



# CREEK

## TECHNICAL SERVICES, LLC

Registry No. 29824  
17520 Edinburgh Dr  
Tampa, FL 33647  
(813) 480-3421

### EVALUATION REPORT

### FLORIDA BUILDING CODE, 7<sup>TH</sup> EDITION (2020)

**Manufacturer:** TRI COUNTY METALS  
301 SE 16<sup>th</sup> Street  
Trenton, FL 32693  
(877) 766-3309  
[www.tricountymetals.com](http://www.tricountymetals.com)

*Issued December 17, 2021*

**Manufacturing Locations:** Trenton, FL

**Quality Assurance:** Keystone Certifications, Inc. (QUA1824)

### SCOPE

**Category:** Roofing  
**Subcategory:** Metal Roofing  
**Code Edition:** Florida Building Code, 7<sup>th</sup> Edition (2020)  
**Code Sections:** 1504.3, 1504.3.2  
**Properties:** Wind Resistance

### REFERENCES


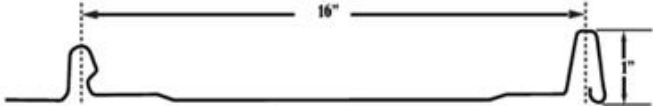

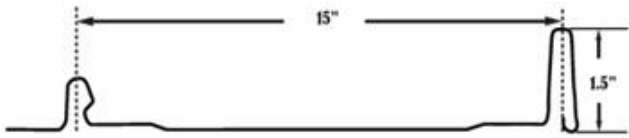
<u>Entity</u>	<u>Report No.</u>	<u>Standard</u>	<u>Year</u>
PRI Construction Materials Technologies (TST5878)	945T0002	ASTM B 117	2016
PRI Construction Materials Technologies (TST5878)	945T0004	ASTM G 155	2013
PRI Construction Materials Technologies (TST5878)	1272T0002	ASTM B 117	2016
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1272T0003	ASTM B 117	2016
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1272T0005	ASTM G 155	2013
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1272T0006	ASTM G 155	2013
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1930T0001	TAS 125	2003
		UL 580	2006
		UL 1897	2012
PRI Construction Materials Technologies (TST5878)	1930T0002	TAS 125	2003
		UL 580	2006
		UL 1897	2012
PRI Construction Materials Technologies (TST5878)	1930T0003	TAS 125	2003
		UL 580	2006
		UL 1897	2012
PRI Construction Materials Technologies (TST5878)	1930T0004	TAS 125	2003
		UL 580	2006
		UL 1897	2012
PRI Construction Materials Technologies (TST5878)	1930T0009	FM 4471	1992
PRI Construction Materials Technologies (TST5878)	1930T0010	ASTM B 117	2016
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1930T0011	ASTM G 155	2013
		TAS 110	2000
PRI Construction Materials Technologies (TST5878)	1930T0013	TAS 125	2003
		UL 580	2006
		UL 1897	2012
PRI Construction Materials Technologies (TST5878)	1930T0015	UL 580	2006
		UL 1897	2012



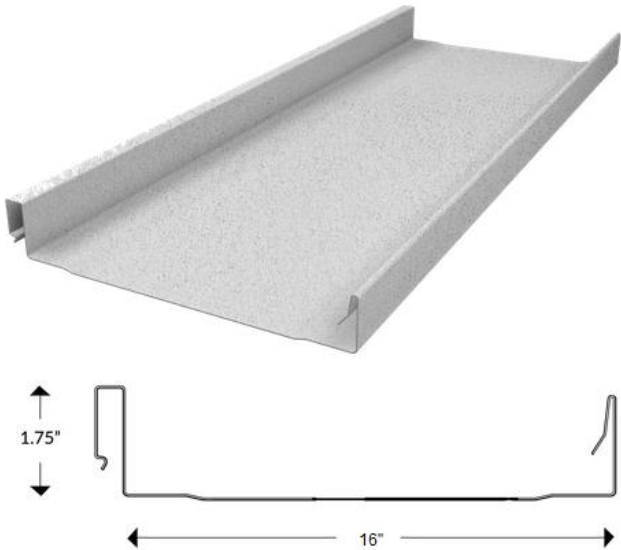

<u>Entity</u>	<u>Report No.</u>	<u>Standard</u>	<u>Year</u>
PRI Construction Materials Technologies (TST5878)	1930T0016	TAS 125	2003
		UL 580	2006
		UL 1897	2012
PRI Construction Materials Technologies (TST5878)	1930T0017	ASTM E 1592	2005(2012)
PRI Construction Materials Technologies (TST5878)	1930T0018	TAS 125	2003
		UL 580	2006
		UL 1897	2012
PRI Construction Materials Technologies (TST5878)	1930T0019	UL 580	2006
		UL 1897	2012
		TAS 125	2003
PRI Construction Materials Technologies (TST5878)	1930T0020	UL 580	2006
		UL 1897	2012
		TAS 125	2003
PRI Construction Materials Technologies (TST5878)	1930T0026	UL 580	2006
		UL 1897	2012
		TAS 125	2003
PRI Construction Materials Technologies (TST5878)	1930T0027	UL 580	2006
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PRI Construction Materials Technologies (TST5878)	1930T0028	UL 580	2006
		UL 1897	2012
		ASTM C 794	2001




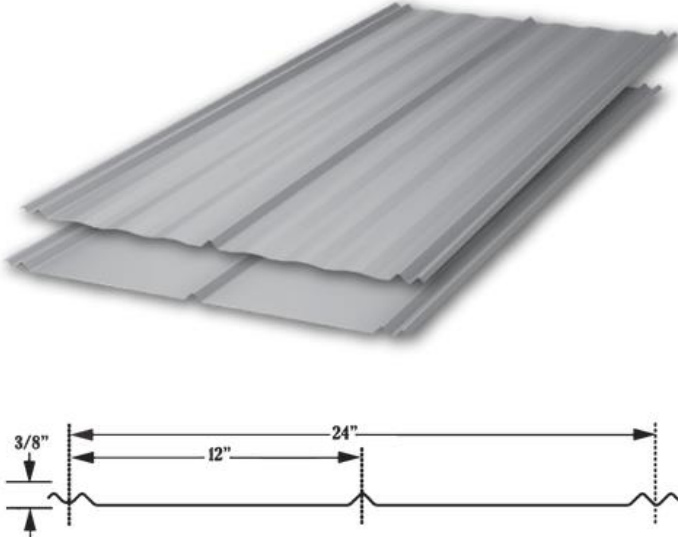
**PRODUCT DESCRIPTION**

TCM-LOK 1 in.	<b>Profile:</b>	1 in. snap lock seam; Max.16 in. coverage
	<b>Description:</b>	Non-structural, snap lock standing seam roof panel with 7/8 in. slotted nail strip
	<b>Material:</b>	Min. 24ga ASTM A792 AZ50 steel coated with Fluropon® or WeatherXL or A792 AZ55 steel ( $F_y$ = min. 50 ksi); or Min. 0.032 in. ASTM B209, 3105 H22 aluminum coated with Fluropon® ( $F_y$ = min. 25 ksi); Shall conform with FBC Section 1507.4.3
 		
TCM-LOK 1.5 in.	<b>Profile:</b>	1.5 in. snap lock seam; Max. 15 in. coverage
	<b>Description:</b>	Non-structural, snap lock standing seam roof panel with 7/8 in. slotted nail strip
	<b>Material:</b>	Min. 24 ga. ASTM A792 AZ50 steel coated with Fluropon® or WeatherXL or A792 AZ55 steel ( $F_y$ = min. 50 ksi); Shall conform with FBC Section 1507.4.3
 		

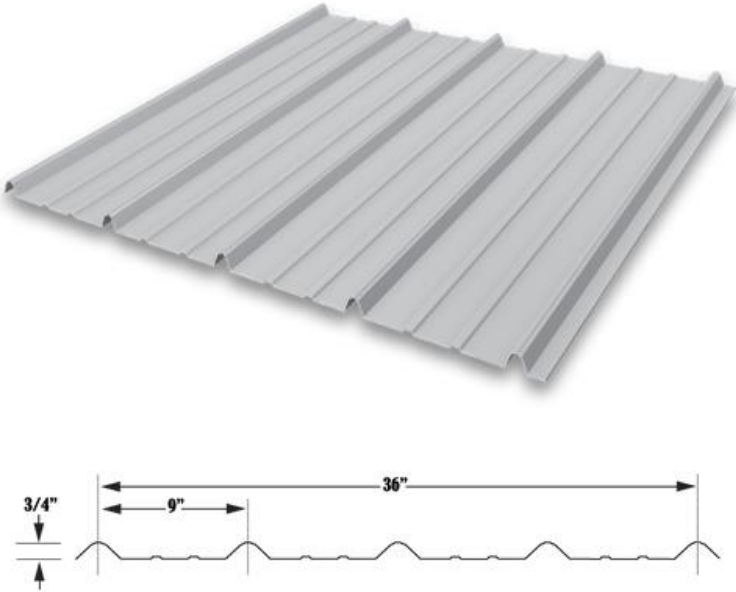


1.75 SS-LOK	<b>Profile:</b>	1.75 in. snap lock standing seam; Max. 16 in. coverage
	<b>Description:</b>	Non-structural, snap lock standing seam roof panel
	<b>Material:</b>	Min. 0.040 in. ASTM B209, 3104 H22 aluminum coated with Fluropon® (F <sub>y</sub> = min. 25 ksi); Shall conform with FBC Section 1507.4.3
		
1.5 MS-LOK	<b>Profile:</b>	1.5 in. mechanical seam; Max. 16 in. coverage
	<b>Description:</b>	Non-structural, standing seam roof panel; 180° double lock mechanical seam
	<b>Material:</b>	Min. 24 ga. A792 AZ55 steel (F <sub>y</sub> = min. 50 ksi); Shall conform with FBC Section 1507.4.3
		



2 MS-LOK	<b>Profile:</b>	2 in. mechanical seam; Max. 18.75 in. coverage
	<b>Description:</b>	Non-structural, standing seam roof panel; 180° double lock mechanical seam
	<b>Material:</b>	Min. 24 ga. A792 AZ50 steel ( $F_y$ = min. 50 ksi); Shall conform with FBC Section 1507.4.3
		
5V	<b>Profile:</b>	3/8 in. ribs at 12 in. o.c.; 24 in. coverage
	<b>Description:</b>	Non-structural, through fastened roof panel
	<b>Material:</b>	Min. 26 ga. ASTM A653 G90, ASTM A792 AZ50 steel coated with Fluropon® or WeatherXL or A792 AZ55 steel ( $F_y$ = min. 50 or 80 ksi); or Min. 0.032 in. ASTM B209, 3105 H22 aluminum coated with Fluropon® ( $F_y$ = min. 27 ksi); Shall conform with FBC Section 1507.4.3
		



Ultra Rib	<b>Profile:</b>	3/4 in. ribs at 9 in. o.c.; 36 in. coverage
	<b>Description:</b>	Non-structural, through fastened roof panel
	<b>Material:</b>	Min. 29 ga. ASTM A653 G90, ASTM A792 AZ50 steel coated with Fluropon® or WeatherXL or A792 AZ55 steel ( $F_y$ = min. 80 ksi); Shall conform with FBC Section 1507.4.3
		

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**LIMITATIONS**

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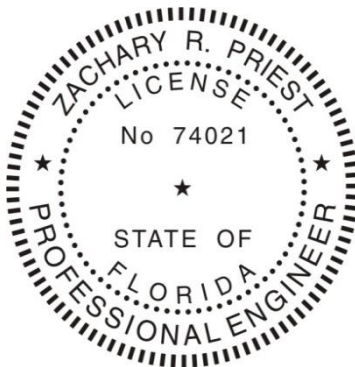
1. This report is not for use in the HVHZ.
2. Fire classification is not within the scope of this evaluation.
3. The roof deck, wood battens and their attachment shall be designed by others to meet the minimum design loads established for components and cladding and in accordance with FBC requirements.
4. Roof slope shall be in accordance with FBC Section 1507.4.2
5. Reroofing shall be in accordance with Section 1511.
6. Installation of the evaluated products shall comply with this report, the FBC, and the manufacturer's published application instructions. Where discrepancies exist between these sources, the more restrictive and FBC compliant installation detail shall prevail.
7. All products listed in this report shall be manufactured under a quality assurance program in compliance with Rule 61G20-3.

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**COMPLIANCE STATEMENT**

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The products evaluated herein by Zachary R. Priest, P.E. have demonstrated compliance with the Florida Building Code, 7<sup>th</sup> Edition (2020) as evidenced in the referenced documents submitted by the named manufacturer.



**This item has been  
digitally signed and  
sealed by Zachary R.  
Priest, PE, on 12/17/2021.**

**Printed copies of this  
document are not  
considered signed and  
sealed and the signature  
must be verified on any  
electronic copies.**

Zachary R. Priest, P.E.  
Florida Registration No. 74021  
Organization No. ANE9641

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**CERTIFICATION OF INDEPENDENCE**

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CREEK Technical Services, LLC does not have, nor will it acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

CREEK Technical Services, LLC is not owned, operated, or controlled by any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

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**APPENDICES**

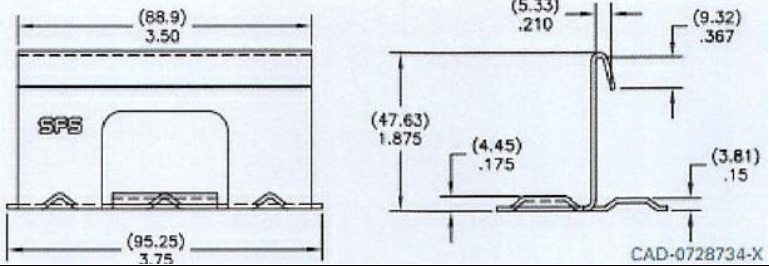
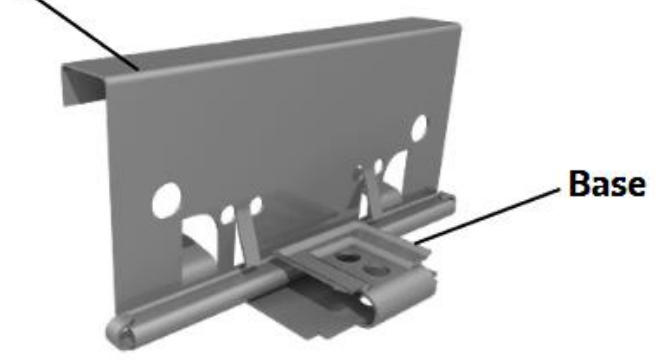
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- 1) APPENDIX A – Installation (3 pages)
- 2) APPENDIX B – Approved Roof Systems (5 pages)
- 3) APPENDIX C – Design Wind Loads (4 pages)

**APPENDIX A**
**INSTALLATION**

*Note - Refer to the [APPROVED ROOF SYSTEMS](#) section of this report for specific installation details of a selected system.*

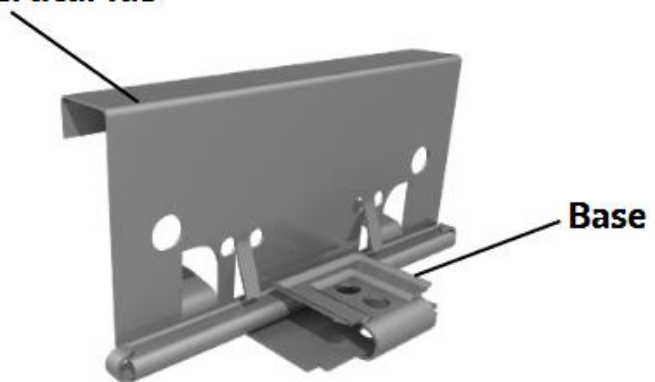
Unless otherwise specified in this report the following installation details shall be met for the named products:

Component	Product	Installation Detail
Fasteners	#10-12 Pancake Type A screw	Shall penetrate through the sheathing a minimum 3/8 in. Shall be corrosion resistant in accordance with FBC section 1507.4.4.
	#10-9 PanclipSS MTW low profile head wood screw	
	#10-9 Panclip MTW low profile head wood screw	
	#9-15 Woodgrip HWH wood screw with sealing washer	
	#9-15 Evergrip HWH wood screw with sealing washer	
	#12-8 Woodgrip XG HWH wood screw with sealing washer	
Clips	1.75 in. SL Clip	18 ga. SFS 1-3/4 in. Snap Lock Clip; 1.875 in. tall with 3.75 in. base 
	1.5 in. ML Clip	1-1/2 in. 1-piece expansion clip; 22 ga. vertical tab; 16 ga. base; 4.5 in. long <b>Vertical Tab</b>  <b>Base</b>



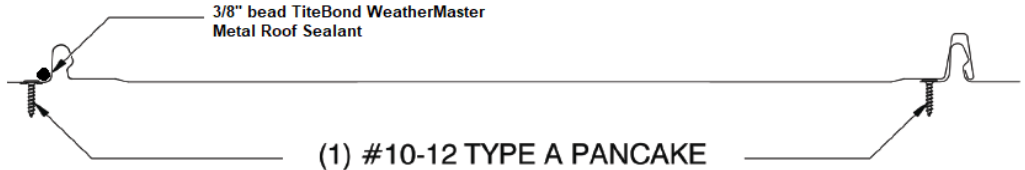
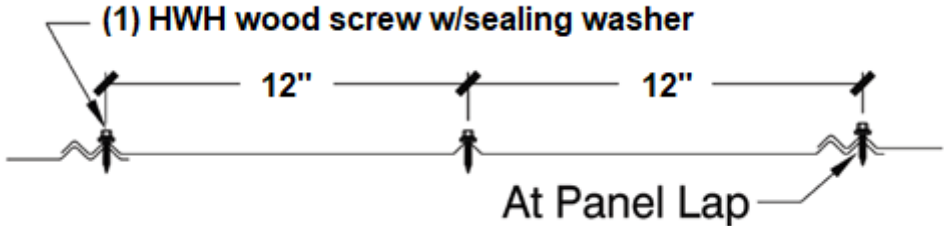
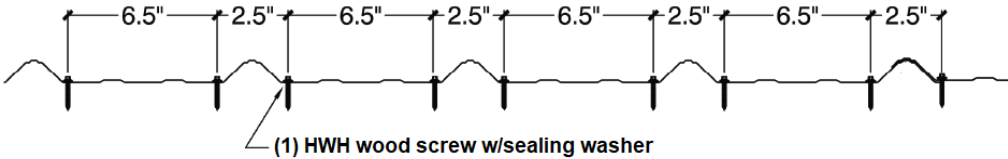
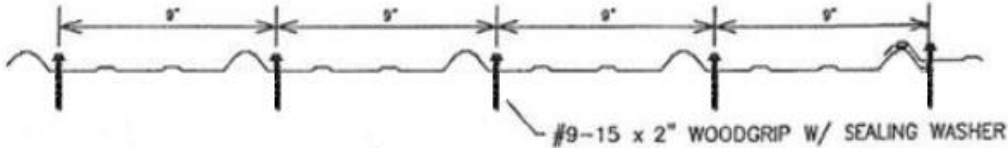


**APPENDIX A**

Component	Product	Installation Detail
Clips – Cont'd	2 in. ML Clip	<p>2 in. 1-piece expansion clip; 22 ga. vertical tab; 16 ga. base; 4.5 in. long</p> <p><b>Vertical Tab</b></p>  <p><b>Base</b></p>
Seam Sealants	TiteBond Weathermaster Metal Roof Sealant	Shall be applied in 1/4 in.- 5/16 in. continuous beads on the male rib along the seam
	Geocel 2300	
	Novaflex Metal Roof Sealant	



**APPENDIX A**

Fastening Details	
Nomenclature	Attachment
TCM-LOK	 <p>3/8" bead TiteBond WeatherMaster Metal Roof Sealant</p> <p>(1) #10-12 TYPE A PANCAKE</p>
5V	 <p>(1) HWH wood screw w/sealing washer</p> <p>12" 12"</p> <p>At Panel Lap</p>
Ultra Rib	 <p>6.5" 2.5" 6.5" 2.5" 6.5" 2.5" 6.5" 2.5"</p> <p>(1) HWH wood screw w/sealing washer</p>
Ultra Rib 2	 <p>9" 9" 9" 9"</p> <p>#9-15 x 2" WOODGRIP W/ SEALING WASHER</p>

**APPENDIX B**
**APPROVED ROOF SYSTEMS**

The following notes shall be observed when using the assembly tables below.

1. Maximum Design Pressure (*MDP*) was calculated using a 2:1 margin of safety per FBC Section 1504.9.
2. Refer to [LIMITATIONS](#) and sections of this evaluation when using the table(s) below.
3. Refer to [INSTALLATION](#) section of this report for installation detail when the information is not explicitly stated for the selected assembly.
4. The on-center (o.c.) spacing given is the maximum allowable attachment spacing for the rated system.
5. Unless otherwise specified, Wood Deck shall be designed by others in accordance with FBC requirements and shall be minimum 15/32 in. thick APA Span-Rated plywood sheathing at maximum 24 in. span.
6. No. 2 SYP wood battens used over solidly sheathed decks shall be installed parallel to the eave and 90 degrees to the roof trusses/rafters. Wood battens shall be located under each fastener row. Panel fasteners shall be installed through the battens and into the roof deck. Battens may be secured in place prior to fastening the roof panels.
7. For metal roofing installed over open framing, rational analysis shall be conducted by a qualified design professional in accordance with Section 2210.1.1.2 and Chapter 16. Maximum Design Pressures listed below are established based on uniform static loading in accordance with Section 1504.3.2 and ASTM E 1592.

Roof System Numbers and Definitions	
<a href="#">LOK-W-#</a>	TCM-LOK over Wood Deck (New or Existing)
<a href="#">SSLOK-W-#</a>	1.75" SS-LOK over Wood Deck (New or Existing)
<a href="#">MSLOK-W-#</a>	MS-LOK over Wood Deck (New or Existing)
<a href="#">5V-S-W-#</a>	Min. 26 ga. 5V over Wood Deck (New or Existing)
<a href="#">5V-AI-W-#</a>	Min. 0.032 Al 5V over Wood Deck (New or Existing)
<a href="#">RIB-W-#</a>	Ultra Rib over Wood Deck (New or Existing)
<a href="#">RIB-#</a>	Ultra Rib over Open Framing (New or Existing)

Approved Systems for TCM-LOK over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	<i>MDP</i> (psf)
LOK-W-1	Min. 15/32 CDX plywood	OPTIONAL <i>Approved fire barrier</i>	As required per FBC	Min. 0.032 Al TCM-LOK 1 in. 16 in. coverage	TCM-LOK attachment with #10-12 Pancake Type A screws spaced 5-1/4 in. o.c.; Seam Sealant (see <a href="#">INSTALLATION</a> for list of allowable products) applied to male rib.	<b>-110</b>
LOK-W-2	Min. 15/32 CDX plywood	OPTIONAL <i>Approved fire barrier</i>	As required per FBC	Min. 24 ga. TCM-LOK 1.5 in. 15 in. coverage	TCM-LOK attachment with #10-12 Pancake Type A screws spaced 5-1/4 in. o.c.; Seam Sealant (see <a href="#">INSTALLATION</a> for list of allowable products) applied to male rib.	<b>-122.5</b>

**APPENDIX B**

Approved Systems for TCM-LOK over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
LOK-W-3	Min. 15/32 CDX plywood	OPTIONAL Approved fire barrier	As required per FBC	Min. 24 ga. TCM-LOK 1 in. 16 in. coverage	TCM-LOK attachment with #10-12 Pancake Type A screws spaced 5-1/4 in. o.c.; Seam Sealant (see <a href="#">INSTALLATION</a> for list of allowable products) applied to male rib.	<b>-142.5</b>

Approved Systems for Min. 0.040 Al 1.75 SS-LOK over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
SSLOK-W-1	Min. 15/32 CDX plywood	-	As required per FBC	Min. 0.040 Al 1.75 SS-LOK 16 in. coverage	1.75 in. SL Clips spaced 16 in. o.c. at the panel seam secured with two (2) #10-9 PanclipSS MTW low profile head screws per clip	<b>-90</b>
SSLOK-W-2	Min. 15/32 CDX plywood	-	As required per FBC	Min. 0.040 Al 1.75 SS-LOK 16 in. coverage	1.75 in. SL Clips spaced 6 in. o.c. at the panel seam secured with two (2) #10-9 PanclipSS MTW low profile head screws per clip	<b>-120</b>

Approved Systems for Min. 24 ga. MS-LOK over Wood Deck (New or Existing)						
System No.	Deck	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
MSLOK-W-1	Min. 15/32 CDX plywood	-	As required per FBC	Min. 24 ga. 2 MS-LOK 18.75 in. coverage	2 in. ML Clips spaced 16 in. o.c. at the panel seam secured with two (2) #10-9 x min. 1.5 in. Panclip MTW low profile screws per clip; Panels mechanically seamed with 180° double lock	<b>-116.25</b>
MSLOK-W-2	Min. 15/32 CDX plywood	-	As required per FBC	Min. 24 ga. 2 MS-LOK 18.75 in. coverage	2 in. ML Clips spaced 8 in. o.c. at the panel seam secured with two (2) #10-9 x min. 1.5 in. Panclip MTW low profile screws per clip; Panels mechanically seamed with 180° double lock	<b>-120</b>
MSLOK-W-3	Min. 15/32 CDX plywood	-	As required per FBC	Min. 24 ga. 1.5 MS-LOK 16 in. coverage	1.5 in. ML Clips spaced 16 in. o.c. at the panel seam secured with two (2) #10-9 x min. 1.5 in. Panclip MTW low profile screws per clip; Panels mechanically seamed with 180° double lock	<b>-142.5</b>

**APPENDIX B**

Approved Systems for Min. 26 ga. 5V Crimp over Wood Deck (New or Existing)							
System No.	Deck	Battens (Note 6)	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
5V-S-W-1	Min. 15/32 CDX plywood	-	-	As required per FBC	Min. 26 ga., Grade 50 5V Crimp 24 in. coverage	5V attachment with #9-15 Woodgrip with sealing washers spaced 16 in. o.c.	<b>-67.5</b>
5V-S-W-2	Min. 15/32 CDX plywood	OPTIONAL No. 2 SYP min. 1x4 wood battens	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 26 ga., Grade 80 5V Crimp 24 in. coverage	5V attachment with #12-8 Woodgrip XG screws with sealing washers spaced 16 in. o.c.	<b>-86.25</b>
5V-S-W-3	Min. 15/32 CDX plywood	OPTIONAL No. 2 SYP min. 1x4 wood battens	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 26 ga., Grade 80 5V Crimp 24 in. coverage	5V attachment with #9-15 Woodgrip or #12-8 Woodgrip XG screws with sealing washers spaced 12 in. o.c.	<b>-90</b>
5V-S-W-4	Min. 15/32 CDX plywood	-	-	As required per FBC	Min. 26 ga., Grade 50 5V Crimp 24 in. coverage	5V attachment with #12-8 Woodgrip XG screws with sealing washers spaced 12 in. o.c.	<b>-101.25</b>
5V-S-W-5	Min. 15/32 CDX plywood	-	-	As required per FBC	Min. 26 ga., Grade 50 5V Crimp 24 in. coverage	5V attachment with #9-15 Woodgrip or #12-8 Woodgrip XG screws with sealing washers spaced 6 in. o.c.	<b>-120</b>
5V-S-W-6	Min. 15/32 CDX plywood	OPTIONAL No. 2 SYP min. 1x4 wood battens	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 26 ga., Grade 80 5V Crimp 24 in. coverage	5V attachment with #12-8 Woodgrip XG screws with sealing washers spaced 9 in. o.c.	<b>-120</b>
5V-S-W-7	Min. 15/32 CDX plywood	OPTIONAL No. 2 SYP min. 1x4 wood battens	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 26 ga., Grade 80 5V Crimp 24 in. coverage	5V attachment with #9-15 Woodgrip or #12-8 Woodgrip XG screws with sealing washers spaced 6 in. o.c.	<b>-135</b>

**APPENDIX B**

Approved Systems for Min. 0.032 Al 5V Crimp over Wood Deck (New or Existing)							
System No.	Deck	Battens (Note 6)	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
5V-AI-W-1	Min. 15/32 CDX plywood	-	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 0.032 Al 5V Crimp 24 in. coverage	5V attachment with #9-15 Evergrip screws with sealing washers spaced 9 in. o.c.	<b>-127.5</b>
5V-AI-W-2	Min. 15/32 CDX plywood	-	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 0.032 Al 5V Crimp 24 in. coverage	5V attachment with #9-15 Evergrip screws with sealing washers spaced 6 in. o.c.	<b>-150</b>

Approved Systems for Ultra Rib over Wood Deck (New or Existing)							
System No.	Deck	Battens (Note 6)	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
RIB-W-1	Min. 15/32 CDX plywood with OPTIONAL single layer of asphalt shingles	No. 2 SYP min. 1x4 wood battens	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 29 ga. Ultra Rib 36 in. coverage	<i>Ultra Rib 2</i> attachment with #9-15 Woodgrip screws spaced 24 in. o.c	<b>-67.5</b>
RIB-W-2	Min. 15/32 CDX plywood	OPTIONAL No. 2 SYP min. 1x4 wood battens	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 26 ga. Ultra Rib 36 in. coverage	<i>Ultra Rib</i> attachment with #12-8 Woodgrip XG screws spaced 24 in. o.c	<b>-116.25</b>
RIB-W-3	Min. 15/32 CDX plywood	OPTIONAL No. 2 SYP min. 1x4 wood battens	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 26 ga. Ultra Rib 36 in. coverage	<i>Ultra Rib</i> attachment with #9-15 Woodgrip screws spaced 12 in. o.c	<b>-135</b>

**APPENDIX B**

Approved Systems for Ultra Rib over Open Framing (New or Existing) – Note 7				
System No.	Battens	Roof Panel	Panel Attachment	MDP (psf)
RIB-1	No. 2 SYP 1x4 wood battens installed max. 24 in. o.c. with two (2) min. 3 in. x #9 wood screws placed at each batten and truss/rafter intersection. Roof trusses/rafters shall be spaced max. 24 in. o.c. and shall be 90 degrees to the battens.	Min. 29 ga. Ultra Rib 36 in. coverage with max. 2 in. overhang at eave	<i>Ultra Rib</i> attachment with #9-15 x 1.5 in. Woodgrip screws installed into each batten	<b>+45 -105</b>

## DESIGN WIND LOADS

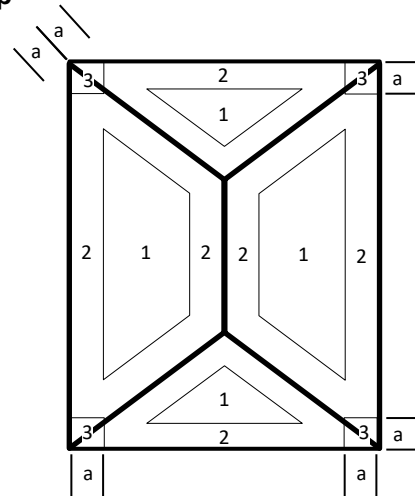
The following tables provide design wind loads for components and cladding in accordance with Section 1609 of the FBC and ASCE 7-16 under the following provisions:

1. Wind speeds for risk category I, II, III, and IV buildings shall be as defined in Section 1609 of the FBC.
2. Exposure B, C and D shall be as defined in section 1609 of the FBC.
3. Design wind load provided only for gable/hip roofs with roof slopes between 2:12 and 12:12
4. All calculations are based on an effective wind area of 10-ft<sup>2</sup> or less.
5. Topographic factors such as escarpments or hills have been excluded from the analysis
6. Overhangs have been excluded from the analysis.
7. Wind directionality factor,  $K_d = 0.85$
8.  $V_{ult}$  is shown in the tables below. Design wind loads are calculated using  $V_{asd} = V_{ult} \sqrt{0.6}$  per 1609.3.1.
9. Zone 2 is inclusive of Zone 2e, Zone 2n, and Zone 2r
10. Zone 3 is inclusive of Zone 3e and Zone 3r
11. Projects with mean roof heights greater than 60-ft shall be evaluated by a licensed design professional
12. Zones 1, 2, and 3 shall be defined as shown below. Dimension "a" shall be 10% of the least horizontal dimension or (0.4 x Mean Roof Height), whichever is smaller, but not less than either 4% of the least horizontal dimension or 3ft

**Gable**

3	2	3	3	2	3	a
2	1	2	2	1	2	
3	2	3	3	2	3	a
a		a	a		a	

**Hip**





**APPENDIX C**

Gable/Hip Roofs in <b>Exposure B</b> (Roof slope between 2:12 and 12:12)											
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)								
			120	130	140	150	160	170	180	190	200
Enclosed/ Partially Open	1	20	-25.4	-29.8	-34.6	-39.7	-45.2	-51.0	-57.2	-63.7	-70.6
		25	-27.5	-32.2	-37.4	-42.9	-48.8	-55.1	-61.8	-68.8	-76.3
		30	-28.7	-33.7	-39.1	-44.8	-51.0	-57.6	-64.6	-71.9	-79.7
		40	-31.2	-36.6	-42.4	-48.7	-55.4	-62.5	-70.1	-78.1	-86.5
		50	-33.2	-39.0	-45.2	-51.9	-59.0	-66.6	-74.7	-83.2	-92.2
		60	-34.8	-40.9	-47.4	-54.4	-61.9	-69.9	-78.4	-87.3	-96.8
	2	20	-37.1	-43.5	-50.5	-57.9	-65.9	-74.4	-83.4	-92.9	-103.0
		25	-40.1	-47.0	-54.5	-62.6	-71.2	-80.4	-90.1	-100.4	-111.3
		30	-41.9	-49.1	-57.0	-65.4	-74.4	-84.0	-94.2	-104.9	-116.3
		40	-45.4	-53.3	-61.9	-71.0	-80.8	-91.2	-102.2	-113.9	-126.2
		50	-48.4	-56.8	-65.9	-75.7	-86.1	-97.2	-109.0	-121.4	-134.5
		60	-50.8	-59.6	-69.2	-79.4	-90.3	-102.0	-114.3	-127.4	-141.2
	3	20	-44.1	-51.7	-60.0	-68.8	-78.3	-88.4	-99.1	-110.5	-122.4
		25	-47.6	-55.9	-64.8	-74.4	-84.7	-95.6	-107.1	-119.4	-132.3
		30	-49.8	-58.4	-67.7	-77.7	-88.4	-99.8	-111.9	-124.7	-138.2
		40	-54.0	-63.4	-73.5	-84.4	-96.0	-108.4	-121.5	-135.4	-150.0
		50	-57.6	-67.6	-78.4	-90.0	-102.3	-115.5	-129.5	-144.3	-159.9
		60	-60.4	-70.9	-82.2	-94.4	-107.4	-121.2	-135.9	-151.4	-167.8
Partially Enclosed	1	20	-29.7	-34.9	-40.5	-46.5	-52.8	-59.7	-66.9	-74.5	-82.6
		25	-32.1	-37.7	-43.7	-50.2	-57.1	-64.5	-72.3	-80.5	-89.2
		30	-33.6	-39.4	-45.7	-52.4	-59.7	-67.4	-75.5	-84.1	-93.2
		40	-36.4	-42.8	-49.6	-56.9	-64.8	-73.1	-82.0	-91.3	-101.2
		50	-38.8	-45.6	-52.9	-60.7	-69.0	-77.9	-87.4	-97.4	-107.9
		60	-40.8	-47.8	-55.5	-63.7	-72.4	-81.8	-91.7	-102.2	-113.2
	2	20	-41.4	-48.6	-56.3	-64.7	-73.6	-83.1	-93.1	-103.7	-115.0
		25	-44.7	-52.5	-60.9	-69.9	-79.5	-89.8	-100.6	-112.1	-124.2
		30	-46.7	-54.8	-63.6	-73.0	-83.1	-93.8	-105.1	-117.1	-129.8
		40	-50.7	-59.5	-69.0	-79.3	-90.2	-101.8	-114.1	-127.2	-140.9
		50	-54.1	-63.4	-73.6	-84.5	-96.1	-108.5	-121.6	-135.5	-150.2
		60	-56.7	-66.6	-77.2	-88.6	-100.9	-113.9	-127.6	-142.2	-157.6
	3	20	-48.4	-56.8	-65.8	-75.6	-86.0	-97.1	-108.8	-121.3	-134.4
		25	-52.3	-61.4	-71.2	-81.7	-92.9	-104.9	-117.6	-131.1	-145.2
		30	-54.6	-64.1	-74.3	-85.3	-97.1	-109.6	-122.9	-136.9	-151.7
		40	-59.3	-69.6	-80.7	-92.7	-105.4	-119.0	-133.4	-148.7	-164.7
		50	-63.2	-74.2	-86.0	-98.8	-112.4	-126.8	-142.2	-158.4	-175.6
		60	-66.3	-77.8	-90.3	-103.6	-117.9	-133.1	-149.2	-166.3	-184.2

**APPENDIX C**

Gable/Hip Roofs in <b>Exposure C</b> (Roof slope between 2:12 and 12:12)											
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)								
			120	130	140	150	160	170	180	190	200
Enclosed/ Partially Open	1	20	-36.9	-43.3	-50.2	-57.6	-65.6	-74.0	-83.0	-92.5	-102.5
		25	-38.5	-45.2	-52.4	-60.2	-68.5	-77.3	-86.7	-96.6	-107.0
		30	-40.2	-47.1	-54.7	-62.8	-71.4	-80.6	-90.4	-100.7	-111.6
		40	-42.6	-50.0	-58.0	-66.6	-75.8	-85.6	-95.9	-106.9	-118.4
		50	-44.7	-52.4	-60.8	-69.8	-79.4	-89.7	-100.5	-112.0	-124.1
		60	-46.3	-54.4	-63.0	-72.4	-82.3	-93.0	-104.2	-116.1	-128.7
	2	20	-53.8	-63.2	-73.2	-84.1	-95.7	-108.0	-121.1	-134.9	-149.5
		25	-56.2	-66.0	-76.5	-87.8	-99.9	-112.8	-126.5	-140.9	-156.1
		30	-58.6	-68.8	-79.8	-91.6	-104.2	-117.6	-131.8	-146.9	-162.8
		40	-62.2	-73.0	-84.6	-97.2	-110.5	-124.8	-139.9	-155.9	-172.7
		50	-65.2	-76.5	-88.7	-101.8	-115.9	-130.8	-146.6	-163.4	-181.0
		60	-67.6	-79.3	-92.0	-105.6	-120.1	-135.6	-152.0	-169.4	-187.7
	3	20	-64.0	-75.1	-87.1	-99.9	-113.7	-128.4	-143.9	-160.3	-177.7
		25	-66.8	-78.4	-90.9	-104.4	-118.8	-134.1	-150.3	-167.5	-185.6
		30	-69.7	-81.7	-94.8	-108.8	-123.8	-139.8	-156.7	-174.6	-193.5
		40	-73.9	-86.7	-100.6	-115.5	-131.4	-148.3	-166.3	-185.3	-205.3
		50	-77.5	-90.9	-105.4	-121.0	-137.7	-155.5	-174.3	-194.2	-215.2
		60	-80.3	-94.3	-109.3	-125.5	-142.8	-161.2	-180.7	-201.3	-223.1
Partially Enclosed	1	20	-43.2	-50.6	-58.7	-67.4	-76.7	-86.6	-97.1	-108.2	-119.9
		25	-45.1	-52.9	-61.3	-70.4	-80.1	-90.4	-101.4	-113.0	-125.2
		30	-47.0	-55.1	-64.0	-73.4	-83.5	-94.3	-105.7	-117.8	-130.5
		40	-49.9	-58.5	-67.9	-77.9	-88.6	-100.1	-112.2	-125.0	-138.5
		50	-52.3	-61.3	-71.1	-81.7	-92.9	-104.9	-117.6	-131.0	-145.2
		60	-54.2	-63.6	-73.7	-84.7	-96.3	-108.7	-121.9	-135.8	-150.5
	2	20	-60.1	-70.5	-81.8	-93.9	-106.8	-120.6	-135.2	-150.6	-166.9
		25	-62.7	-73.6	-85.4	-98.0	-111.5	-125.9	-141.2	-157.3	-174.3
		30	-65.4	-76.8	-89.0	-102.2	-116.3	-131.3	-147.2	-164.0	-181.7
		40	-69.4	-81.5	-94.5	-108.5	-123.4	-139.3	-156.2	-174.0	-192.8
		50	-72.8	-85.4	-99.0	-113.7	-129.3	-146.0	-163.7	-182.4	-202.1
		60	-75.4	-88.5	-102.7	-117.8	-134.1	-151.4	-169.7	-189.1	-209.5
	3	20	-70.2	-82.4	-95.6	-109.7	-124.8	-140.9	-158.0	-176.0	-195.1
		25	-73.3	-86.1	-99.8	-114.6	-130.4	-147.2	-165.0	-183.9	-203.7
		30	-76.5	-89.7	-104.1	-119.5	-135.9	-153.5	-172.0	-191.7	-212.4
		40	-81.1	-95.2	-110.5	-126.8	-144.3	-162.9	-182.6	-203.4	-225.4
		50	-85.0	-99.8	-115.8	-132.9	-151.2	-170.7	-191.4	-213.2	-236.2
		60	-88.2	-103.5	-120.0	-137.8	-156.7	-177.0	-198.4	-221.0	-244.9

**APPENDIX C**

Gable/Hip Roofs in <b>Exposure D</b> (Roof slope between 2:12 and 12:12)											
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)								
			120	130	140	150	160	170	180	190	200
Enclosed/ Partially Open	1	20	-44.3	-52.0	-60.3	-69.2	-78.7	-88.8	-99.6	-111.0	-123.0
		25	-45.9	-53.9	-62.5	-71.7	-81.6	-92.1	-103.3	-115.1	-127.5
		30	-47.5	-55.8	-64.7	-74.3	-84.5	-95.4	-107.0	-119.2	-132.1
		40	-50.0	-58.7	-68.1	-78.1	-88.9	-100.4	-112.5	-125.4	-138.9
		50	-52.1	-61.1	-70.9	-81.3	-92.5	-104.5	-117.1	-130.5	-144.6
		60	-53.7	-63.0	-73.1	-83.9	-95.5	-107.8	-120.8	-134.6	-149.1
	2	20	-64.6	-75.8	-87.9	-100.9	-114.8	-129.6	-145.3	-161.9	-179.4
		25	-67.0	-78.6	-91.1	-104.6	-119.0	-134.4	-150.7	-167.9	-186.0
		30	-69.4	-81.4	-94.4	-108.4	-123.3	-139.2	-156.0	-173.9	-192.6
		40	-72.9	-85.6	-99.3	-114.0	-129.7	-146.4	-164.1	-182.9	-202.6
		50	-75.9	-89.1	-103.3	-118.6	-135.0	-152.4	-170.8	-190.4	-210.9
		60	-78.3	-91.9	-106.6	-122.4	-139.2	-157.2	-176.2	-196.3	-217.6
	3	20	-76.8	-90.1	-104.5	-119.9	-136.5	-154.0	-172.7	-192.4	-213.2
		25	-79.6	-93.4	-108.3	-124.4	-141.5	-159.7	-179.1	-199.5	-221.1
		30	-82.4	-96.8	-112.2	-128.8	-146.6	-165.4	-185.5	-206.7	-229.0
		40	-86.7	-101.8	-118.0	-135.5	-154.1	-174.0	-195.1	-217.4	-240.8
		50	-90.3	-105.9	-122.8	-141.0	-160.5	-181.1	-203.1	-226.3	-250.7
		60	-93.1	-109.3	-126.7	-145.5	-165.5	-186.8	-209.5	-233.4	-258.6
Partially Enclosed	1	20	-51.8	-60.8	-70.5	-80.9	-92.1	-103.9	-116.5	-129.8	-143.8
		25	-53.7	-63.0	-73.1	-83.9	-95.5	-107.8	-120.8	-134.6	-149.2
		30	-55.6	-65.3	-75.7	-86.9	-98.9	-111.6	-125.1	-139.4	-154.5
		40	-58.5	-68.7	-79.6	-91.4	-104.0	-117.4	-131.6	-146.6	-162.5
		50	-60.9	-71.5	-82.9	-95.1	-108.2	-122.2	-137.0	-152.6	-169.1
		60	-62.8	-73.7	-85.5	-98.1	-111.7	-126.0	-141.3	-157.5	-174.5
	2	20	-72.1	-84.6	-98.1	-112.6	-128.2	-144.7	-162.2	-180.7	-200.2
		25	-74.8	-87.7	-101.7	-116.8	-132.9	-150.0	-168.2	-187.4	-207.6
		30	-77.4	-90.9	-105.4	-121.0	-137.6	-155.4	-174.2	-194.1	-215.1
		40	-81.4	-95.6	-110.8	-127.2	-144.8	-163.4	-183.2	-204.1	-226.2
		50	-84.8	-99.5	-115.4	-132.4	-150.7	-170.1	-190.7	-212.5	-235.5
		60	-87.4	-102.6	-119.0	-136.6	-155.4	-175.5	-196.7	-219.2	-242.9
	3	20	-84.3	-98.9	-114.7	-131.7	-149.8	-169.1	-189.6	-211.3	-234.1
		25	-87.4	-102.6	-118.9	-136.5	-155.4	-175.4	-196.6	-219.1	-242.7
		30	-90.5	-106.2	-123.2	-141.4	-160.9	-181.6	-203.6	-226.9	-251.4
		40	-95.2	-111.7	-129.6	-148.7	-169.2	-191.0	-214.2	-238.6	-264.4
		50	-99.1	-116.3	-134.9	-154.8	-176.2	-198.9	-223.0	-248.4	-275.2
		60	-102.2	-120.0	-139.1	-159.7	-181.7	-205.1	-230.0	-256.2	-283.9

**END OF REPORT**