provided to the code official~~, developed using a process that includes input from the public and made available for review by the public~~.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits ~~for the erection, and alteration, demolition and moving of buildings and structures~~, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A]104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code. Notices of violations shall be in accordance with Section 114.

[A] 104.7.2 Inspections. The code official shall have the authority to conduct inspections, or shall accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies~~,~~ and procedures~~, rules and regulations~~ in order to clarify the application of this code's provisions. Such interpretations, policies~~,~~ and procedures~~, rules and regulations~~:

1.	Shall be in compliance with the intent and purpose of this code.
2.	Shall not have the effect of waiving requirements specifically provided for in this codeor other applicable codes and ordinances.

[A] 104.2.1 Listed compliance. Where this code or a reference standard requires equipment, materials, products or services to belisted and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an approved listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the code official.

~~Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.~~

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the~~safety~~ properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Such tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.2 Application and disposition. Where required, a~~A~~ request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1.	Quality
2.	Strength
3.	Effectiveness
4.	Durability
5.	Safety, other than fire safety

6. Fire safety

~~**[A]104.2.3.4.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency~~accredited to evaluate or certify products~~ and use of the evaluation report shall require approval by the code official for the installation. The alternate material, design or method of construction and product evaluated shall be within the scope of the code official's recognition ~~accreditation~~ of the approved agency. Criteria used for the evaluation shall be identified within the report and where required, provided to the code official~~, developed using a process that includes input from the public and made available for review by the public~~.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits ~~for the erection, and alteration, demolition and moving of buildings and structures~~, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A]104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code. Notices of violations shall be in accordance with Section 114.

[A] 104.7.2 Inspections. The code official shall have the authority to conduct inspections, or shall accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

Committee Reason: The committee stated that the reason for the approval of the modifications and proposal was based on correlation and consistency with the action taken on ADM13-22 Part I. (Vote: 9-4)

Final Hearing Results

ADM14-22 AM

ADM34-22 Part I

Original Proposal

IEBC: [A] 104.11, [A] 104.11.1; IFC: [A] 104.10, [A] 104.10.1; IFGC: [A] 105.2, [A] 105.2.1; IMC: [A] 105.2, [A] 105.2.1; IPC: [A] 105.2, [A] 105.2.1; IPMC: [A] 106.2, [A] 106.6; IPSDC: [A] 105.2, [A] 105.2.1; ISPSC: [A] 104.10, 104.10.1 (New); IWUIC: [A] 105.3, 105.3.1 (New); IGCC: 105.4, 105.4.1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment.
The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
   - 2.1. Quality, ~~,~~
   - 2.2. Strength, ~~,~~
   - 2.3. Effectiveness, ~~,~~
   - 2.4. Fire effectiveness, ~~,~~
   - 2.5. Durability ~~and~~
   - 2.6 Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 105.2.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

Reason: ADM19-19 modified IBC Section 104.11, but did not make the same suggestion across all the codes. The changes to this section were primarily formatting, with some slight reordering. This same change to be applicable to all the codes. It was also noted that not all of the codes included a subsection on research reports as an aid to alternative approval.
This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes

with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is primarily a format change.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that it is very similar to the previous changes made in Section 104.11 for alternate materials and it provides consistency in the codes. (Vote: 11-2)

Final Hearing Results

ADM34-22 Part I AS

ADM35-22

Original Proposal

IBC: [A] 104.11; IEBC: [A] 104.11; IFC: [A] 104.10; IFGC: [A] 105.2; IMC: [A] 105.2; IPC: [A] 105.2; IPSDC: [A] 105.2

Proponents: David Collins, The Preview Group, Inc, Self (dcollins@preview-group.com); Ronald Geren, RLGA Technical Services, LLC, The American Institute of Architects (ron@specsandcodes.com); Paul Karrer, The American Institute of Architects, The American Institute o Architects (paulkarrer@aia.org)

2021 International Plumbing Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the code official shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the *ICC Performance Code*.

Reason: The ICC Performance Code (ICCPC) should not be considered solely for whole building designs, but also as another pathway for evaluating alternative materials, designs, and methods of construction. When projects are designed per the prescriptive requirements of any ICC code, there are situations where a single material, element, or system cannot conform to the prescriptive requirements. Also, new materials, elements, or systems are entering the construction market at a pace that the prescriptive codes cannot keep up. This provision will allow owners, designers and building officials to consider such advances in such materials, elements of designs using the Performance Code for guidance.

Although the prescriptive provisions in each of the codes provides one pathway for approval of alternative materials, designs, and methods of construction, the ICCPC should not be overlooked as an alternative pathway. The ICCPC may be considered by the building official as an alternative method in and of itself per any of the sections listed, by including it within the text of each section will draw much greater attention to the ICCPC and thereby increase its use and adoption.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This change to the above mentioned codes do not add a requirement that individual projects must comply with. It provides an additional option for those projects that wish to pursue more performance-based solutions. ICC's Cost Impact Guide cites code change proposals that modify the design requirements (e.g. greater number of design options, design process efficiencies) as recognized instance of proposals that do not affect the construction or construction cost. Providing projects a route to use the ICC Performance Code to evaluate materials, designs and methods of construction does not impact the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
2021 International Building Code

[A]104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to

prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code,
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code as it pertains to the following:
   2.1. Quality.
   2.2. Strength.
   2.3. Effectiveness.
   2.4. *Fire resistance*.
   2.5. Durability.
   2.6. Safety.

Where the alternative material, design or method of construction is not approved, the *building official* shall respond in writing, stating the reasons why the alternative was not approved.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the *ICC Performance Code*.This exception shall not apply to alternative structural materials or to alternative structural designs.

2021 International Existing Building Code

[A]104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the *ICC Performance Code*. This exception shall not apply to alternative structural materials or to alternative structural designs.

Committee Reason: The committee stated that the reason for the approval of the modification was that since the exception is referring to the performance code and if the performance code is not ready for structural type situations you need to have this exception in there to make sure that somebody doesn't try to use it for that purpose. The stated reasons for the approval were that this is another tool in the toolbox and owners can take advantage of this requirement and it brings more attention to it and this path especially with the modification. It was additionally stated that this proposal and the modification are critical as it brings another type of alternative that is performance based. (Vote: 7-6)

Final Hearing Results

ADM35-22 AM

ADM36-22 Part I

Original Proposal

IBC: [A] 104.11, [A] 104.11.1 (New), [A] 104.11.2 (New), [A] 104.11.1, [A] 104.11.2; IEBC: [A] 104.11, [A] 104.11.1 (New), [A] 104.11.2 (New), [A] 104.11.1, [A] 104.11.2; IFC: [A] 104.10, [A] 104.10.1 (New), [A] 104.10.2 (New), [A] 104.10.1, [A] 104.10.2; IFGC: [A] 105.2, [A] 105.2.1 (New), [A] 105.2.2 (New), [A] 105.2.1; IMC: [A] 105.2, [A] 105.2.1 (New), [A] 105.2.2 (New), [A] 105.2.1; IPC: [A] 105.2, [A] 105.2.1 (New), [A] 105.2.2 (New), [A] 105.2.1; IPMC: [A] 106.2, [A] 106.2.1 (New), [A] 106.2.2 (New); IWUIC: [A] 105.3, [A] 105.3.1 (New), [A] 105.3.2 (New)

Proponents: Marcelo Hirschler, GBH International, GBH International (mmh@gbhint.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance,~~ durability and safety. Where the alternative material, design or method of construction is not *approved*, the code official shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 105.2.1 Fire safety equivalency.. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 105.2.2 Fire tests.. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

Revise as follows:

[A] ~~105.2.1~~ 105.2.3 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

Reason: The intent of this code proposal is to clarify equivalency in terms of fire safety, which is incorrect and misleading as described simply in terms of fire resistance at present. In fact, fire resistance is only a subset of all aspects of fire safety. Therefore, it is better to have a safety analysis look at the issue of fire safety more comprehensively.
As revised, fire resistance would be deleted from the list, and a separate section added that more fully addresses fire safety. A proper fire safety analysis performed under this section should always have taken these considerations into account, but having them specifically stated, and removing the incorrect term “fire resistance” item from the list will help code officials and code users by providing more thorough guidance for preparation of alternative method proposals. Additional guidance has also been provided to ensure that fire testing done in support of an alternative method proposal is of a sufficient scale to be relevant to the end use application.

This proposal is a portion of a more wide-ranging proposal that revises the entire section 104. The language relating to the fire safety

aspects is identical to that agreed to for that proposal.

Equivalent changes are being proposed to all 9 ICC codes for which fire safety is a relevant issue in terms of alternate materials and methods.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no cost impact since this code proposal only clarifies the intent of the section and provides clearer guidance to the building, fire or code official.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
2021 International Building Code

[A]104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code,
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code as it pertains to the following:
   2.1. Quality.
   2.2. Strength.
   2.3. Effectiveness.
   2.4. Durability.
   2.5. Safety, other than fire safety
   2.6 Fire Safety

Where the alternative material, design or method of construction is not approved, the *building official* shall respond in writing, stating the reasons why the alternative was not approved.

~~**[A] 104.11.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

2021 International Existing Building Code

[A] 104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, fire safety, and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

~~**[A] 104.11.1Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes~~

~~applicable fire-safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

2021 International Fire Code

[A] 104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *fire code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, fire safety, and safety. Where the alternative material, design or method of construction is not *approved*, the *fire code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

~~**[A] 104.10.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire-safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

2021 International Fuel Gas Code

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, fire safety, and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

~~**[A] 105.2.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire-safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

2021 International Mechanical Code

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, fire safety, and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

~~**[A] 105.2.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

2021 International Plumbing Code

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, fire safety, and safety. Where the alternative material, design or method of construction is not *approved*, the code official shall respond in writing, stating the reasons why the alternative was not *approved*.

~~**[A] 105.2.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

2021 International Property Maintenance Code

[A] 106.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, fire safety, and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

~~**[A] 106.2.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

2021 International Wildland-Urban Interface Code

[A] 105.3 Alternative materials, design and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method shall be *approved* where the *building official* in concurrence with the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, fire safety, and safety. Where the alternative material, design or method is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.

~~**[A] 105.3.1 Fire safety equivalency.** Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.~~

Committee Reason: The committee stated that the reason for the approval of the modification was that proposed fire safety equivalency section is not needed in the code. The stated reason for the approval of the proposal is that it correlates with the other code changes that were previously approved. (Vote: 13-0)

Final Hearing Results

ADM36-22 Part I AM

ADM41-22 Part I

Original Proposal

IBC: SECTION 108, [A] 108.1, [A] 108.2, [A] 108.3, [A] 108.4, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3; IEBC: SECTION 107, [A] 107.1 , [A] 107.2, [A] 107.3, [A] 107.4, SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3; IFC: SECTION 106 (New), 106.1 (New), 106.2 (New), 106.3 (New), 106.4 (New), SECTION 110, [A] 110.1; IFGC: SECTION 110, [A] 110.1, [A] 110.2, 110.3, SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3, [A] 111.4; IMC: SECTION 107, [A] 107.1, [A] 107.2, [A] 107.3, [A] 107.4, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3; IPC: SECTION 107, [A] 107.1, [A] 107.2, [A] 107.3, [A] 107.4, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3; IPSDC: SECTION 109, [A] 109.1, [A] 109.2, [A] 109.3, [A] 109.4, SECTION 110, [A] 110.1, [A] 110.2, [A] 110.3; ISPSC: SECTION 106 (New), 106.1 (New), 106.2 (New), 106.3 (New), 106.4 (New), SECTION 109, [A] 109.1, [A] 109.2, [A] 109.3; IWUIC: SECTION 108, [A] 108.1, [A] 108.2, 108.3 (New), [A] 108.3, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, Chair of PMGCAC (pmgcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

Revise as follows:

SECTION 107
TEMPORARY USES, EQUIPMENT, AND SYSTEMS ~~AND USES~~

[A] 107.1 General. The code official is authorized to issue a permit for temporary uses, equipment~~,~~ and systems ~~and uses~~. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

[A] 107.2 Conformance. Temporary uses, equipment~~,~~ and systems ~~and uses~~ shall conform to the ~~structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary~~ requirements of this code as necessary to ensure ~~the public~~ health, safety and general welfare.

[A] 107.3 Temporary service utilities. The code official is authorized to give permission to temporarily supply service utilities in accordance with Section 112. ~~before an installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the code.~~

[A] 107.4 Termination of approval. The code official is authorized to terminate such permit for temporary uses, equipment, or systems ~~or uses~~ and to order the ~~temporary equipment, systems or uses~~ same to be discontinued.

SECTION 112
SERVICE UTILITIES

[A] 112.1 Connection of service utilities. A person shall not make connections from a utility, source of energy, fuel, power, water system or *sewer* system to any building or system that is regulated by this code for which a permit is required until authorized by the code official.

[A] 112.2 Temporary connection. The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or sewer system for the purpose of testing plumbing systems or for use under a temporary approval.

[A] 112.3 Authority to disconnect service utilities.

The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2.

The code official shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

Reason: The purpose of this proposal is coordination between codes for the section on temporary structures. A version was proposed last cycle, ADM32-19. As requested by the development committee, the BCAC worked with FCAC and PMGCAC to develop this proposal. This proposal modified the section for temporary facilities where it was already in the code. The committee felt that it was very important to add these safety options to the IFC as well, so this proposal adds this section to IFC and ISPSC. When looking for coordination, some of the codes did not include 'structure' and some did. The residential committee felt it was important to keep 'structures', so that is remaining in the proposed text.

Generally - The word use is moved to the front, and the lists are made the same throughout.

Temporary power - The allowances for temporary connection under inspection and testing address more than just utilities, so the language in this section should match. The phrase "certificate of completion" is not defined, so "approved" would be a better choice.

The section on Conformance includes a laundry list " structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary", that is not needed for the section and includes provisions that are not addressed in all of the codes (e.g. IPC does not address structural strength, means of egress, or light).

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across books. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals being submitted relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1) in all of the I-Codes.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This change is only removing repeating requirements, therefore this revision is strictly editorial and will not have any changes to the construction requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for the approval was that it coordinates the requirements for temporary structures across the codes using the same language while making it appropriate for each code. (Vote: 13-0)

Final Hearing Results

ADM41-22 Part I	AS

ADM42-22

Original Proposal

IPC: 109.3 (New)

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2021 International Plumbing Code

Add new text as follows:

109.3 Permit valuations. The applicant for a *permit* shall provide an estimated value of the work for which the permit is being issued at time of application. Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. Where, in the opinion of the *building official*, the valuation is underestimated, the *permit* shall be denied, unless the applicant can show detailed estimates acceptable to the *building official*. The building official shall have the authority to adjust the final valuation for permit fees.

Reason: ADM27-19 was approved last cycle for the coordination of the Fees section inIMC, IPC, IPMC, IFGC, ISPSC. This section was left out of IPC by accident. There is another proposal from BCAC that has some adjustment to this section across codes. That revised language has been incorporated into this proposal.
This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC) in coordination with the ICC Building Code Action Committee (BCAC).

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an administrative section and will not change the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for the approval was to provide consistency with previous actions and consistency across the codes. (Vote: 12-0)

Final Hearing Results

ADM42-22 AS

ADM44-22

Original Proposal

IFGC: SECTION 110, 110.3, SECTION 115, [A] 115.6.2; IMC: SECTION 112, [A] 112.3, SECTION 115, [A] 115.6.2; IPC: SECTION 112, [A] 112.3, SECTION 115, [A] 115.6.2; IPSDC: SECTION 110, [A] 110.3, SECTION 114, [A] 114.6.2; ISPSC: SECTION 109, [A] 109.3, SECTION 113, [A] 113.6.2

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Plumbing Code

SECTION 112
SERVICE UTILITIES

[A] 112.3 Authority to disconnect service utilities.

The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2.

The code official shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

SECTION 115
VIOLATIONS

Revise as follows:

[A] 115.6.2 Authority to disconnect service utilities. The code official shall have the authority to authorize disconnection of utility service in accordance with Section 112.3 ~~to the building, structure or system regulated by the technical codes in case of an emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner or the owner's authorized agent and occupant of the building, structure or service system shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service systems shall be notified in writing, as soon as practical thereafter~~.

Reason: ADM 39-19 was a coordinating proposal for Service Utilities. There was an inadvertent duplication of language in the section on Violations. This proposal is intended to editorially remove the repeated sections. A reference to the same section in Service Utilities is provided instead.

This proposal is submitted by the Plumbing/Mechanical/Gas Code Action Committee (PMGCAC) working with the Building Code Action Committee (BCAC).

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

These are administration requirements, so there will be no change in construction requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that it provides good clarification to the code. (Vote: 13-0)

Final Hearing Results

ADM44-22	AS

ADM48-22 Part I

Original Proposal

IBC: SECTION 113, [A] 113.1, [A] 113.2, [A] 113.3, [A] 113.4; IEBC: SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3, [A] 112.4; IFC: SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3, [A] 111.4; IFGC: SECTION 113, 113.1, [A] 113.2, 113.3, 113.4; IMC: SECTION 114, [A] 114.1, [A] 114.2, [A] 114.3, [A] 114.4; IPC: SECTION 114, [A] 114.1, [A] 114.2, [A] 114.3, [A] 114.4; IPMC: SECTION 107, 107.1, [A] 107.2 , 107.3, 107.4; IPSDC: SECTION 112, [A] 112.1, 112.2, [A] 112.3, [A] 112.4; ISPSC: SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3, [A] 111.4; IWUIC: SECTION 113, [A] 113.1, [A] 113.2, [A] 113.3, [A] 113.4; IGCC: SECTION 111, 111.1, 111.2, 111.3, 111.4

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Plumbing Code

SECTION 114
MEANS OF APPEALS

[A] 114.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official.

Revise as follows:

[A] 114.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code~~.

[A] 114.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training<u>on matters pertaining to the provisions of this code</u> and are not employees of the jurisdiction.

[A] 114.4 Administration. The code official shall take i~~mmediate a~~ction in accordance with the decision of the board.

Reason: ADM40-19 was approved for IBC, IEBC, IFC, IWUIC, IPC, IMC, IFGC, ISPSC, IPMC, IPSDC, IECC-R and IGCC for revisions to the section on Means of Appeals. This item was disapproved for IECC Commercial and IRC. The result is an inconsistency with IECC Commercial and IRC.

The intent of this proposal is coordination for the means of appeals within the family of codes. Most of this was accomplished through ADM40-19 during the last cycle. Comments during the testimony, from the code development committees and subsequent discussions have suggested some improvements.

General: In the IRC and IECC Residential, the sentence about the code official not being a voting member of the board of appeals is proposed to be deleted. The fact about city employees not being a voting member of the board is already included in the section on qualifications. The code official is an important advisor for the Board of Appeals. The deletion of this sentence will not change that.

Limitation on authority. The deletion of ‘or interpret the administration of this code’ is proposed to be deleted so that the board could consider appeals on any part of the codes.

Qualifications: The phrase for experience and training is slightly different in each code. Adding this idea to all codes would provide consistency.

Administration: The IRC code change committee felt that 'immediate' was unreasonable. With the word removed, the board, or jurisdiction can set a reasonable timeframe.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
These are administration requirements, so there will be no change in construction requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was the proponent's reason statement which includes coordination of the codes. It was specifically noted that most jurisdictions have a single board of appeals that covers all the codes in that jurisdiction, so it is important to only have one set of requirements that is consistent within each code. (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: Robert Frances, Howard County (MD) Dept. of Inspections, Licenses, & Permits, Self (bfrances@howardcountymd.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

[A] 113.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to <u>the</u> provisions of this code and are not employees of the jurisdiction.

2021 International Existing Building Code

[A] 112.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training~~to pass~~ on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

Commenter's Reason: These are two minor editorial corrections to add the word "the" to Section 113.3 of the IBC, and striking out the words "to pass" from Section 112.3 of the IEBC.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This will have no cost impact on what has already been passed; it is editorial in nature only.

Public Comment 2

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

[A] 113.4 Administration . The *building official* shall take action without delay in accordance with the decision of the board.

2021 International Existing Building Code

[A] 112.4 Administration. The *code official* shall take actionwithout delay in accordance with the decision of the board.

2021 International Fire Code

[A] 111.4 Administration. The *fire code official* shall take actionwithout delay in accordance with the decision of the board.

2021 International Fuel Gas Code

113.4 Administration. The *code official* shall take actionwithout delay in accordance with the decision of the board.

2021 International Mechanical Code

[A] 114.4 Administration. The code official shall take action without delay in accordance with the decision of the board.

2021 International Plumbing Code

[A] 114.4 Administration. The code official shall take action without delay in accordance with the decision of the board.

2021 International Property Maintenance Code

107.4 Administration. The *code official* shall take actionwithout delay in accordance with the decision of the board.

2021 International Private Sewage Disposal Code

[A] 112.4 Administration. The *code official* shall take actionwithout delay in accordance with the decision of the board.

2021 International Swimming Pool and Spa Code

[A] 111.4 Administration. The *code official* shall take actionwithout delay in accordance with the decision of the board.

2021 International Wildland-Urban Interface Code

[A] 113.4 Administration. The *code official* shall take actionwithout delay in accordance with the decision of the board.

2021 International Green Construction Code

111.4 Administration. The authority having jurisdiction shall take action without delay in accordance with the decision of the board.

Commenter's Reason: Last cycle the Administrative Committee asked the BCAC to remove the word 'immediate' as it could be read to require the code official to respond immediately after the board made it's decision - as in that night immediately following the conclusion of the meeting. This proposal did that. However, after the spring hearings, BCAC received comments that no timeline could be read the opposite - in that a code official could delay indefinately. It is hope that 'without delay' is a reasonable compromise.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This is an editorial correction with no changes to construction requirements.

Final Hearing Results

ADM48-22 Part I AMPC1,2

G1-21 Part IV

Original Proposal

PART IV - IPC: 1302.9; IBC: [P]1210.2.2; ICCPC: [P]1204.3.3

Proponents: Mike Nugent, Chair, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org); Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2021 International Plumbing Code

Revise as follows:

1302.9 Pumping and control system. Mechanical equipment including pumps, valves and filters shall be ~~easily accessible~~ have easy access and removable in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604 .

Reason: This effort was started by the CACs in 2015/16 code change cycle, and continued in 2018/19. This proposal is to provide coordination with the action taken with -P84-15, M2-15, RB2-16, F12-16, CE137-16 Part 1, CE29-19 Part 1 and 2 . Because the term 'accessible' is most commonly understood as requiring access for persons with disabilities we are making the changes to delete the word accessible from the remaining codes and replace it with other words, defined terms or phrases that are not attributed to requiring access for the physically disabled. Many of the codes use the defined term 'access (to)' or 'ready access (to)' for access by maintenance and service personnel or fire departments. This proposal provides clarity and consistency in the remaining codes where those coordination modifications missed or came in as part of new code changes.

Code change proposal M2-15 removed 'door' from the definitions for 'access (to)' and 'ready access (to)'. That coordination item did not happen across codes and this proposal seeks to complete that effort.

Similar proposals will be submitted for the Group B cycle for IRC, IECC and IEBC.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (BCAC), and ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned

International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: PMGCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no change to any of the requirements. This is only a clarification in terminology.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: Although the intent of the proposal is understood, including the word "easy" continues a poor code text practice. Either something has access (see defined term) or it doesn't. (14-0)

Public Comments

Public Comment 1

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Plumbing Code

1302.9 Pumping and control system . Mechanical equipment including pumps, valves and filters shall~~be~~ have ~~easy~~ access and <u>be</u> removable in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604 .

Commenter's Reason: The Plumbing committee felt that this was an appropriate change, but did not like the word ‘easy’ in Section 1302.9 as this is not uniformly enforceable. The BCAC used the word only because the original language was ‘easily accessible’. However, we agree with the committee and are proposing to delete that word. We ask the membership to approve this proposal with that revision. This effort was started by the CACs in 2015/16 code change cycle, and continued in 2018/19. This proposal is to provide coordination with the action taken with -P84-15, M2-15, RB2-16, F12-16, CE137-16 Part 1, CE29-19 Part 1 and 2 as well at G1-21 Parts 2, 3, 5 and 6.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This proposal continues the committee work to remove ‘accessible’ where the context is not about accessibility for persons with disabilities. The defined terms ‘access to’ and ‘ready access’ is used where appropriate. The modifications were to address concerns expressed during the testimony and expressed by the Egress committee.

Final Hearing Results

G1-21 Part IV AMPC1

G3-21 Part III

Original Proposal

PART III - IPC: SECTION 202(New), 609.1

Proponents: John Williams, Chair, Healthcare Committee (ahc@iccsafe.org)

2021 International Plumbing Code

Add new definition as follows:

[BG] AMBULATORY CARE FACILITY

.

Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to persons who are rendered incapable of self-preservation by the services provided or staff has accepted responsibility for care recipients already incapable.

Revise as follows:

609.1 Scope. This section shall govern those aspects of health care plumbing systems that differ from plumbing systems in other structures. Health care plumbing systems shall conform to the requirements of this section in addition to the other requirements of this code. The provisions of this section shall apply to the special devices and equipment installed and maintained in the following *occupancies*: Group I-1, Group I- 2, ~~Group B~~ ambulatory care facilities, medical offices, research and testing laboratories, and Group F facilities manufacturing pharmaceutical drugs and medicines.

Reason: The term “ambulatory care facility” is currently defined in the IBC and IFC. It should be defined in the other codes where the term is used. When this item was first introduced to the codes, it was believed that it was needed to add ‘Group B’ in front of the term. This proposal removes it as no longer necessary, and will make this consistent with the numerous other locations throughout the codes where ‘Group B’ in not included. The intent is to not appear to have two different types of ‘ambulatory care facilities’.
There will also be a Group B proposal to IEBC to add the definition and correct the terms in 302.2.1, 503.15 and 805.11.

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

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Cost Impact: The code change proposal will not increase or decrease the cost of construction
This an editorial clarification for consistent terminology

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal provides for consistency with the building code. (13-1)

Final Hearing Results

G3-21 Part III AS

G44-21 Part III

Original Proposal

PART III - IPC: TABLE 403.1, 606.2;

Proponents: Daniel Willham, Fairfax County, Fairfax County (daniel.willham@fairfaxcounty.gov)

2021 International Plumbing Code

Revise as follows:

TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a] (See Sections 403.1.1 and 403.2)

Portions of table not shown remain unchanged.

NO.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS: SEE SECTION 424.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410)	OTHER
			MALE	FEMALE	MALE	FEMALE			
7	Residential	Hotels, motels, boarding houses (transient)	1 per *dwelling* or sleeping unit		1 per *dwelling* or sleeping unit		1 per *dwelling* or sleeping unit	—	1 service sink
		Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		Apartment house	1 per dwelling or *sleeping* unit		1 per dwelling or *sleeping* unit		1 per dwelling or *sleeping* unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		One- and two-family dwellings and lodging houses with five or fewer guestrooms	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit
		Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

f. The required number and type of plumbing fixtures for outdoor public swimming pools shall be in accordance with Section 609 of the International Swimming Pool and Spa Code.

606.2 Location of shutoff valves. Shutoff valves shall be installed in the following locations:

1. On the fixture supply to each plumbing fixture other than bathtubs and showers in one- and two-family residential*occupancies*, and other than in individual dwelling or sleeping units that are provided with unit shutoff valves in hotels, motels, boarding houses and similar *occupancies*.
2. On the water supply pipe to each sillcock.
3. On the water supply pipe to each appliance or mechanical equipment.

Reason: This change corrects discrepancies inadvertently created by past code changes. The description for R-1 occupancies used to

only read "R-1 Residential occupancies where the occupants are primarily transient in nature ..." It did not mention sleeping units. The definition for *sleeping units* was added to the code to coordinate with the Fair Housing Act Guidelines (see code change E70-00) and did not involve the descriptions for residential occupancies in Chapter 3. Sleeping units was added to the descriptions of R-1 (2006 IBC) and R-2 (2003 IBC), in changes that do not appear in any code change proposal; these changes are also not marked as changes by bars in the margins. They appear to possibly have been made by the code correlation committee. However, no correction was made to the description of R-1, which, like R-2 occupancies, can also include both dwelling and sleeping units. This has left an apparent gap in the code for transient residential occupancies with dwelling units. This change resolves that by adding "or more than two dwelling units" to the description of R-1. Similar to the wording for the description for R-2, "or more than two dwelling units" avoids including R-3 residential occupancies and one- and two-family dwellings regulated under the IRC. This change also coordinates the references to sleeping units throughout the codes for R-1 occupancies to also include dwelling units. While doing this, a couple of instances of dwelling units for R-2 (without the mention of sleeping units) were found and also corrected to include sleeping units to coordinate with the description of R-2 occupancies.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification and coordination of the code which will not affect construction cost.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The Committee agreed with the published reason statement. (14-0)

Final Hearing Results

G44-21 Part III AS

S196-22

Original Proposal

IBC: 2211.3 (New); IPC: 307.2, 307.3 (New), [BS] C101.5, [BS] C101.6; IMC: [BS] 302.5, [BS] 302.5.2, [BS] 302.5.3; IFGC: [BS] 302.6, [BS] 302.7

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Plumbing Code

Revise as follows:

307.2 Cutting, notching and boring in wood framing. ~~or bored holes.~~ A wood framing member shall not be cut, notched or bored in excess of limitations specified in the *International Building Code*.

Add new text as follows:

307.3 Cutting, notching and boring in cold-formed steel framing. The cutting, notching and boring of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members.

Delete without substitution:

~~**[BS] C101.5 Cutting, notching and boring holes in cold-formed steel framing.** Flanges and lips of load-bearing cold-formed steel framing members shall not be cut or notched. Holes in webs of load-bearing cold-formed steel framing members shall be permitted along the centerline of the web of the framing member and shall not exceed the dimensional limitations, penetration spacing or minimum hole edge distance as prescribed by the registered design professional. Cutting, notching and boring holes of steel floor/roof decking shall be as prescribed by the registered design professional.~~

~~**[BS] C101.6 Cutting, notching and boring holes in nonstructural cold-formed steel wall framing.** Flanges and lips of nonstructural cold-formed steel wall studs shall not be cut or notched. Holes in webs of nonstructural cold-formed steel wall studs shall be permitted along the centerline of the web of the framing member, shall not exceed 1½ inches (38 mm) in width or 4 inches (102 mm) in length, and the holes shall not be spaced less than 24 inches (610 mm) center to center from another hole or less than 10 inches (254 mm) from the bearing end.~~

Reason: This proposal sets uniform requirements for field modifications to cold-formed steel framing members (cutting, notching, and boring holes) in accordance with AISI standards.
Currently, the IFGC, IMC, and IPC all provide guidance on modification of cold-formed steel framing elements within the path of utilities. Although the guidance provided by each code is similar, they are not identical in wording or scope and are handled differently within each document.

Differences include but are not limited to:

- IFGC, IMC: The cutting and notching criteria is within the main body of the code.
- IFGC, IMC: Includes direction for wood, steel, cold-formed steel, and non-structural cold-formed steel materials.
- IPC: Points to the IBC for cutting and notching criteria but provides Appendix C as an alternate.
- IPC Appendix C:
    - Includes some, but not all, cutting and notching criteria and limitations found within the IFGC and IMC.
    - Does not address steel and cold-formed materials.

This will provide clear and consistent criteria across all trades on how to field modify framing members and when modification of such members requires input from a design professional.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is a coordination of existing cutting, notching and boring provisions that are already used in practice but are not identical between codes or fully aligned with AISI standards.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
2021 International Building Code

2211.3 Cutting~~,~~ and notching~~, and boring~~. The cutting~~,~~ and notching ~~and boring~~ of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members.

2021 International Plumbing Code

307.3 Cutting~~,~~ and notching ~~and boring~~ in cold-formed steel framing. The cutting~~,~~ and notching ~~and boring~~ of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members.

2021 International Mechanical Code

[BS]302.5 Cutting~~,~~ and notching ~~and boring~~ in cold-formed steel framing. The cutting~~,~~ and notching ~~and boring of~~ holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members. ~~The cutting, notching and boring of steel framing members shall comply with Sections 302.5.1 through 302.5.3.~~

2021 International Fuel Gas Code

[BS]302.6 Cutting~~,~~ and notching ~~and boring~~ in cold-formed steel framing. The cutting~~,~~ and notching ~~and boring~~ of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members.

Committee Reason: Approved as modified as the proposal coordinates the requirements across the I-Codes and adds the needed reference to ANSI S240. The modification correctly removes reference to boring for steel. (Vote: 13-0)

Final Hearing Results

S196-22 AM

S224-22

Original Proposal

IBC: SECTION 2308.3 (New), 2308.3.1 (New), 2308.3.2 (New), 2308.3.2.1 (New), 2308.3.3 (New), 2308.3.4 (New), 2308.3.5 (New), 2308.4.2.4, 2308.5.9, 2308.5.10, 2308.7.4; IPC: 307.2, 307.3 (New), [BS] C101.1, [BS] C101.2, [BS] C101.3; IMC: [BS] 302.3, [BS] 302.3.1, [BS] 302.3.2, [BS] 302.3.3; IFGC: [BS] 302.3, [BS] 302.3.2, [BS] 302.3.3, [BS] 302.3.4

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Plumbing Code

Revise as follows:

307.2 Cutting, notching and boring of cold-formed steel framing.~~or bored holes.~~ A cold-formed framing member shall not be cut, notched or bored in excess of limitations specified in the *International Building Code*.

Add new text as follows:

307.3 Cutting, notching and boring of wood framing. The cutting, notching and boring of structural wood framing members shall comply with Section 2308.3 of the *International Building Code.*

Delete without substitution:

~~**[BS] C101.1 Joist notching.** Notches on the ends of joists shall not exceed one-fourth the joist depth. Holes bored in joists shall not be within 2 inches (51 mm) of the top or bottom of the joist, and the diameter of any such hole shall not exceed one-third the depth of the joist. Notches in the top or bottom of joists shall not exceed one-sixth the depth and shall not be located in the middle third of the span.~~

~~**[BS] C101.2 Stud cutting and notching.** In exterior walls and bearing partitions, a wood stud shall not be cut or notched in excess of 25 percent of its depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth.~~

~~**[BS] C101.3 Bored holes.** The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled studs are so bored. The edge of the bored hole shall be notcloser than $^{5}/_{8}$ inch (15.9 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.~~

Reason: This proposal consolidates similar wood cutting, notching and boring criteria from the IFGC, IMC, IPC, and IBC into a single location in the IBC, and does not impose new requirements or restrict any practices currently allowed within the I-Codes. The proposed language draws from current language in the IPC, IMC, and IFGC and IBC provisions in the conventional light-framed section. The existing language was used to the greatest extent possible and relocated to minimize technical changes.
Within the IBC, existing wood framing notching, cutting and boring provisions have been relocated into a single new Section 2308.3. This reorganization into one location makes the IBC provisions easy to find and will provide clear and consistent criteria across all trades on how to field modify framing members and when modification of such members requires input from a design professional.

Structural framing members are frequently modified in the field by non-structural trades, to facilitate the installation of mechanical, electrical, plumbing, and other utilities. Especially in conventional light-framed wood construction, such modifications are rarely overseen by a design professional with knowledge of critical framing elements that should remain unmodified and the role they play within the structure.

It is unrealistic to expect field personnel to continually seek the guidance of a design professional for every framing member requiring modification. However, modifications of critical framing members have the potential to negatively impact the integrity of the structure and the utility systems that rely on that structure for support. The resulting structural deficiencies caused by field modifications to framing

members may only be realized during significant high-wind, seismic, impact, or other loading events that, while within the normal structure design criteria, are outside every day operating conditions. At best, such deficiencies may be realized by local deformation of finish materials and at worst, by partial or full collapse of a structure.

Currently, the IFGC, IMC, IPC, and IBC all provide guidance on modification of structural framing elements within the path of utilities. Although the guidance provided by each code is similar, they are not identical in wording or scope and are handled differently within each document.

Differences include but are not limited to:

- IFGC, IMC: The cutting and notching criteria is within the main body of the code.
- IFGC, IMC: Includes direction for wood, steel, cold-formed steel, and non-structural cold-formed steel materials.
- IPC: Points to the IBC for cutting and notching criteria but provides Appendix C as an alternate. · IPC Appendix C
    - Includes some, but not all, cutting and notching criteria and limitations found within the IFGC and IMC.
    - Does not address steel and cold-formed materials.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal consolidates existing and slightly varied provisions from multiple locations into one location within the wood chapter of the International Building Code.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: Disapproved as the proposal needs additional work as it affects multiple codes which address different multiple trades and it is appropriate to leave the requirements in each code as is currently done. (Vote: 11-3)

Final Hearing Results

S224-22 AS