



EVALUATION REPORT

FLORIDA BUILDING CODE, 7TH EDITION (2020)

Manufacturer: SHEFFIELD METALS INTERNATIONAL
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Sheffield Village, OH 44054
(800) 283-5262
www.sheffieldmetals.com

Issued December 19, 2021

Quality Assurance: Keystone Certifications, Inc. (QUA1824)

SCOPE

Category: Roofing
Subcategory: Metal Roofing
Code Sections: 1504.3
Properties: Wind Resistance

REFERENCES

Entity	Report No.	Standard	Year
Architectural Testing (TST4311)	B5170.02-450-18	UL 580	2006
Architectural Testing (TST4311)	B5170.04-450-18	UL 1897	2012
Architectural Testing (TST4311)	B5170.06-450-18	UL 580	2006
Architectural Testing (TST4311)	B5170.08-450-18	UL 1897	2012
Architectural Testing (TST4311)	B5170.10-450-18	UL 580	2006
Architectural Testing (TST4311)	B5170.12-450-18	UL 1897	2012
Architectural Testing (TST4311)	B5170.14-450-18	UL 580	2006
Architectural Testing (TST4311)	B5170.16-450-18	UL 1897	2012
Architectural Testing (TST4311)	B5170.18-450-18	UL 580	2006
Architectural Testing (TST4311)	B5925.01-450-18	UL 1897	2012
Intertek - West Palm Beach (TST1527)	I3448.01-450-44	UL 580	2006
Intertek - West Palm Beach (TST1527)	J8065.02-450-18	UL 1897	2012
Intertek - West Palm Beach (TST1527)	J8065.03-450-18	ASTM E 2140	2001
Intertek - West Palm Beach (TST1527)	J8065.04-450-18	UL 580	2006
Intertek - West Palm Beach (TST1527)	J8065.05-450-18	UL 1897	2012
Intertek - West Palm Beach (TST1527)	J8065.06-450-18	UL 580	2006
Intertek - West Palm Beach (TST1527)	J8065.07-450-18	UL 1897	2012
Intertek - West Palm Beach (TST1527)	J8065.08-450-18	UL 580	2006
Intertek - West Palm Beach (TST1527)	J8065.09-450-18	UL 1897	2012
Intertek - West Palm Beach (TST1527)	J8065.10-450-18	UL 580	2006
		UL 1897	2012

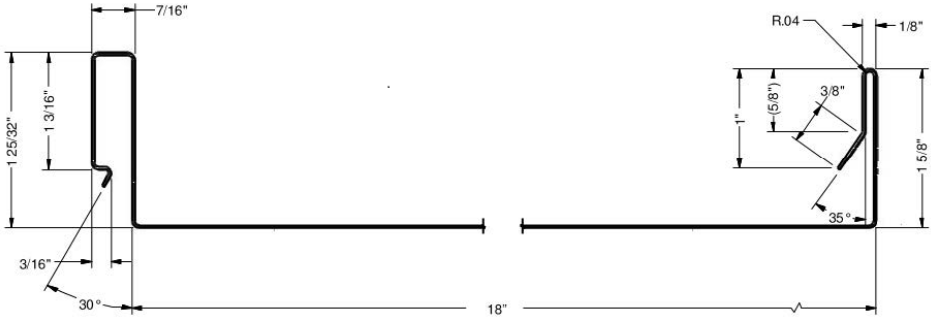
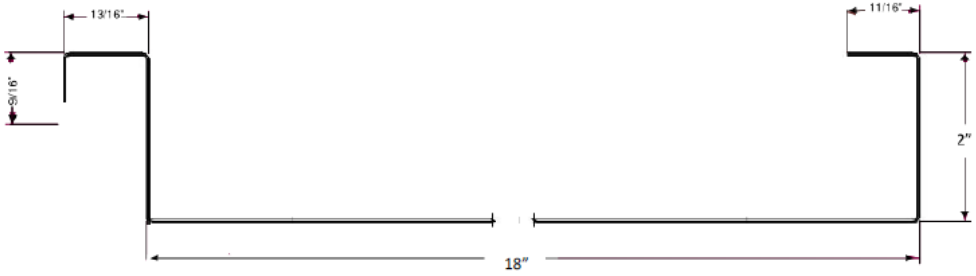


<u>Entity</u>	<u>Report No.</u>	<u>Standard</u>	<u>Year</u>
Intertek - West Palm Beach (TST1527)	J8065.11-450-18	UL 580	2006
		UL 1897	2012
Intertek - West Palm Beach (TST1527)	L3734.01-450-18	TAS 125	2003
Intertek - West Palm Beach (TST1527)	L3734.02-450-18	TAS 125	2003
Intertek - West Palm Beach (TST1527)	L3734.03-450-18	TAS 125	2003

PRODUCT DESCRIPTION

SMI 1.5" Mechanical Seam	Profile:	1.5 in. mechanical seam; Max. 16 in. coverage
	Description:	Non-structural, mechanical lock standing seam roof panel
	Material:	Min. 0.029 in. ASTM B209, 3105 H24M aluminum (F_y = min. 21 ksi) coated with Fluoropon®; or Min. 24ga. ASTM A792 AZ steel, Grade 50 coated with Fluoropon®; Shall conform with FBC Section 1507.4.3
	Min. Slope:	In accordance with FBC Section 1507.4.2
SMI 1.5" SnapLock 550	Profile:	1.5 in. snap lock seam; Max. 19 in. coverage
	Description:	Non-structural, snap lock standing seam roof panel
	Material:	Min. 24 ga. ASTM A792 AZ50 steel coated with Fluoropon® (F_y = min. 50 ksi); Shall conform with FBC Section 1507.4.3
	Min. Slope:	In accordance with FBC Section 1507.4.2



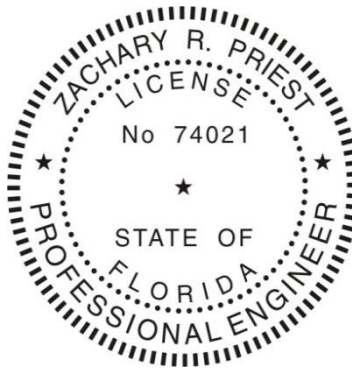
SMI 1.75" SnapLock	Profile:	1.75 in. snap lock seam; Max. 18 in. coverage
	Description:	Non-structural, snap lock standing seam roof panel
	Material:	Min. 0.038 in. ASTM B209, 3105 H22 aluminum (F_y = min. 20 ksi) coated with Fluropon®; or Min. 24ga. ASTM A792 AZ steel, Grade 50 coated with Fluropon®; Shall conform with FBC Section 1507.4.3
	Min. Slope:	In accordance with FBC Section 1507.4.2
		
SMI 2" Mechanical Seam	Profile:	2.0 in. mechanical seam; Max. 18 in. coverage
	Description:	Non-structural, mechanical lock standing seam roof panel
	Material:	Min. 0.038 in. ASTM B209, 3105 H22 aluminum (F_y = min. 18 ksi) coated with Fluropon®; or Min. 24ga. ASTM A792 AZ steel, Grade 50 coated with Fluropon®; Shall conform with FBC Section 1507.4.3
	Min. Slope:	In accordance with FBC Section 1507.4.2
		

LIMITATIONS

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 and the roof deck attachment shall be designed by others to meet the minimum design loads established for components and cladding and in accordance with FBC requirements.
4. Reroofing shall be in accordance with FBC Section 1511.
5. 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.
6. All products listed in this report shall be manufactured under a quality assurance program in compliance with Rule 61G20-3.

COMPLIANCE STATEMENT

The products evaluated herein by Zachary R. Priest, P.E. have demonstrated compliance with the Florida Building Code, 7th 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 12/19/2021.**

**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

CERTIFICATION OF INDEPENDENCE

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.

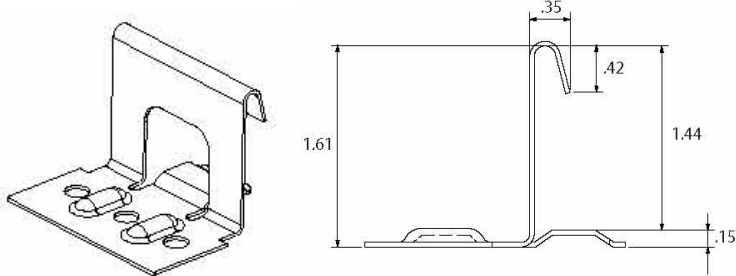
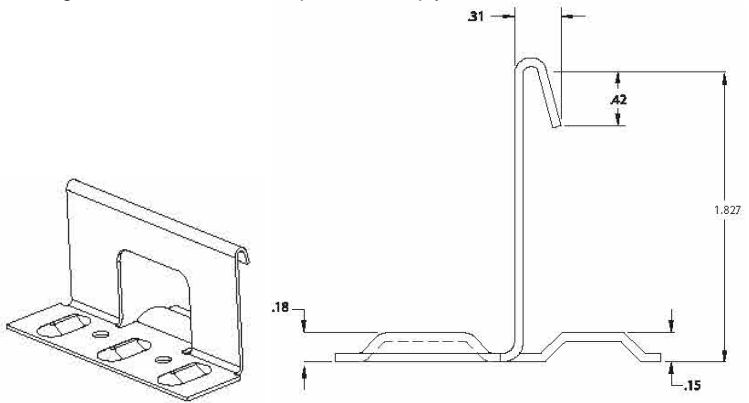
APPENDICES

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

INSTALLATION

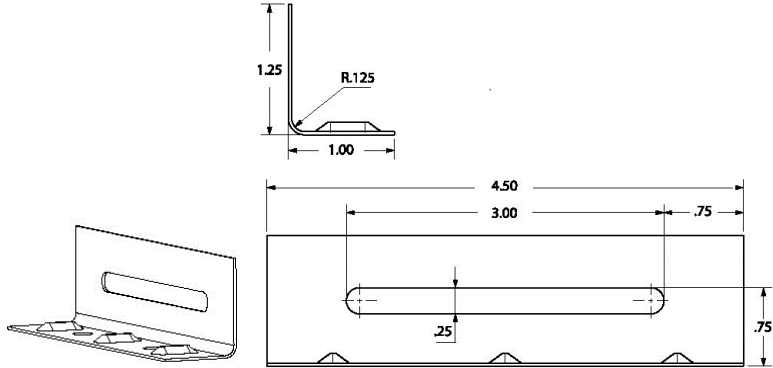
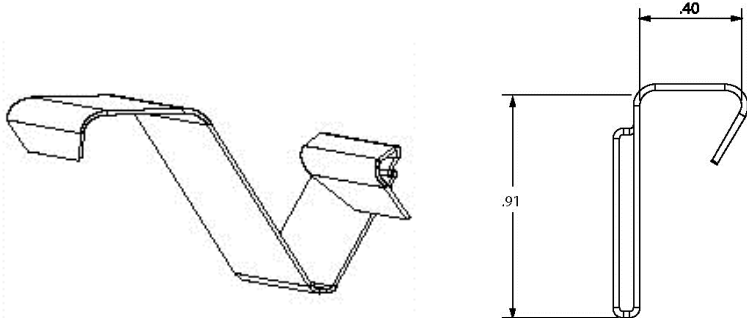
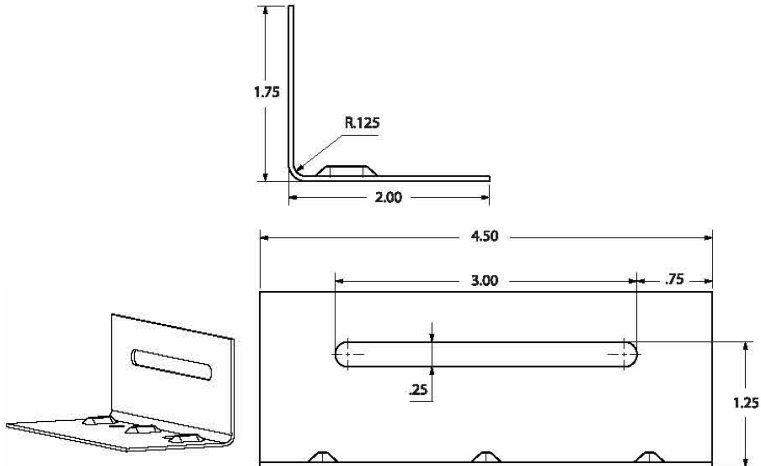
Note - Refer to the [APPROVED ROOF SYSTEMS](#) section of this report for specific installation details of a selected system.

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

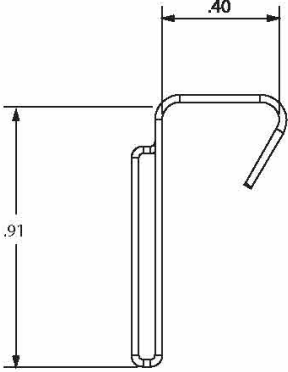
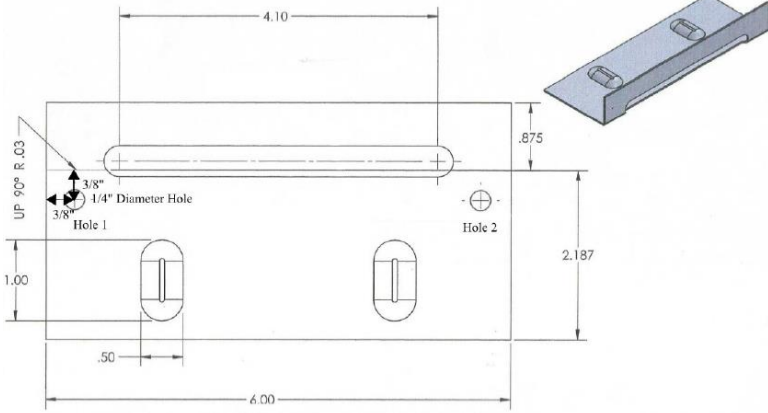
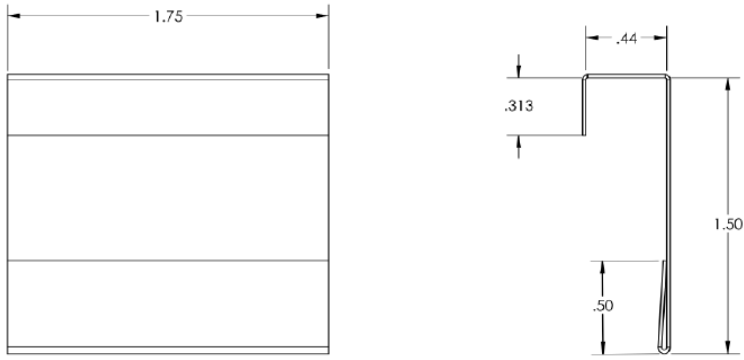
Component	Product	Installation Detail
Fasteners	SFS Intec Weather Gard® #10 Type A: Pancake Head 2/2 Quadrex Drive	Shall penetrate through the sheathing a minimum 3/8-inch. Shall comply with FBC section 1507.4.4 and 1506.6.
	#10 PH wood screw	
	#12 PH screws	Threads shall penetrate through the deck a minimum 3/8-inch. Shall comply with FBC section 1507.4.4 and 1506.6.
	SFS Intec Weather Gard® #12 Self-Drill: Pancake Head 2/2 Quadrex Drive	
	SFS Intec Dekfast™ #12 PH screws	Shall attach insulation to steel or wood deck. Shall penetrate through the top rib of the steel deck a minimum 3/4-inch. Shall penetrate through the wood sheathing a minimum 1-inch. Shall comply with FBC section 1507.4.4 and 1506.6.
Insulation	Approved polyisocyanurate insulation board	Any <i>Approved</i> polyisocyanurate insulation board for use in the FBC. Minimum 1-inch thick base layer with optional minimum 1/2-inch or taper subsequent layers of polyisocyanurate insulation secured with fasteners and plates in accordance with the manufacturer's installation instructions. Butt edges and stagger joints of adjacent panels.
Moisture/Fire Barrier	GAF VersaShield®	Installed in accordance with the manufacturer's installation instructions and the FBC.
Clips	1-1/2" SnapLock Clip	<p>20 ga., G-90 galvanized steel, through fastened to deck with two (2) fasteners. 2.0-inch length x 2.01-inch width. Clips shall comply with FBC section 1506.7.</p> 
	1-3/4" SnapLock Clip	<p>18 ga., G-90 galvanized steel, through fastened to deck with two (2) fasteners. 3.5-inch length x 2.01-inch width. Clips shall comply with FBC section 1506.7.</p> 



Appendix A

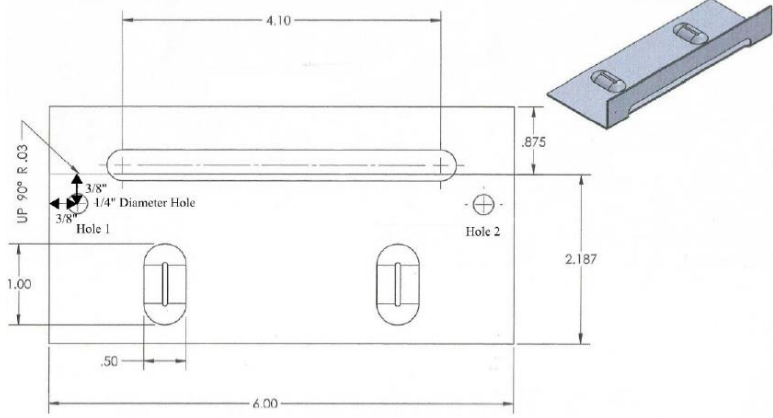
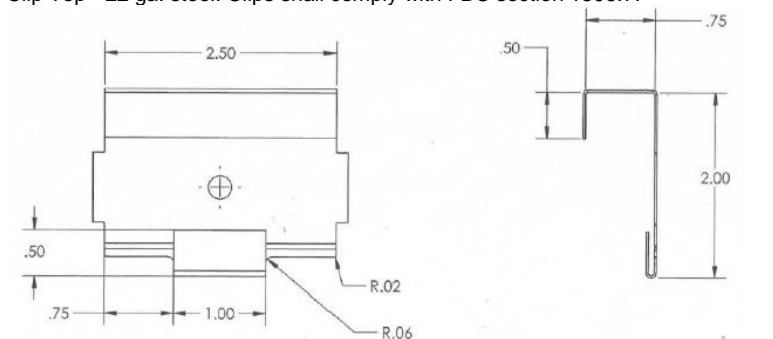
Component	Product	Installation Detail
Clips	1-1/2" Butterfly Clip Assembly	Butterfly Base 1-1/2" - 22 ga, G-90 galvanized steel, through fastened to deck with two (2) fasteners. Clips shall comply with FBC section 1506.7. 
		Butterfly Tab 1-1/2" - 24 ga. G-90 galvanized steel. Clips shall comply with FBC section 1506.7. 
	2" Butterfly Clip Assembly	Butterfly Base 2" - 18 ga, G-90 galvanized steel, through fastened to deck with two (2) fasteners. Clips shall comply with FBC section 1506.7. 



Component	Product	Installation Detail
Clips	2" Butterfly Clip Assembly – Cont'd	<p>Butterfly Tab 2" - 22 ga. G-90 galvanized steel. Clips shall comply with FBC section 1506.7.</p> 
	1.5" 2-Piece Clip	<p>Clip Base - 18 ga. steel. Clips shall comply with FBC section 1506.7. Installed with two (2) fasteners per clip.</p>  <p>Clip Top - 24 ga. steel. Clips shall comply with FBC section 1506.7.</p> 



Appendix A

Component	Product	Installation Detail
Clips	2" 2-Piece Clip	<p>Clip Base - 18 ga. steel. Clips shall comply with FBC section 1506.7. Installed with two (2) fasteners per clip.</p> 
		<p>Clip Top - 22 ga. steel. Clips shall comply with FBC section 1506.7.</p> 

APPROVED ROOF SYSTEMS

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

1. Maximum Design Pressures (*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, the Steel Deck shall be designed by others in accordance with FBC requirements and shall be minimum 22 ga ($F_y = \text{min.} 40 \text{ ksi}$) Wide Rib Deck (Type WR) conforming to ANSI/SDI-RD1.0 & FBC.
6. Unless otherwise specified, Wood Deck shall be designed by others in accordance with FBC requirements and shall be minimum 15/32-inch thick APA Span-Rated plywood sheathing at maximum 24-inch span.

Roof System Numbers and Definitions	
1.5MS-S#	SMI 1.5" Mechanical Seam over Steel Deck (New or Existing)
1.5MS-W#	SMI 1.5" Mechanical Seam over Wood Deck (New or Existing)
1.5SL-W#	SMI 1.5" SnapLock 550 over Wood Deck (New or Existing)
1.75SL-S#	SMI 1.75" SnapLock over Steel Deck (New or Existing)
1.75SL-W#	SMI 1.75" SnapLock over Wood Deck (New or Existing)
2.0MS-S#	SMI 2.0" Mechanical Seam over Steel Deck (New or Existing)
2.0MS-W#	SMI 2.0" Mechanical Seam over Wood Deck (New or Existing)

Approved Systems for SMI 1.5" Mechanical Seam over Steel Deck (New or Existing)							
System No.	Deck	Insulation	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	<i>MDP</i> (psf)
1.5MS-S1	Min. 22 ga	-	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly 18-inches o.c. and attached with two (2) #12 PH screws. Panel is mechanically seamed 180 degrees.	-77.63
1.5MS-S2	Min. 22 ga.	-	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly 18-inches o.c. and attached with two (2) Weather Gard® #12 Self-Drill: Pancake Head 2/2 Quadrex Drive screws. Panel is mechanically seamed 180 degrees.	-91.75
1.5MS-S3	Min. 22 ga	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly 18-inches o.c. and attached with two (2) #12 PH screws. Panel is mechanically seamed 180 degrees.	-141.38
1.5MS-S4	Min. 22 ga	-	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly 6-inches o.c. and attached with two (2) #12 PH screws. Panel is mechanically seamed 180 degrees.	-198.5

Appendix B

Approved Systems for SMI 1.5" Mechanical Seam over Steel Deck (New or Existing)							
System No.	Deck	Insulation	Fire Barrier	Underlayment	Roof Panel	Panel Attachment	MDP (psf)
1.5MS-S5	Min. 22 ga	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly 6-inches o.c. and attached with two (2) #12 PH screws. Panel is mechanically seamed 180 degrees.	-198.5

Approved Systems for SMI 1.5" Mechanical Seam over Wood Deck (New or Existing)						
System No.	Deck	Underlayment	Moisture/Fire Barrier	Roof Panel	Panel Attachment	MDP (psf)
1.5MS-W1	Min. 15/32" 3-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly secured with two (2) #10 PH wood screws and spaced 24-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-88.88
1.5MS-W2	Min. 15/32" 4-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 0.029 Al Max. 16-inch coverage	1.5" 2-Piece Clip Assembly secured with two (2) #10 PH wood screws and spaced 16-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-97.25
1.5MS-W3	Min. 15/32" CDX Plywood	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly 24-inches o.c. and attached with two (2) Weather Gard® #10 Type A: Pancake Head 2/2 Quadrex Drive screws. Panel is mechanically seamed 180 degrees.	-106.75
1.5MS-W4	Min. 15/32" 4-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 0.029 Al Max. 16-inch coverage	1.5" 2-Piece Clip Assembly secured with two (2) #10 PH wood screws and spaced 8-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-116
1.5MS-W5	Min. 15/32" 3-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 16-inch coverage	1-1/2" Butterfly Clip Assembly secured with two (2) #10 PH wood screws and spaced 16-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-123.5

Appendix B

SMI 1.5" SnapLock 550 over Wood Deck (New or Existing)						
System No.	Deck	Underlayment	Moisture/Fire Barrier	Roof Panel	Panel Attachment	MDP (psf)
1.5SL-W1	Min. 15/32" CDX Plywood	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 19 in. coverage	1-1/2" SnapLock Clip 24-inches o.c. and attached with two (2) Weather Gard® #10 Type A: Pancake Head 2/2 Quadrex Drive screws.	-129.25

Approved Systems for SMI 1.75" SnapLock over Steel Deck (New or Existing)							
System No.	Deck	Insulation	Underlayment	Moisture/Fire Barrier	Roof Panel	Panel Attachment	MDP (psf)
1.75SL-S1	Min. 22 ga.	-	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip 24-inches o.c. and attached with two (2) Weather Gard® #12 Self-Drill: Pancake Head 2/2 Quadrex Drive screws.	-76.75
1.75SL-S2	Min. 22 ga.	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip 24-inches o.c. and attached with two (2) Dekfast™ #12 PH screws.	-76.75
1.75SL-S3	Min. 22 ga.	-	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip 24-inches o.c. and attached with two (2) #12 PH screws. The male leg of panel is secured with clips and female leg is snap fit over male.	-77.63
1.75SL-S4	Min. 22 ga.	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip 24-inches o.c. and attached with two (2) #12 PH screws. The male leg of panel is secured with clips and female leg is snap fit over male.	-85.13
1.75SL-S5	Min. 22 ga.	-	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip 6-inches o.c. and attached with two (2) #12 PH screws. The male leg of panel is secured with clips and female leg is snap fit over male.	-101
1.75SL-S6	Min. 22 ga.	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip 6-inches o.c. and attached with two (2) #12 PH screws. The male leg of panel is secured with clips and female leg is snap fit over male.	-191

Appendix B

Approved Systems for SMI 1.75" SnapLock over Wood Deck (New or Existing)						
System No.	Deck	Underlayment	Moisture/Fire Barrier	Roof Panel	Panel Attachment	MDP (psf)
1.75SL-W1	Min. 15/32" 4-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 0.038 Al Max. 16-inch coverage	1-3/4" SnapLock Clip secured with two (2) #10 PH wood screws and spaced 16-inches o.c. along the panel seam.	-96
1.75SL-W2	Min. 15/32" 3-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip secured with two (2) #10 PH wood screws and spaced 24-inches o.c. along the panel seam. The male leg of panel is secured with clips and female leg is snap fit over male.	-100.13
1.75SL-W3	Min. 15/32" CDX Plywood	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip 24-inches o.c. and attached with two (2) Weather Gard® #10 Type A: Pancake Head 2/2 Quadrex Drive screws.	-114.25
1.75SL-W4	Min. 15/32" 4-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 0.038 Al Max. 16-inch coverage	1-3/4" SnapLock Clip secured with two (2) #10 PH wood screws and spaced 6-inches o.c. along the panel seam.	-123.5
1.75SL-W5	Min. 15/32" 3-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	1-3/4" SnapLock Clip secured with two (2) #10 PH wood screws and spaced 6-inches o.c. along the panel seam. The male leg of panel is secured with clips and female leg is snap fit over male.	-131

Approved Systems for SMI 2.0" Mechanical Seam over Steel Deck (New or Existing)							
System No.	Deck	Insulation	Underlayment	Moisture/Fire Barrier	Roof Panel	Panel Attachment	MDP (psf)
2.0MS-S1	Min. 22 ga.	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 16-inch coverage	2" Butterfly Clip Assembly 24-inches o.c. and attached with two (2) #12 PH screws. Panel is mechanically seamed 180 degrees.	-81.38
2.0MS-S2	Min. 22 ga.	-	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	2" Butterfly Clip Assembly 24-inches o.c. and attached with two (2) Weather Gard® #12 Self-Drill: Pancake Head 2/2 Quadrex Drive screws. Panel is mechanically seamed 180 degrees.	-91.75
2.0MS-S3	Min. 22 ga.	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	2" Butterfly Clip Assembly 24-inches o.c. and attached with two (2) Dekfast™ #12 PH screws. Panel is mechanically seamed 180 degrees.	-91.75

Appendix B

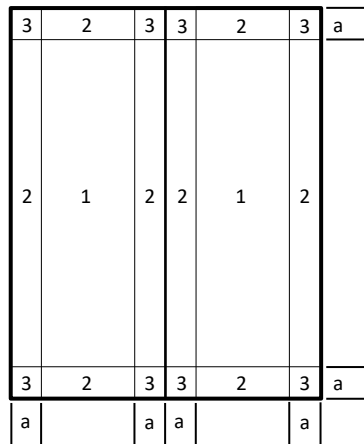
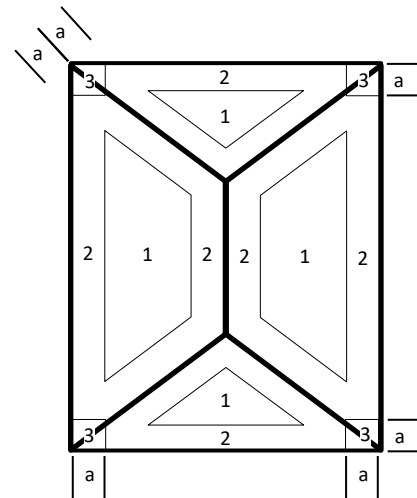
Approved Systems for SMI 2.0" Mechanical Seam over Steel Deck (New or Existing)							
System No.	Deck	Insulation	Underlayment	Moisture/Fire Barrier	Roof Panel	Panel Attachment	MDP (psf)
2.0MS-S4	Min. 22 ga.	-	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	2" Butterfly Clip Assembly 24-inches o.c. and attached with two (2) #12 PH screws. Panel is mechanically seamed 180 degrees.	-96.38
2.0MS-S5	Min. 22 ga.	-	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	2" Butterfly Clip Assembly 6-inches o.c. and attached with two (2) #12 PH screws. Panel is mechanically seamed 180 degrees.	-108.5
2.0MS-S6	Min. 22 ga.	Min. 1 in. <i>Approved</i> polyisocyanurate insulation board	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel Max. 18-inch coverage	2" Butterfly Clip Assembly 6-inches o.c. and attached with two (2) Dekfast™ #12 PH screws. Panel is mechanically seamed 180 degrees.	-123.5

Approved Systems for SMI 2.0” Mechanical Seam over Wood Deck (New or Existing)						
System No.	Deck	Underlayment	Moisture/Fire Barrier	Roof Panel	Panel Attachment	MDP (psf)
2.0MS-W1	Min. 15/32” 3-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel 18-inch coverage	2” Butterfly Clip Assembly secured with two (2) #10 PH wood screws and spaced 24-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-81.38
2.0MS-W2	Min. 15/32” CDX Plywood	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel 18-inch coverage	2” Butterfly Clip Assembly 24-inches o.c. and attached with two (2) Weather Gard® #10 Type A: Pancake Head 2/2 Quadrex Drive screws. Panel is mechanically seamed 180 degrees.	-84.25
2.0MS-W3	Min. 15/32” 3-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 24ga. steel 18-inch coverage	2” Butterfly Clip Assembly secured with two (2) #10 PH wood screws and spaced 16-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-101
2.0MS-W4	Min. 15/32” 4-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 0.038 Al Max. 16-inch coverage	2” 2-Piece Clip Assembly secured with two (2) #10 PH wood screws and spaced 16-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-142.25
2.0MS-W5	Min. 15/32” 4-ply plywood sheathing	As required per FBC	OPTIONAL VersaShield®	Min. 0.038 Al Max. 16-inch coverage	2” 2-Piece Clip Assembly secured with two (2) #10 PH wood screws and spaced 8-inches o.c. along the panel seam. Panel is mechanically seamed 180 degrees.	-153.5

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-ft² 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

Hip


Appendix C

Gable/Hip Roofs in Exposure 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	-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 Exposure C (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 Exposure D (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