4403 DESIGN

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4403.1 LOADS:
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(a) Rigid awnings, canopies, canopy shutters and screened enclosures shall be designed to resist the loads set forth in Chapter 23 of this Code except that structures or parts thereof which are intended to be removed or repositioned during periods of high wind velocity shall be designed in their open or extended position to resist velocity pressures not less than that based on 75 MPH wind with applicable shape factors and to resist not less than 15 psf roof live load.

(b) Where such structure is intended to be folded or otherwise repositioned to close an opening when the building is unattended or act as a storm shutter the design in the closed position shall also comply with Sections 2309 and 3513 of this Code.

(c) Utility sheds shall be designed to resist a wind load equivalent to a force of not less than 15 psf on the structure, and a live load of not less than 15 psf on the roof.

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4403.2 ALLOWABLE STRESSES:
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The allowable stressed shall not exceed those set forth in this Code for the materials of construction.

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4403.3 MATERIALS:
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Rigid awnings, canopies or canopy shutters located over public property shall be of incombustible materials unless specifically exempted by zoning regulations.

4403 DESIGN

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4403.4 SCREEN ENCLOSURES:
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(a) (1) The maximum allowable deflection of roof supporting members shall not exceed the limits set forth in Subsection 2303.3 of this Code.

(2) The top compression flange of these members shall be laterally supported by positive means of spacings not to exceed 40 times the flange width of the composite member and the entire structure shall be braced in the plane of the roof.

(b) Vertical members shall be designed to resist applicable axial and bending loads. Positive rational means shall be provided to transmit beam reaction to the columns and columns loads to the footings.

(c) The supporting members of screens having openings of less than 40% of the gross area shall be designed to resist 30 psf wind load on the screen. The supporting members of screens having openings of more than 60% shall be designed to resist 10 psf wind load on the screen. The shape factors set forth in Subsection 2309.3 of this Code.

(d) Application for permit shall be accompanied by scaled drawings and, where required by the Building Official, shall be prepared by and bear the impressed seal of a Registered Professional Engineer. Drawings shall show a foundation plan, roof framing plan, all elevations, plot plan, properties and dimensions of members and, where required by the Building Official, computations of design.

(e) Screen enclosure walls shall be supported by a continuous concrete foundation not less than 8" deep, 8" wide and reinforced with one #5 continuous bar, or 16" X 16 " pads with 2-#4 bars each way. The vertical members supporting beams, at all corners, and at least every 18'-0" along all sides shall be attached to the foundation with at least a 3/8" diameter bolt at each such column.

(f) Screen enclosure roof framing members may be attached to a fascia at the end of rafter overhang only where such fascia is not less than a nominal 2" in thickness and the fascia is attached to each rafter with an anchor capable of resisting 1000 lbs vertical load. An analysis of the existing structure to carry the enclosure loads shall be made.

(g) Aluminum structural members shall be not less than 0.055" in thickness with 0.0066" tolerance. Tests or determine the physical properties of any alloy may be required by the Building Official. All structural aluminum members shall be visible marked to indicate the alloy and heat treatment.

(h) Aluminum columns supporting aluminum roof beams shall be designed in accordance with Chapter 30 of this Code for both axial and bending wind, dead and live loads.

(i) The minimum bolt size shall be 1/4" diameter for any structural attachment and sheet metal screws may be used only where approved by the Building Official based on the result of tests.

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4403.5 UTILITY SHEDS
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(a) The foundations for utility shed shall comply with the applicable provisions of Subsection 2404.4 of this Code.

(b) The provisions of Paragraphs 4403.4(a),(b),(d),(g) and (h) hereinabove shall be met by all utility sheds.

4403 DESIGN