Listing and Technical Evaluation Report™

A Duly Authenticated Report from an Approved Agency

Report No: 2411-105

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Subject to Renewal: October 1, 2027

SCI PowerMounts and SCI Standing Seam Clamps Performance for Use in Rooftop Mounted Photovoltaic (PV) Panel Systems

Trade Secret Report Holder:

Solar Connections International (SCI)

Phone: 800-815-7652 Website: solarconnectionsinternational.com Email: info@solarconnections.com

CSI Designations:

DIVISION: 05 00 00 - METALS

Section: 05 05 23 - Metal Fastenings

DIVISION: 06 00 00 - WOOD, PLASTICS AND COMPOSITES

Section: 06 00 90 - Wood and Plastic Fastenings

Section: 06 05 23 - Wood, Plastic, and Composite Fastenings

DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION

Section: 07 40 00 - Roofing and Siding Panels

Section: 07 41 00 - Roof Panels

DIVISION: 13 00 00 SPECIAL CONSTRUCTION

1 Innovative Products Evaluated[1]

1.1 SCI Solar Attachment Solutions:

1.1.1 *PowerMounts:*

1.1.1.1 PM Adjust

1.1.1.2 PM 9000-S

1.1.1.3 PMR1-S

1.1.1.4 *iClamp360:*

1.1.1.4.1 iClamp360 M8

1.1.1.4.2 iClamp360 Cup Point

1.1.1.5 Z-Bracket

1.1.1.6 L-Foot SLT

1.1.2 *PV Cube Standing Seam Clamps:*

1.1.2.1 PV Cube Standard

1.1.2.2 PV Cube Mini

1.1.2.3 PV Cube KLOC

1.1.2.4 PV Cube KLOC Mini

1.1.2.5 PV Cube Wide

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2 Product Description and Materials

2.1 The innovative products evaluated in this report are shown in **Figure 1** for SCI PowerMounts and **Figure 2** for SCI Standing Seam Clamps. See **Table 1** for dimensions. Arrow directions represent allowable axial and lateral loads listed in **Table 2** and **Table 3**.

2.2 SCI Solar Attachment Solutions are manufactured from 6061 T6 aluminum and are used to attach photovoltaic panel systems to roof systems.

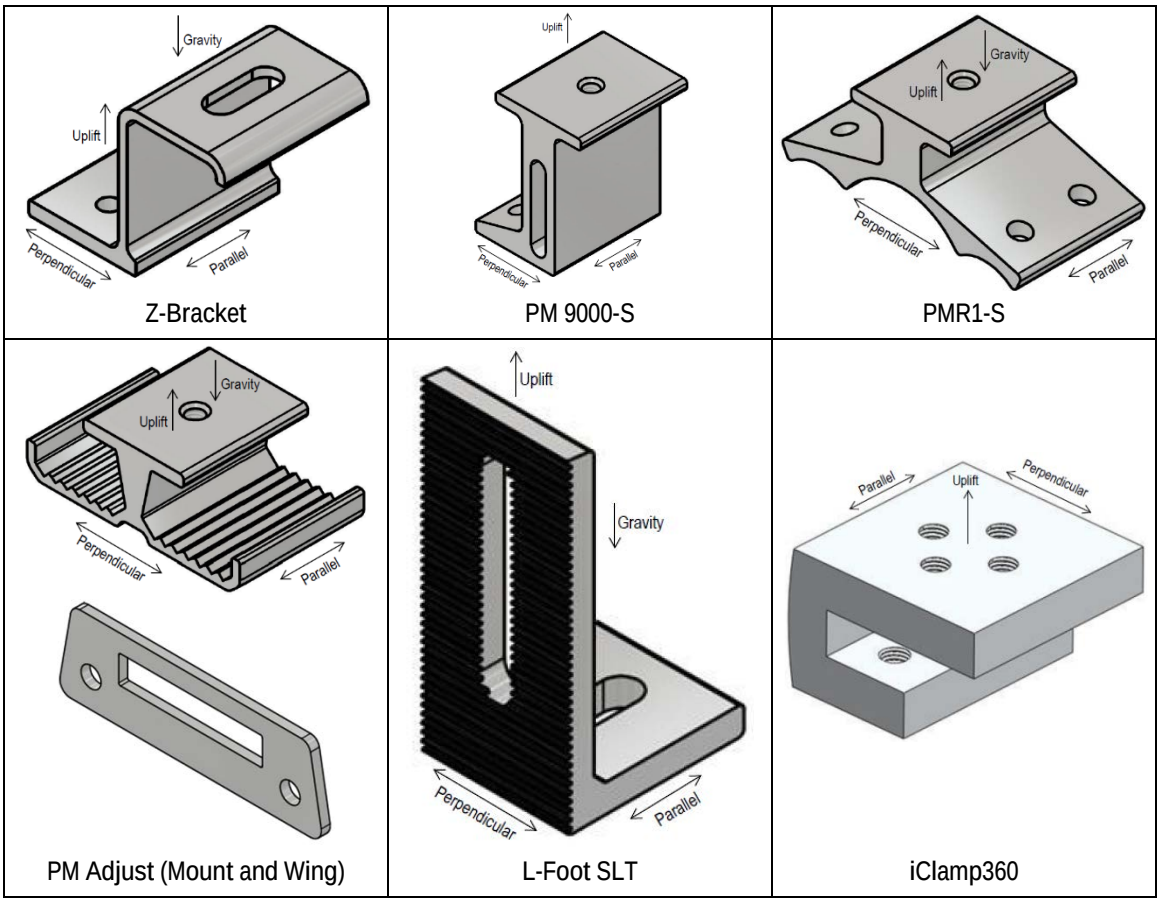

Figure 1. SCI PowerMounts

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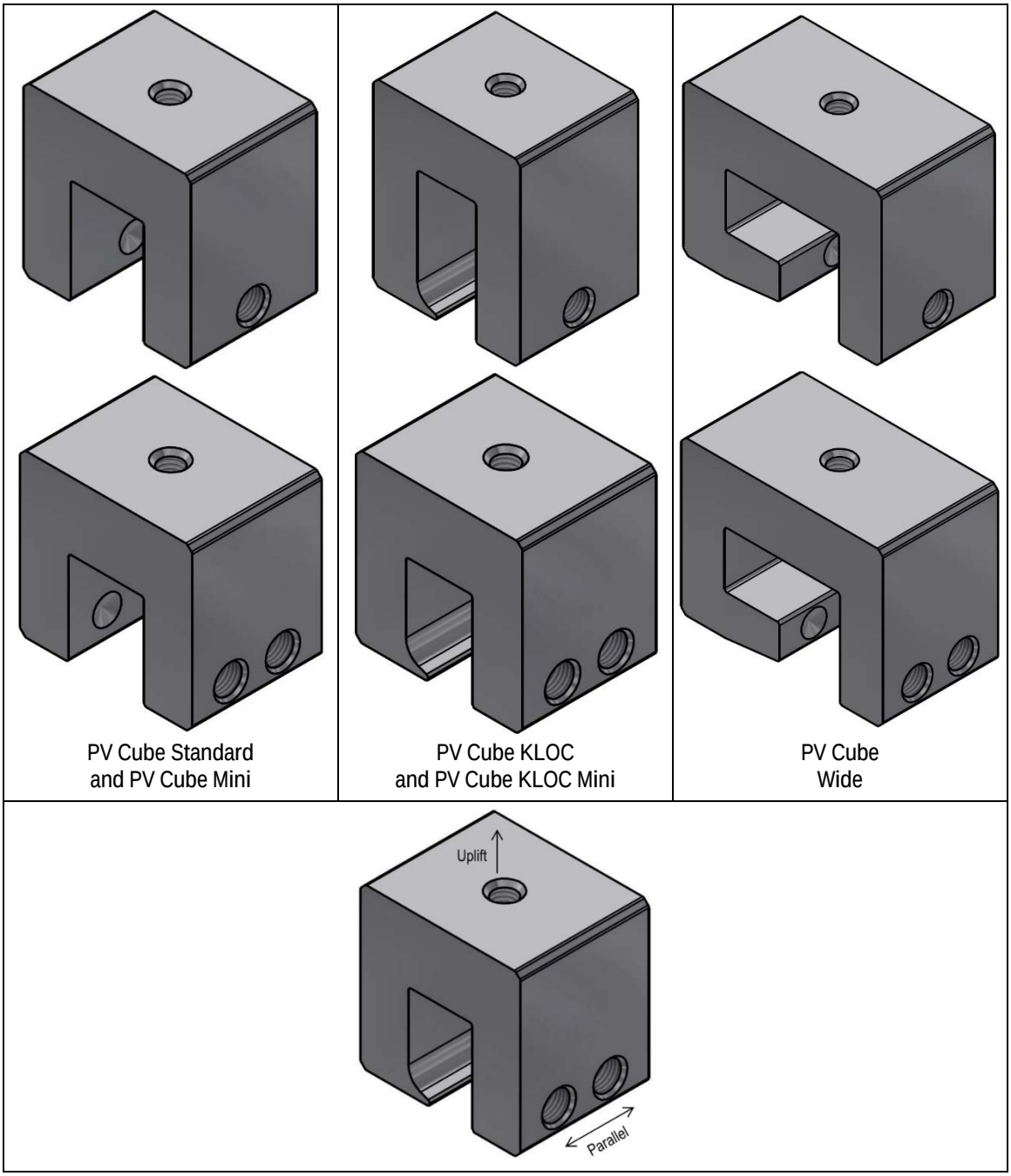

Figure 2. SCI Standing Seam Clamps

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2.2.1 Overall product dimensions of the SCI Solar Attachment Solutions and their corresponding fastening methods are provided in **Table 1**.

2.2.1.1 All fasteners listed in **Table 1** are provided by Solar Connections International.

Table 1. SCI Solar Attachment Solutions Dimensions and Fastening Methods

SCI Products		Overall Product Dimensions (in)			Fastening Methods[1]
		Height	Width	Depth	
Z-Bracket		2.00	2.00	1.50	#14 x 2" Self-Tapping, Type-17, Type A, Dyna-Coat® Coated HWH (Hex Washer Head) Screw with EPDM Washer
					#14 x 1 1/2" T-5 Self-Drilling, Fenderhead® Dyna-Coat® Coated HWH Screw with EPDM Washer
PM 9000-S		2.50	2.00	1.50	#14 x 2" Self-Tapping, Type-17, Type A, Dyna-Coat Coated HWH Screw with EPDM Washer
					#14 x 1 1/2" T-5 Self-Drilling, Fenderhead Dyna-Coat Coated HWH Screw with EPDM Washer
PMR1-S		1.52	3.84	2.00	#14 x 7/8" T-1 Self-Drilling, Stainless Steel Cap HWH Screw with EPDM Washer
PM Adjust		1.25	3.45	2.00	#14 x 7/8" T-1 Self-Drilling, Stainless Steel Cap HWH Screw with EPDM Washer
L-Foot SLT		3.66	1.63	2.00	M8 (1.25" x 20 mm) Stainless Steel Flange Bolt
iClamp360	iClamp360 M8	1.65	2.57	2.59	M8 (1.25" x 25 mm) Stainless Steel Flange Bolt
	iClamp360 Cup Point				3/8"-24 x 1" Stainless Steel Cup Point Set Screw
PV Cube Standard		2.00	2.00	1.50	3/8"-24 x 1 1/2" Stainless Steel Silver Bullet Set Screw
PV Cube Mini		1.88	2.00	1.50	3/8"-24 x 1 1/2" Stainless Steel Silver Bullet Set Screw
PV Cube KLOC		2.30	1.88	1.50	3/8"-24 x 1 1/2" Stainless Steel Silver Bullet Set Screw
PV Cube KLOC Mini		1.88	1.88	1.50	3/8"-24 x 1 1/2" Stainless Steel Silver Bullet Set Screw
PV Cube Wide		2.00	2.63	1.50	3/8"-24 x 1 1/2" Stainless Steel Silver Bullet Set Screw

SI: 1 in = 25.4 mm

1. Fasteners are shown in Figure 3.

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 #14 x 2" Self-Tapping, Type-17, Type A, Dyna-Coat Coated HWH Screw with EPDM Washer	 #14 x 1½" T-5 Self-Drilling, Fenderhead Dyna-Coat Coated HWH Screw with EPDM Washer
 #14 x ⅞" T-1 Self-Drilling, Stainless Steel Cap HWH Screw with EPDM Washer	 L-Foot: M8 (1.25" x 20 mm) Stainless Steel Flange Bolt iClamp360 M8: M8 (1.25" x 25 mm) Stainless Steel Flange Bolt
 ⅜"-24 x 1" Stainless Steel Cup Point Set Screw	 ⅜"-24 x 1½" Stainless Steel Silver Bullet Set Screw

Figure 3. Fasteners for use with SCI Solar Attachment Solutions

2.3 Z-Bracket and PM 9000-S mounts are designed for use on wood roof framing, wood roof sheathing, cold formed steel roof framing, or on roof systems utilizing metal roof panels.

2.3.1 Ethylene Propylene Diene Monomer (EPDM) gaskets are pre-applied to the bottom-side of the base of the Z-Brackets and PM 9000-S mounts.

2.4 PMR1-S Mounts are designed for use on roof systems utilizing S-style corrugated metal roof panels.

2.4.1 EPDM gaskets are pre-applied bottom-side of the outer wings.

2.5 PM Adjust Mounts are designed for use on roof systems utilizing corrugated metal roof panels.

2.5.1 The loose wing component of the PM Adjust provides the capability of adjusting to any corrugation angle or width from ¾" to 3" wide.

2.5.2 EPDM gaskets are pre-applied to the loose wing components.

2.6 L-Foot SLT is designed to be installed onto any SCI PowerMounts or SCI PV Cube Standing Seam Clamps.

2.7 iClamp360 is designed to be installed onto steel beams or steel channels.

2.7.1 Thickness of the flanges of the steel beams or steel channels shall be ⅜" thick.

2.8 SCI PV Cube Standing Seam Clamps are designed for use on roof systems utilizing standing seam metal roof panels.

2.8.1 Compatible metal panel seams with SCI PV Cube Standing Seam Clamps are shown in **Figure 4** through **Figure 8**.

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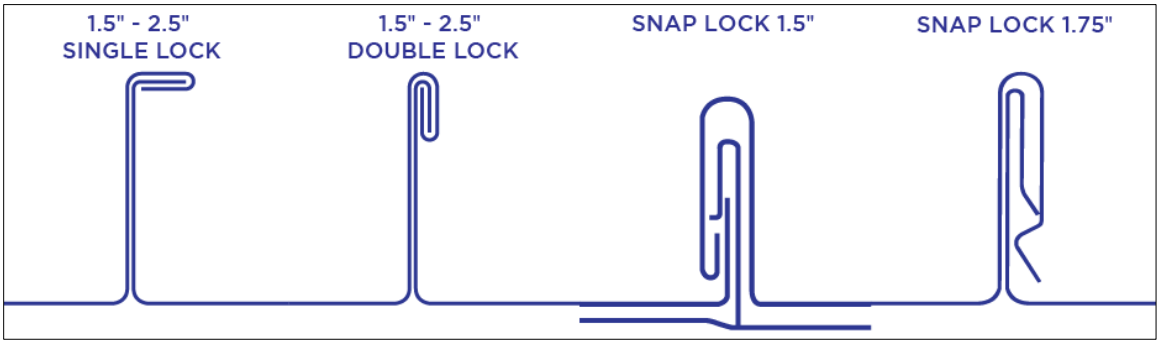

Figure 4. Compatible Panel Seams – PV Cube Standard

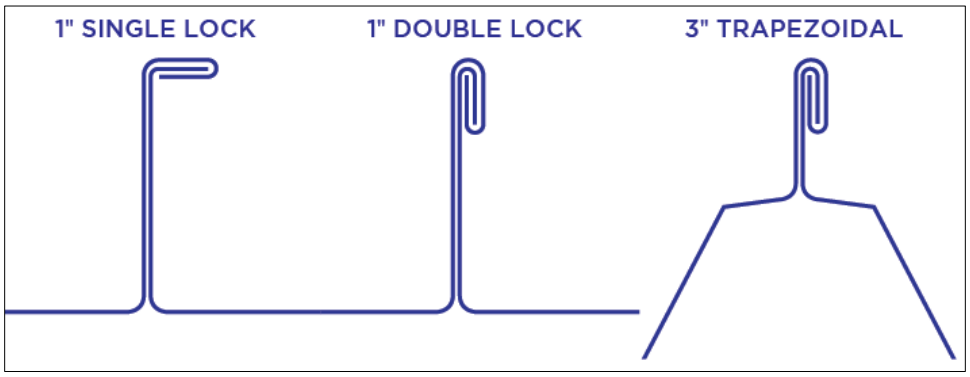

Figure 5. Compatible Panel Seams – PV Cube Mini

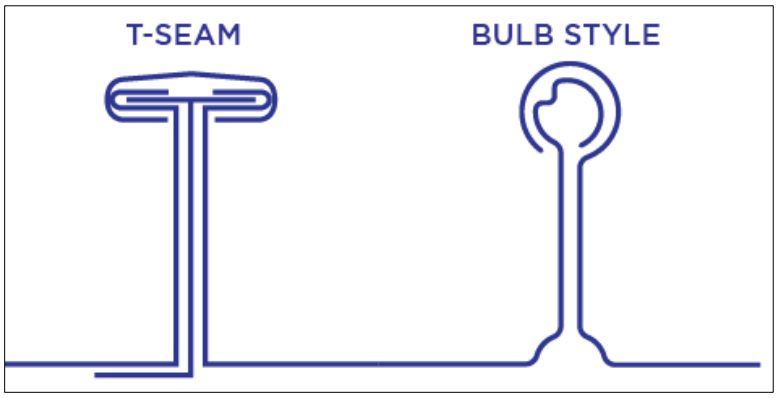

Figure 6. Compatible Panel Seams – PV Cube Wide

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Figure 7. Compatible Panel Seams – PV Cube KLOC

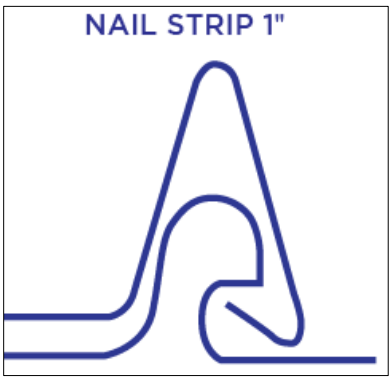

Figure 8. Compatible Panel Seams – PV Cube KLOC Mini

2.9 As needed, review material properties for design in **Section 6** and the regulatory evaluation in **Section 8**.

3 Definitions[2]

3.1 New Materials[3] are defined as building materials, equipment, appliances, systems, or methods of construction, not provided for by prescriptive and/or legislatively adopted regulations, known as alternative materials.[4] The design strength and permissible stresses shall be established by tests[5] and/or engineering analysis.[6]

3.2 Duly authenticated reports[7] and research reports[8] are test reports and related engineering evaluations that are written by an approved agency[9] and/or an approved source.[10]

3.2.1 This report utilizes intellectual property and/or trade secrets to create public domain material properties for commercial end-use.

3.2.1.1 This report protects confidential Intellectual Property and trade secrets under the regulation, 18.US.Code.90, also known as Defend Trade Secrets Act of 2016 (DTSA).[11]

3.3 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited. DrJ Engineering, LLC (DrJ) is accredited and listed in the ANAB directory.

3.4 An approved source is *"approved"* when a professional engineer (i.e., Registered Design Professional, hereinafter RDP) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the state legislature via its professional engineering regulations.[12]

3.5 Testing and/or inspections conducted for this duly authenticated report were performed by an ISO/IEC 17025 accredited testing laboratory, an ISO/IEC 17020 accredited inspection body, and/or a licensed RDP.

3.5.1 The Center for Building Innovation (CBI) is ANAB[13] ISO/IEC 17025 and ISO/IEC 17020 accredited.

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3.6 The regulatory authority shall enforce[14] the specific provisions of each legislatively adopted regulation. If there is a non-conformance, the specific regulatory section and language of the non-conformance shall be provided in writing[15] stating the nonconformance and the path to its cure.

3.7 The regulatory authority shall accept duly authenticated reports from an approved agency and/or an approved source with respect to the quality and manner of use of new materials or assemblies as provided for in regulations regarding the use of alternative materials, designs, or methods of construction.[16]

3.8 ANAB is an International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA) signatory. Therefore, recognition of certificates and validation statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope shall be approved.[17] Thus, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent,[18] and can be used in any country that is an MLA signatory found at this link: https://iaf.nu/en/recognised-abs/

3.9 Approval equity is a fundamental commercial and legal principle.[19]

4 Applicable Local, State, and Federal Approvals; Standards; Regulations[20]

4.1 *Local, State, and Federal*

4.1.1 Approved in all local jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured local jurisdictions: Austin, Baltimore, Broward County, Chicago, Clark County, Dade County, Dallas, Detroit, Denver, DuPage County, Fort Worth, Houston, Kansas City, King County, Knoxville, Las Vegas, Los Angeles City, Los Angeles County, Miami, Nashville, New York City, Omaha, Philadelphia, Phoenix, Portland, San Antonio, San Diego, San Jose, San Francisco, Seattle, Sioux Falls, South Holland, St. Louis County, Texas Department of Insurance, and Wichita.[21]

4.1.2 Approved in all state jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured states: California, Florida, New Jersey, Oregon, New York, Texas, Washington, and Wisconsin.[22]

4.1.3 Approved by the Code of Federal Regulations Manufactured Home Construction: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14[23] and Part 3280[24] pursuant to the use of ISO/IEC 17065 duly authenticated reports.

4.1.4 Approved means complying with the requirements of local, state, or federal legislation.

4.2 *Regulations*

4.2.1 *IBC – 18, 21, 24: International Building Code®*

4.2.2 *IRC – 18, 21, 24: International Residential Code®*

4.2.3 *FBC-B – 20, 23: Florida Building Code[25] – Building (FL47698)*

4.2.4 *FBC-R – 20, 23: Florida Building Code[25] – Residential (FL47698)*

4.3 *Standards*

4.3.1 *AISI S100: North American Specification for the Design of Cold-formed Steel Structural Members*

4.3.2 *ANSI/AWC NDS: National Design Specification (NDS) for Wood Construction*

4.3.3 *ANSI/SDI-RD: Standard for Steel Roof Deck*

4.3.4 *ASTM D1761: Standard Test Methods for Mechanical Fasteners in Wood*

4.3.5 *TAS 100: Test Procedure for Wind and Wind Driven Rain Resistance of Discontinuous Roof Systems*

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5 Listed[26]

5.1 Equipment, materials, products, or services included in a List published by a nationally recognized testing laboratory (e.g., CBI), an approved agency (e.g., CBI and DrJ), and/or an approved source (e.g., DrJ), or other organization(s) concerned with product evaluation (e.g., DrJ), that maintains periodic inspection (e.g., CBI) of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

6 Tabulated Properties Generated from Nationally Recognized Standards

6.1 *Structural Applications*

6.1.1 SCI Solar Attachment Solutions are designed to transfer uplift and lateral loads and are permitted to be used on structures regulated under IRC when an engineered design is provided per IRC Section R301.1.3.

6.1.1.1 Allowable axial and lateral loads for SCI PowerMounts are provided in **Table 2**.

Table 2. SCI PowerMount Connection Allowable Capacities

Product	Substrate Type[1,2,3,4,5,6]	Fastener	Allowable (ASD) Connection Capacity (lb)			
			Uplift	Gravity	Lateral	
			Normal	Normal	Parallel	Perpendicular
Z-Bracket	Sawn Lumber	#14 x 2" Self-Tapping, Type-17, Type A, Dyna-Coat Coated HWH Screw with EPDM Washer	425	310	255	50
	7/16" OSB[10]		150	110	140	40
	20-gauge CFS[11] Stud	#14 x 1 1/2" T-5 Self-Drilling, Fenderhead Dyna-Coat Coated HWH Screw with EPDM Washer	200	300	105	40
	22-gauge Steel Deck		215	360	90	35
PM 9000-S	Sawn Lumber	#14 x 2" Self-Tapping Type-17, Type A, Dyna-Coat Coated HWH Screw with EPDM Washer	615	See Note 9 Below	225	50
	7/16" OSB		145		105	40
	20-gauge CFS Stud	#14 x 1 1/2" T-5 Self-Drilling, Fenderhead Dyna-Coat Coated HWH Screw with EPDM Washer	200		75	20
	22-gauge Steel Deck		170		40	15
PMR1-S	26-gauge Corrugated Metal Roof Panel	#14 x 7/8" T-1 Self-Drilling, Stainless Steel Cap HWH Screw with EPDM Washer	495	580	445	600
PM Adjust	26-gauge Corrugated Metal Roof Panel	#14 x 7/8" T-1 Self-Drilling, Stainless Steel Cap HWH Screw with EPDM Washer	390	655	435	110
L-Foot SLT[1]	1/4" Steel Plate	M8 (1.25" x 20 mm) Stainless Steel Flange Bolt	345	490	365	185
iClamp360[7,8]	3/8" Hot-Dipped Galvanized Steel Plate	M8 (1.25" x 25 mm) Stainless Steel Flange Bolt	1,850	1,850	1,040	990
		3/8" - 24 x 1" Stainless Steel Cup Point Set Screw	2,245	2,245	1,250	1,600

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Table 2. SCI PowerMount Connection Allowable Capacities

Product	Substrate Type[1,2,3,4,5,6]	Fastener	Allowable (ASD) Connection Capacity (lb)			
			Uplift	Gravity	Lateral	
			Normal	Normal	Parallel	Perpendicular

SI: 1 in = 25.4 mm, 1 ft = 0.305 m, 1 lb = 4.45 N, 1 lb-in = 113 N-mm

1. Sawn lumber shall have a minimum published specific gravity of 0.42.
2. CFS studs shall have a minimum yield strength of 33-ksi.
3. The base metal of the 22-gauge corrugated steel deck shall be minimum ASTM A653 SS Grade 40.
4. The base metal of the 26-gauge corrugated steel deck shall be minimum ASTM A1008 SS Grade 60.
5. The base metal of the 26-gauge S-style corrugated steel deck shall be minimum ASTM A1008 SS Grade 80.
6. Steel plates shall conform to ASTM A123.
7. iClamp360 mounts must be used as multiple mounting points in alternating orientations in the assembly.
8. Installed torque requirement for the L-Foot SLT and iClamp360 shall be in accordance with the manufacturer installation instructions.
9. The allowable gravity load is controlled by substrate. The substrate and roof structure shall be verified by an RDP.
10. OSB = Oriented Strand Board
11. CFS = Cold-Formed Steel

6.1.2 Allowable axial and lateral loads for SCI PV Cube Standing Seam Clamps are provided in **Table 3**.

Table 3. SCI PV Cube Connection Allowable Capacities

Product	Substrate Type	Fastener[1]	Allowable (ASD) Connection Capacity[2] (lb)	
			Uplift	Lateral
				Parallel
PV Cube Standard	22-gauge Steel Deck	2 Set Screw	705	935
	24-gauge Steel Deck		500	585
	0.032 Aluminum		435	800
PV Cube Mini	22-gauge Steel Deck	1 Set Screw	465	400
	24-gauge Steel Deck		375	420
	26-gauge Steel Deck		375	265
PV Cube KLOC	24-gauge Steel Deck	2 Set Screw	610	540
PV Cube KLOC Mini	26-gauge Steel Deck	1 Set Screw	375	265
		2 Set Screw	535	540
PV cube Wide	22-gauge Steel Deck	1 Set Screw	475	495
		2 Set Screw	590	610
	24-gauge Steel Deck	1 Set Screw	480	510
		2 Set Screw	560	625
	0.032 Aluminum	1 Set Screw	335	465
		2 Set Screw	640	800

SI: 1 in = 25.4 mm, 1 ft = 0.305 m, 1 lb = 4.45 N, 1 lb-in = 113 N-mm

1. Installed torque requirement shall be in accordance with the manufacturer installation instructions.
2. Applicable to all PV Cube Standing Seam Clamps listed in Section 1.1.2.

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6.2 *Maximum Spacing of SCI PV Cube*

6.2.1 **Table 4** through **Table 15** are applicable for all PV Cube Standing Seam Clamps listed in **Section 1.1.2** when installed with 1 set screw.

6.2.2 **Table 16** through **Table 27** are applicable for all PV Cube Standing Seam Clamps listed in **Section 1.1.2** when installed with 2 set screws.

6.2.3 Spacing values were based the methodology in ASCE 7 and were grounded on the following assumptions:

6.2.3.1 *ASCE 7 Parameter Assumptions:*

6.2.3.1.1 Building height of 60 ft; an effective wind area (e.g., 10 ft^2) that will result in the largest external pressure coefficient, GC_p, per roof zones

6.2.3.1.2 Topographic factor, K_{zt}, of 1.0

6.2.3.1.3 Ground elevation factor, K_e, of 1.0

6.2.3.1.4 Wind directionality factor, K_d, of 1.0

6.2.3.1.5 Internal pressure coefficient, GC_{pi}, of 0

6.2.3.1.6 Array edge factor, γ_E, of 1.0

6.2.3.1.7 Solar panel pressure equalization factor, γ_a, of 0.6

6.2.3.1.8 Parapet height factor, γ_p, of 0.9

6.2.3.1.9 Panel chord factor, γ_c, of 0.8

6.2.3.1.10 Panel width of 68" and panel chord length of 43"

6.2.4 *One Set Screw Installation on 26-Gauge Metal Roof Panels - ≤ 30-psf Ground Snow Load ($P_{g,snow}$):*

6.2.4.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 4**.

6.2.4.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are provided in **Table 5**.

6.2.4.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are specified in **Table 6**.

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Table 4. Required Spacing (in. o.c.) for all PV Cube Standing Seam Clamps per **Section 1.1.2** with 1 Set Screw Installed on 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 30-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	47	48	48	43	48	40	35	45	34	30	39	29	25
			7° < θ ≤ 20°	48	45	34	48	40	30	48	36	27	44	33	25	36	27	20	31	23	17	26	20	15
			20° < θ ≤ 27°	48	48	41	48	43	36	48	39	33	48	35	30	48	29	24	41	25	21	35	21	18
			27° < θ ≤ 45°	48	48	48	48	48	43	48	48	39	48	44	35	40	36	29	34	31	25	29	26	21
	C		θ ≤ 7°	48	48	43	48	44	39	48	40	35	48	36	31	40	30	26	33	25	22	28	21	19
			7° < θ ≤ 20°	45	33	25	40	30	22	36	27	20	32	24	18	27	20	15	23	17	13	19	14	11
			20° < θ ≤ 27°	48	36	30	48	32	27	48	29	24	43	26	22	36	22	18	30	18	15	26	16	13
			27° < θ ≤ 45°	48	45	36	44	40	32	40	36	29	36	32	26	30	27	22	25	23	18	21	19	16
	D		θ ≤ 7°	48	43	37	48	38	33	45	34	30	41	31	27	34	26	22	29	22	19	25	19	16
			7° < θ ≤ 20°	38	29	22	34	26	19	31	23	17	28	21	16	23	17	13	20	15	11	17	13	10
			20° < θ ≤ 27°	48	31	26	46	28	23	41	25	21	37	22	19	31	19	16	26	16	13	22	13	11
			27° < θ ≤ 45°	43	38	31	38	34	28	34	31	25	31	28	22	26	23	19	22	20	16	19	17	13
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 30-psf	B	Roof/Panel Angle	θ ≤ 7°	33	25	22	29	22	19	26	19	17	23	17	15	20	15	13	18	14	12	17	13	11
			7° < θ ≤ 20°	23	17	13	20	15	11	17	13	10	16	12	9	14	10	8	13	9	7	11	9	7
			20° < θ ≤ 27°	30	18	15	26	16	13	23	14	12	21	13	11	18	11	9	17	10	9	15	9	8
			27° < θ ≤ 45°	25	23	18	22	20	16	19	17	14	17	16	13	15	14	11	14	13	10	13	11	9
	C		θ ≤ 7°	25	19	16	22	16	14	19	14	13	17	13	11	15	11	10	14	10	9	12	9	8
			7° < θ ≤ 20°	17	13	10	15	11	8	13	10	7	12	9	7	10	8	-	9	7	-	8	-	-
			20° < θ ≤ 27°	22	14	11	19	12	10	17	10	9	15	9	8	14	8	7	12	8	-	11	7	-
			27° < θ ≤ 45°	19	17	14	16	15	12	14	13	10	13	12	9	11	10	8	10	9	8	9	8	7
	D		θ ≤ 7°	21	16	14	19	14	12	16	12	11	15	11	10	13	10	9	12	9	8	11	8	7
			7° < θ ≤ 20°	14	11	8	13	10	7	11	8	-	10	8	-	9	7	-	8	-	-	7	-	-
			20° < θ ≤ 27°	19	12	10	17	10	9	15	9	8	13	8	7	12	7	-	11	7	-	10	-	-
			27° < θ ≤ 45°	16	14	12	14	13	10	12	11	9	11	10	8	10	9	7	9	8	7	8	7	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 5. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 30-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	47	48	48	43	48	40	35	45	34	30	39	29	25
			7° < θ ≤ 20°	48	48	47	48	45	42	48	41	38	48	37	34	40	30	28	34	26	24	29	22	20
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	44	44	48	36	36	44	31	31	37	26	26
			27° < θ ≤ 45°	48	48	48	48	48	45	48	48	41	48	48	37	48	40	30	41	34	26	35	29	22
	C		θ ≤ 7°	48	48	43	48	44	39	48	40	35	48	36	31	40	30	26	33	25	22	28	21	19
			7° < θ ≤ 20°	48	37	35	44	33	31	40	30	28	36	27	25	30	22	21	25	19	18	21	16	15
			20° < θ ≤ 27°	48	45	45	48	40	40	48	36	36	46	32	32	38	27	27	32	23	23	27	19	19
			27° < θ ≤ 45°	48	48	37	48	44	33	48	40	30	43	36	27	36	30	22	30	25	19	26	21	16
	D		θ ≤ 7°	48	43	37	48	38	33	45	34	30	41	31	27	34	26	22	29	22	19	25	19	16
			7° < θ ≤ 20°	43	32	30	38	29	27	34	26	24	31	23	22	26	19	18	22	16	15	19	14	13
			20° < θ ≤ 27°	48	38	38	48	34	34	44	31	31	40	28	28	33	23	23	28	20	20	24	17	17
			27° < θ ≤ 45°	48	43	32	46	38	29	41	34	26	37	31	23	31	26	19	26	22	16	22	19	14

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 30-psf	B	Roof/Panel Angle	θ ≤ 7°	33	25	22	29	22	19	26	19	17	23	17	15	20	15	13	18	14	12	17	13	11
			7° < θ ≤ 20°	25	19	18	22	17	15	19	15	14	17	13	12	15	12	11	14	11	10	13	10	9
			20° < θ ≤ 27°	32	23	23	28	20	20	25	17	17	22	16	16	20	14	14	18	13	13	16	11	11
			27° < θ ≤ 45°	30	25	19	26	22	17	23	19	15	21	17	13	18	15	12	17	14	11	15	13	10
	C		θ ≤ 7°	25	19	16	22	16	14	19	14	13	17	13	11	15	11	10	14	10	9	12	9	8
			7° < θ ≤ 20°	19	14	13	16	12	11	14	11	10	13	10	9	11	9	8	10	8	7	9	7	7
			20° < θ ≤ 27°	24	17	17	21	15	15	18	13	13	16	12	12	15	10	10	13	9	9	12	8	8
			27° < θ ≤ 45°	22	19	14	19	16	12	17	14	11	15	13	10	14	11	9	12	10	8	11	9	7
	D		θ ≤ 7°	21	16	14	19	14	12	16	12	11	15	11	10	13	10	9	12	9	8	11	8	7
			7° < θ ≤ 20°	16	12	11	14	11	10	12	9	9	11	8	8	10	8	7	9	7	-	8	-	-
			20° < θ ≤ 27°	20	14	14	18	13	13	16	11	11	14	10	10	13	9	9	11	8	8	10	7	7
			27° < θ ≤ 45°	19	16	12	17	14	11	15	12	9	13	11	8	12	10	8	11	9	7	10	8	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 6. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 30-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	46	48	48	42	48	48	38	48	45	31	48	38	26	45	32	23
			10° < θ ≤ 30°	48	48	42	48	48	38	48	48	34	48	48	31	48	45	25	47	38	21	40	33	18
	C		3° < θ ≤ 10°	48	48	38	48	48	34	48	44	31	48	40	28	46	33	23	38	28	19	33	24	17
			10° < θ ≤ 30°	48	48	31	48	48	28	48	45	25	48	40	23	41	33	19	35	28	16	30	24	14
	D		3° < θ ≤ 10°	48	47	33	48	42	29	48	38	26	47	34	24	39	28	20	33	24	17	28	21	14
			10° < θ ≤ 30°	48	48	27	48	43	24	47	38	21	43	35	19	35	29	16	30	24	14	25	21	12
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 30-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	38	28	19	34	24	17	30	21	15	26	19	13	23	17	12	21	15	11	19	14	10
			10° < θ ≤ 30°	35	28	16	30	25	14	27	22	12	24	19	11	21	17	10	19	16	9	17	14	8
	C		3° < θ ≤ 10°	28	21	14	25	18	13	22	16	11	19	14	10	17	13	9	16	11	8	14	10	7
			10° < θ ≤ 30°	26	21	12	22	18	10	20	16	9	18	14	8	16	13	7	14	12	7	13	10	-
	D		3° < θ ≤ 10°	24	18	12	21	16	11	19	14	10	17	12	9	15	11	8	13	10	7	12	9	-
			10° < θ ≤ 30°	22	18	10	19	16	9	17	14	8	15	12	7	14	11	-	12	10	-	11	9	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.2.5 *One Set Screw Installation on 24-Gauge Metal Roof Panels - ≤ 60-psf Ground Snow Load ($P_{g,snow}$):*

6.2.5.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 7**.

6.2.5.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are provided in **Table 8**.

6.2.5.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are specified in **Table 9**.

Table 7. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 24-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	46	48	48	41	48	43	37	47	36	31	40	30	26	34	26	22
			7° < θ ≤ 20°	48	40	30	48	36	27	43	32	24	39	29	22	32	24	18	27	20	15	23	17	13
			20° < θ ≤ 27°	48	43	36	48	38	32	48	34	29	48	31	26	43	26	22	36	22	18	31	19	16
			27° < θ ≤ 45°	42	42	42	42	42	38	42	42	34	42	39	31	36	32	26	30	27	22	26	23	19
	C		θ ≤ 7°	48	44	38	48	39	34	47	35	31	42	32	28	35	26	23	29	22	19	25	19	17
			7° < θ ≤ 20°	39	29	22	35	26	20	32	24	18	29	21	16	24	18	13	20	15	11	17	13	10
			20° < θ ≤ 27°	48	32	26	47	28	24	42	25	21	38	23	19	31	19	16	27	16	14	23	14	12
			27° < θ ≤ 45°	44	39	32	39	35	28	35	32	25	32	29	23	26	24	19	22	20	16	19	17	14
	D		θ ≤ 7°	48	38	33	45	34	29	40	30	26	36	27	24	30	23	20	25	19	17	22	16	14
			7° < θ ≤ 20°	34	25	19	30	23	17	27	20	15	25	18	14	20	15	12	17	13	10	15	11	8
			20° < θ ≤ 27°	45	27	23	40	24	20	36	22	18	33	20	17	27	16	14	23	14	12	20	12	10
			27° < θ ≤ 45°	38	34	27	34	30	24	30	27	22	27	25	20	23	20	16	19	17	14	16	15	12
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	29	22	19	26	19	17	23	17	15	20	15	13	18	14	12	16	12	11	15	11	10
			7° < θ ≤ 20°	20	15	11	18	13	10	15	12	9	14	10	8	12	9	7	11	8	-	10	8	-
			20° < θ ≤ 27°	27	16	14	23	14	12	20	12	10	18	11	9	16	10	8	15	9	8	13	8	7
			27° < θ ≤ 45°	22	20	16	19	18	14	17	15	12	15	14	11	14	12	10	12	11	9	11	10	8
	C		θ ≤ 7°	22	16	14	19	14	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7
			7° < θ ≤ 20°	15	11	8	13	10	7	11	9	7	10	8	-	9	7	-	8	-	-	8	-	-
			20° < θ ≤ 27°	20	12	10	17	10	9	15	9	8	13	8	7	12	7	-	11	7	-	10	-	-
			27° < θ ≤ 45°	16	15	12	14	13	10	13	11	9	11	10	8	10	9	7	9	8	7	8	8	-
	D		θ ≤ 7°	19	14	12	16	12	11	14	11	10	13	10	9	12	9	8	10	8	7	9	7	-
			7° < θ ≤ 20°	13	10	7	11	8	-	10	7	-	9	7	-	8	-	-	7	-	-	7	-	-
			20° < θ ≤ 27°	17	10	9	15	9	8	13	8	7	12	7	-	10	-	-	9	-	-	9	-	-
			27° < θ ≤ 45°	14	13	10	12	11	9	11	10	8	10	9	7	9	8	-	8	7	-	7	7	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 8. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 24-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	46	48	48	41	48	43	37	47	36	31	40	30	26	34	26	22
			7° < θ ≤ 20°	48	45	41	48	40	37	48	36	33	43	32	30	36	27	25	30	23	21	26	19	18
			20° < θ ≤ 27°	48	48	48	48	48	48	48	43	43	48	39	39	46	32	32	38	27	27	33	23	23
			27° < θ ≤ 45°	42	42	42	42	42	40	42	42	36	42	42	32	42	36	27	36	30	23	31	26	19
	C		θ ≤ 7°	48	44	38	48	39	34	47	35	31	42	32	28	35	26	23	29	22	19	25	19	17
			7° < θ ≤ 20°	44	33	30	39	29	27	35	26	24	32	24	22	26	20	18	22	17	16	19	14	13
			20° < θ ≤ 27°	48	39	39	48	35	35	45	32	32	41	29	29	34	24	24	28	20	20	24	17	17
			27° < θ ≤ 45°	46	44	33	46	39	29	42	35	26	38	32	24	31	26	20	27	22	17	23	19	14
	D		θ ≤ 7°	48	38	33	45	34	29	40	30	26	36	27	24	30	23	20	25	19	17	22	16	14
			7° < θ ≤ 20°	38	28	26	34	25	23	30	23	21	27	21	19	23	17	16	19	14	13	16	12	11
			20° < θ ≤ 27°	48	34	34	43	30	30	39	27	27	35	25	25	29	20	20	24	17	17	21	15	15
			27° < θ ≤ 45°	45	38	28	40	34	25	36	30	23	33	27	21	27	23	17	23	19	14	20	16	12
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	29	22	19	26	19	17	23	17	15	20	15	13	18	14	12	16	12	11	15	11	10
			7° < θ ≤ 20°	22	17	16	19	15	14	17	13	12	15	12	11	14	10	10	12	9	9	11	8	8
			20° < θ ≤ 27°	28	20	20	25	18	18	22	15	15	19	14	14	17	12	12	16	11	11	14	10	10
			27° < θ ≤ 45°	27	22	17	23	19	15	20	17	13	18	15	12	16	14	10	15	12	9	13	11	8
	C		θ ≤ 7°	22	16	14	19	14	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7
			7° < θ ≤ 20°	16	12	12	14	11	10	13	10	9	11	9	8	10	8	7	9	7	-	8	-	-
			20° < θ ≤ 27°	21	15	15	18	13	13	16	11	11	14	10	10	13	9	9	12	8	8	11	8	8
			27° < θ ≤ 45°	20	16	12	17	14	11	15	13	10	13	11	9	12	10	8	11	9	7	10	8	-
	D		θ ≤ 7°	19	14	12	16	12	11	14	11	10	13	10	9	12	9	8	10	8	7	9	7	-
			7° < θ ≤ 20°	14	11	10	12	9	9	11	8	8	10	7	7	9	7	-	8	-	-	7	-	-
			20° < θ ≤ 27°	18	13	13	16	11	11	14	10	10	12	9	9	11	8	8	10	7	7	9	7	7
			27° < θ ≤ 45°	17	14	11	15	12	9	13	11	8	12	10	7	10	9	7	9	8	-	9	7	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 9. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 24-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	46	48	48	41	48	48	37	48	48	33	48	40	28	46	33	23	39	28	20
			10° < θ ≤ 30°	48	48	37	48	48	33	48	48	30	48	48	27	48	40	22	41	34	19	35	29	16
	C		3° < θ ≤ 10°	48	48	34	48	43	30	48	39	27	48	35	25	40	29	20	34	25	17	29	21	15
			10° < θ ≤ 30°	48	48	27	48	44	24	48	39	22	44	36	20	36	30	17	31	25	14	26	21	12
	D		3° < θ ≤ 10°	48	42	29	48	37	26	46	33	23	42	30	21	35	25	18	29	21	15	25	18	13
			10° < θ ≤ 30°	48	42	24	46	38	21	42	34	19	38	31	17	31	25	14	26	21	12	22	18	10
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	34	25	17	30	22	15	26	19	13	23	17	12	21	15	11	19	14	10	17	12	9
			10° < θ ≤ 30°	31	25	14	27	22	12	24	19	11	21	17	10	19	15	9	17	14	8	15	12	7
	C		3° < θ ≤ 10°	25	18	13	22	16	11	19	14	10	17	13	9	15	11	8	14	10	7	13	9	7
			10° < θ ≤ 30°	23	18	10	20	16	9	17	14	8	15	13	7	14	11	-	12	10	-	11	9	-
	D		3° < θ ≤ 10°	22	16	11	19	14	10	17	12	9	15	11	8	13	10	7	12	9	-	11	8	-
			10° < θ ≤ 30°	19	16	9	17	14	8	15	12	7	13	11	-	12	10	-	11	9	-	10	8	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.2.6 *One Set Screw Installation on 22-Gauge Metal Roof Panels - ≤ 60-psf Ground Snow Load ($P_{g,snow}$):*

6.2.6.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 10**.

6.2.6.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are outlined in **Table 11**.

6.2.6.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are provided in **Table 12**.

Table 10. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 22-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	44	48	42	37	48	36	31
			7° < θ ≤ 20°	48	48	42	48	48	37	48	45	34	48	40	30	45	34	25	38	28	21	32	24	18
			20° < θ ≤ 27°	48	48	48	48	48	45	48	48	40	48	44	36	48	36	30	48	30	25	43	26	22
			27° < θ ≤ 45°	40	40	40	40	40	40	40	40	40	40	40	40	40	40	36	40	38	30	36	32	26
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	43	48	44	39	48	37	32	41	31	27	35	27	23
			7° < θ ≤ 20°	48	41	31	48	37	28	44	33	25	40	30	22	33	25	19	28	21	16	24	18	14
			20° < θ ≤ 27°	48	44	37	48	40	33	48	36	30	48	32	27	44	27	22	37	22	19	32	19	16
			27° < θ ≤ 45°	43	43	43	43	43	40	43	43	36	43	40	32	37	33	27	31	28	22	27	24	19
	D		θ ≤ 7°	48	48	46	48	47	41	48	42	37	48	38	33	42	32	28	35	27	23	30	23	20
			7° < θ ≤ 20°	47	35	27	42	32	24	38	28	21	34	26	19	29	21	16	24	18	14	21	15	12
			20° < θ ≤ 27°	48	38	32	48	34	28	48	31	26	46	28	23	38	23	19	32	19	16	27	17	14
			27° < θ ≤ 45°	47	47	38	47	42	34	42	38	31	38	34	28	32	29	23	27	24	19	23	21	17
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	41	31	27	36	27	24	32	24	21	28	21	19	25	19	17	23	17	15	20	15	14
			7° < θ ≤ 20°	28	21	16	24	18	14	22	16	12	19	14	11	17	13	10	15	12	9	14	10	8
			20° < θ ≤ 27°	37	23	19	32	20	16	29	17	15	25	15	13	23	14	12	20	12	10	18	11	9
			27° < θ ≤ 45°	31	28	23	27	24	20	24	22	17	21	19	15	19	17	14	17	15	12	15	14	11
	C		θ ≤ 7°	30	23	20	27	20	18	23	18	15	21	16	14	19	14	12	17	13	11	15	11	10
			7° < θ ≤ 20°	21	15	12	18	14	10	16	12	9	14	11	8	13	10	7	11	9	7	10	8	-
			20° < θ ≤ 27°	27	17	14	24	15	12	21	13	11	19	11	10	17	10	9	15	9	8	14	8	7
			27° < θ ≤ 45°	23	21	17	20	18	15	18	16	13	16	14	11	14	13	10	13	11	9	11	10	8
	D		θ ≤ 7°	26	20	17	23	17	15	20	15	13	18	14	12	16	12	11	14	11	10	13	10	9
			7° < θ ≤ 20°	18	13	10	16	12	9	14	10	8	12	9	7	11	8	-	10	7	-	9	7	-
			20° < θ ≤ 27°	24	14	12	21	13	11	18	11	9	16	10	8	14	9	7	13	8	7	12	7	-
			27° < θ ≤ 45°	20	18	14	17	16	13	15	14	11	14	12	10	12	11	9	11	10	8	10	9	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 11. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 22-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	44	48	42	37	48	36	31
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	46	48	45	42	48	38	35	42	32	29	36	27	25
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	45	45	48	38	38	46	32	32
			27° < θ ≤ 45°	40	40	40	40	40	40	40	40	40	40	40	40	40	40	38	40	40	32	40	36	27
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	43	48	44	39	48	37	32	41	31	27	35	27	23
			7° < θ ≤ 20°	48	46	43	48	41	38	48	37	34	44	33	31	37	28	26	31	23	22	27	20	19
			20° < θ ≤ 27°	48	48	48	48	48	48	48	44	44	48	40	40	47	33	33	40	28	28	34	24	24
			27° < θ ≤ 45°	43	43	43	43	43	41	43	43	37	43	43	33	43	37	28	37	31	23	32	27	20
	D		θ ≤ 7°	48	48	46	48	47	41	48	42	37	48	38	33	42	32	28	35	27	23	30	23	20
			7° < θ ≤ 20°	48	40	37	47	35	33	42	32	29	38	29	27	32	24	22	27	20	19	23	17	16
			20° < θ ≤ 27°	48	47	47	48	42	42	48	38	38	48	34	34	41	29	29	34	24	24	29	21	21
			27° < θ ≤ 45°	47	47	40	47	47	35	47	42	32	46	38	29	38	32	24	32	27	20	27	23	17

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	41	31	27	36	27	24	32	24	21	28	21	19	25	19	17	23	17	15	20	15	14
			7° < θ ≤ 20°	31	23	22	27	20	19	24	18	17	21	16	15	19	14	13	17	13	12	15	12	11
			20° < θ ≤ 27°	40	28	28	35	24	24	31	22	22	27	19	19	24	17	17	22	15	15	20	14	14
			27° < θ ≤ 45°	37	31	23	32	27	20	29	24	18	25	21	16	23	19	14	20	17	13	18	15	12
	C		θ ≤ 7°	30	23	20	27	20	18	23	18	15	21	16	14	19	14	12	17	13	11	15	11	10
			7° < θ ≤ 20°	23	17	16	20	15	14	18	13	12	16	12	11	14	11	10	13	10	9	11	9	8
			20° < θ ≤ 27°	29	21	21	26	18	18	23	16	16	20	14	14	18	13	13	16	11	11	15	10	10
			27° < θ ≤ 45°	27	23	17	24	20	15	21	18	13	19	16	12	17	14	11	15	13	10	14	11	9
	D		θ ≤ 7°	26	20	17	23	17	15	20	15	13	18	14	12	16	12	11	14	11	10	13	10	9
			7° < θ ≤ 20°	20	15	14	17	13	12	15	12	11	14	10	10	12	9	9	11	8	8	10	8	7
			20° < θ ≤ 27°	25	18	18	22	16	16	19	14	14	17	12	12	15	11	11	14	10	10	13	9	9
			27° < θ ≤ 45°	24	20	15	21	17	13	18	15	12	16	14	10	14	12	9	13	11	8	12	10	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 12. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 22-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	47	48	48	39	48	47	33	48	40	28
			10° < θ ≤ 30°	47	47	47	47	47	46	47	47	42	47	47	38	47	47	31	47	47	26	47	40	23
	C		3° < θ ≤ 10°	48	48	47	48	48	42	48	48	38	48	48	34	48	41	28	48	34	24	41	29	21
			10° < θ ≤ 30°	48	48	38	48	48	34	48	48	31	48	48	28	48	41	23	43	35	19	37	30	17
	D		3° < θ ≤ 10°	48	48	41	48	48	36	48	47	33	48	42	30	48	35	24	41	30	21	35	25	18
			10° < θ ≤ 30°	48	48	33	48	48	29	48	48	26	48	43	24	44	36	20	37	30	17	31	26	14

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	34	24	41	30	21	37	27	19	32	24	16	29	21	15	26	19	13	24	17	12
			10° < θ ≤ 30°	43	35	19	37	30	17	33	27	15	29	24	13	26	21	12	23	19	11	21	17	10
	C		3° < θ ≤ 10°	35	25	18	31	22	16	27	20	14	24	17	12	21	16	11	19	14	10	17	13	9
			10° < θ ≤ 30°	32	26	14	28	22	13	24	20	11	22	18	10	19	16	9	17	14	8	16	13	7
	D		3° < θ ≤ 10°	30	22	15	26	19	13	23	17	12	21	15	11	18	13	9	17	12	9	15	11	8
			10° < θ ≤ 30°	27	22	12	24	19	11	21	17	10	19	15	9	17	14	8	15	12	7	14	11	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.2.7 *One Set Screw Installation on 0.032" Aluminum Roof Panels - ≤ 50-psf Ground Snow Load ($P_{g,snow}$):*

6.2.7.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 13**.

6.2.7.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are outlined in **Table 14**.

6.2.7.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are provided in **Table 15**.

Table 13. Required Spacing (in. o.c.) for all SCI PV Cube Products s with 1 Set Screw Installed on 0.032" Aluminum Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	47	48	48	42	48	44	38	48	36	32	40	30	27	35	26	23
			7° < θ ≤ 20°	48	40	30	48	36	27	44	32	24	39	29	22	33	24	18	27	20	15	23	18	13
			20° < θ ≤ 27°	48	44	36	48	39	32	48	35	29	48	32	26	43	26	22	36	22	18	31	19	16
			27° < θ ≤ 45°	48	48	44	48	48	39	48	44	35	44	39	32	36	33	26	30	27	22	26	23	19
	C		θ ≤ 7°	48	44	39	48	40	35	47	36	31	43	32	28	35	27	23	30	23	20	26	19	17
			7° < θ ≤ 20°	40	30	22	36	27	20	32	24	18	29	22	16	24	18	14	20	15	12	17	13	10
			20° < θ ≤ 27°	48	32	27	47	29	24	43	26	22	39	23	20	32	19	16	27	16	14	23	14	12
			27° < θ ≤ 45°	44	40	32	40	36	29	36	32	26	32	29	23	27	24	19	23	20	16	19	17	14
	D		θ ≤ 7°	48	38	33	45	34	30	41	31	27	37	28	24	30	23	20	26	19	17	22	17	14
			7° < θ ≤ 20°	34	26	19	31	23	17	28	21	16	25	19	14	21	15	12	17	13	10	15	11	9
			20° < θ ≤ 27°	46	28	23	41	25	21	37	22	19	33	20	17	27	17	14	23	14	12	20	12	10
			27° < θ ≤ 45°	38	34	28	34	31	25	31	28	22	28	25	20	23	21	17	19	17	14	17	15	12
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	θ ≤ 7°	30	23	20	26	20	17	23	17	15	20	15	13	18	14	12	16	12	11	15	11	10
			7° < θ ≤ 20°	20	15	12	18	13	10	16	12	9	14	10	8	12	9	7	11	8	-	10	8	-
			20° < θ ≤ 27°	27	16	14	24	14	12	21	13	11	18	11	9	16	10	8	15	9	8	13	8	7
			27° < θ ≤ 45°	23	20	16	20	18	14	17	16	13	15	14	11	14	12	10	12	11	9	11	10	8
	C		θ ≤ 7°	22	17	15	19	15	13	17	13	11	15	11	10	14	10	9	12	9	8	11	8	7
			7° < θ ≤ 20°	15	11	9	13	10	8	12	9	7	10	8	-	9	7	-	8	-	-	8	-	-
			20° < θ ≤ 27°	20	12	10	17	11	9	15	9	8	14	8	7	12	8	-	11	7	-	10	-	-
			27° < θ ≤ 45°	17	15	12	15	13	11	13	12	9	11	10	8	10	9	8	9	8	7	8	8	-
	D		θ ≤ 7°	19	14	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7	10	7	-
			7° < θ ≤ 20°	13	10	7	11	9	7	10	8	-	9	7	-	8	-	-	7	-	-	7	-	-
			20° < θ ≤ 27°	17	10	9	15	9	8	13	8	7	12	7	-	11	7	-	10	-	-	9	-	-
			27° < θ ≤ 45°	14	13	10	13	11	9	11	10	8	10	9	7	9	8	7	8	7	-	7	7	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 14. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 0.032″ Aluminum Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	47	48	48	42	48	44	38	48	36	32	40	30	27	35	26	23
			7° < θ ≤ 20°	48	45	42	48	40	37	48	36	34	44	33	30	36	27	25	30	23	21	26	20	18
			20° < θ ≤ 27°	48	48	48	48	48	48	48	44	44	48	39	39	46	33	33	39	27	27	33	23	23
			27° < θ ≤ 45°	48	48	45	48	48	40	48	48	36	48	44	33	43	36	27	36	30	23	31	26	20
	C		θ ≤ 7°	48	44	39	48	40	35	47	36	31	43	32	28	35	27	23	30	23	20	26	19	17
			7° < θ ≤ 20°	44	33	31	40	30	28	36	27	25	32	24	22	27	20	19	23	17	16	19	15	13
			20° < θ ≤ 27°	48	40	40	48	36	36	46	32	32	41	29	29	34	24	24	29	20	20	25	17	17
			27° < θ ≤ 45°	48	44	33	47	40	30	43	36	27	39	32	24	32	27	20	27	23	17	23	19	15
	D		θ ≤ 7°	48	38	33	45	34	30	41	31	27	37	28	24	30	23	20	26	19	17	22	17	14
			7° < θ ≤ 20°	38	29	27	34	26	24	31	23	21	28	21	19	23	17	16	19	15	14	17	13	12
			20° < θ ≤ 27°	48	34	34	44	31	31	39	28	28	35	25	25	29	21	21	25	17	17	21	15	15
			27° < θ ≤ 45°	46	38	29	41	34	26	37	31	23	33	28	21	27	23	17	23	19	15	20	17	13

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	θ ≤ 7°	30	23	20	26	20	17	23	17	15	20	15	13	18	14	12	16	12	11	15	11	10
			7° < θ ≤ 20°	23	17	16	20	15	14	17	13	12	15	12	11	14	10	10	12	9	9	11	9	8
			20° < θ ≤ 27°	29	20	20	25	18	18	22	16	16	20	14	14	18	12	12	16	11	11	14	10	10
			27° < θ ≤ 45°	27	23	17	24	20	15	21	17	13	18	15	12	16	14	10	15	12	9	13	11	9
	C		θ ≤ 7°	22	17	15	19	15	13	17	13	11	15	11	10	14	10	9	12	9	8	11	8	7
			7° < θ ≤ 20°	17	13	12	15	11	10	13	10	9	11	9	8	10	8	7	9	7	7	8	-	-
			20° < θ ≤ 27°	21	15	15	19	13	13	16	12	12	15	10	10	13	9	9	12	8	8	11	8	8
			27° < θ ≤ 45°	20	17	13	17	15	11	15	13	10	14	11	9	12	10	8	11	9	7	10	8	-
	D		θ ≤ 7°	19	14	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7	10	7	-
			7° < θ ≤ 20°	14	11	10	13	10	9	11	8	8	10	8	7	9	7	-	8	-	-	7	-	-
			20° < θ ≤ 27°	18	13	13	16	11	11	14	10	10	13	9	9	11	8	8	10	7	7	9	7	7
			27° < θ ≤ 45°	17	14	11	15	13	10	13	11	8	12	10	8	11	9	7	10	8	-	9	7	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 15. Required Spacing (in. o.c.) for all PV Cube Clamps with 1 Set Screw Installed on 0.032" Aluminum Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	46	48	48	42	48	48	37	48	48	34	48	40	28	47	34	24	40	29	20
			10° < θ ≤ 30°	48	48	38	48	48	34	48	48	30	48	48	27	48	41	23	42	34	19	36	29	16
	C		3° < θ ≤ 10°	48	48	34	48	44	31	48	40	28	48	36	25	41	30	21	34	25	17	29	21	15
			10° < θ ≤ 30°	48	48	28	48	45	25	48	40	22	44	36	20	37	30	17	31	25	14	26	22	12
	D		3° < θ ≤ 10°	48	42	29	48	38	26	47	34	24	42	31	21	35	25	18	30	21	15	25	18	13
			10° < θ ≤ 30°	48	43	24	47	38	21	42	34	19	38	31	17	32	26	14	27	22	12	23	19	10

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	34	25	17	30	22	15	26	19	13	23	17	12	21	15	11	19	14	10	17	12	9
			10° < θ ≤ 30°	31	25	14	27	22	12	24	19	11	21	17	10	19	15	9	17	14	8	15	13	7
	C		3° < θ ≤ 10°	25	18	13	22	16	11	20	14	10	17	13	9	16	11	8	14	10	7	13	9	7
			10° < θ ≤ 30°	23	19	11	20	16	9	18	14	8	16	13	7	14	12	7	13	10	-	11	9	-
	D		3° < θ ≤ 10°	22	16	11	19	14	10	17	12	9	15	11	8	13	10	7	12	9	-	11	8	-
			10° < θ ≤ 30°	20	16	9	17	14	8	15	12	7	14	11	-	12	10	-	11	9	-	10	8	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.2.8 *Two Set Screw Installation on 26-Gauge Metal Roof Panels - ≤ 60-psf ($P_{g,snow}$):*

6.2.8.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 16**.

6.2.8.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are outlined in **Table 17**.

6.2.8.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are specified in **Table 18**.

Table 16. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	48	41	36
			7° < θ ≤ 20°	48	48	48	48	48	43	48	48	39	48	46	35	48	38	29	44	32	24	37	28	21
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	46	48	48	42	48	42	35	48	35	29	48	30	25
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	48	44	35	41	37	30
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	45	48	42	37	47	36	31	40	30	27
			7° < θ ≤ 20°	48	47	36	48	42	32	48	38	29	46	34	26	38	28	21	32	24	18	27	20	15
			20° < θ ≤ 27°	48	48	43	48	45	38	48	41	34	48	37	31	48	31	26	43	26	22	36	22	18
			27° < θ ≤ 45°	48	48	48	48	48	45	48	48	41	48	46	37	42	38	31	36	32	26	30	27	22
	D		θ ≤ 7°	48	48	48	48	48	47	48	48	42	48	44	38	48	36	32	41	31	27	35	26	23
			7° < θ ≤ 20°	48	41	31	48	36	27	44	33	25	40	29	22	33	24	18	28	21	16	24	18	13
			20° < θ ≤ 27°	48	44	37	48	39	33	48	35	29	48	32	27	44	26	22	37	22	19	31	19	16
			27° < θ ≤ 45°	48	48	44	48	48	39	48	44	35	44	40	32	36	33	26	31	28	22	26	24	19

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	47	36	31	41	31	27	36	27	24	32	24	21	29	22	19	26	20	17	23	18	15
			7° < θ ≤ 20°	32	24	18	28	21	16	25	18	14	22	16	12	20	15	11	18	13	10	16	12	9
			20° < θ ≤ 27°	43	26	22	37	23	19	33	20	17	29	18	15	26	16	13	23	14	12	21	13	11
			27° < θ ≤ 45°	36	32	26	31	28	23	27	25	20	24	22	18	22	20	16	20	18	14	18	16	13
	C		θ ≤ 7°	35	26	23	30	23	20	27	20	18	24	18	16	21	16	14	19	15	13	17	13	12
			7° < θ ≤ 20°	24	18	13	21	15	12	18	14	10	16	12	9	15	11	8	13	10	8	12	9	7
			20° < θ ≤ 27°	31	19	16	27	17	14	24	15	12	22	13	11	19	12	10	17	11	9	16	10	8
			27° < θ ≤ 45°	26	24	19	23	21	17	20	18	15	18	16	13	16	15	12	15	13	11	13	12	10
	D		θ ≤ 7°	30	23	20	26	20	17	23	17	15	21	16	14	18	14	12	17	13	11	15	11	10
			7° < θ ≤ 20°	20	15	12	18	13	10	16	12	9	14	11	8	13	9	7	11	9	7	10	8	-
			20° < θ ≤ 27°	27	16	14	24	14	12	21	13	11	19	11	10	17	10	9	15	9	8	14	8	7
			27° < θ ≤ 45°	23	20	16	20	18	14	17	16	13	16	14	11	14	13	10	13	11	9	11	10	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 17. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	48	41	36
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	43	40	48	36	34	41	31	29
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	44	44	48	37	37
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	43	48	48	36	48	41	31
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	45	48	42	37	47	36	31	40	30	27
			7° < θ ≤ 20°	48	48	48	48	47	44	48	43	39	48	38	36	42	32	29	36	27	25	30	23	21
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	46	46	48	38	38	46	32	32	39	27	27
			27° < θ ≤ 45°	48	48	48	48	48	47	48	48	43	48	48	38	48	42	32	43	36	27	36	30	23
	D		θ ≤ 7°	48	48	48	48	48	47	48	48	42	48	44	38	48	36	32	41	31	27	35	26	23
			7° < θ ≤ 20°	48	46	42	48	41	38	48	37	34	44	33	31	36	27	25	31	23	21	26	20	18
			20° < θ ≤ 27°	48	48	48	48	48	48	48	44	44	48	40	40	47	33	33	39	28	28	34	24	24
			27° < θ ≤ 45°	48	48	46	48	48	41	48	48	37	48	44	33	44	36	27	37	31	23	31	26	20
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	47	36	31	41	31	27	36	27	24	32	24	21	29	22	19	26	20	17	23	18	15
			7° < θ ≤ 20°	36	27	25	31	23	22	27	21	19	24	18	17	22	16	15	20	15	14	18	13	12
			20° < θ ≤ 27°	46	32	32	40	28	28	35	25	25	31	22	22	28	20	20	25	18	18	23	16	16
			27° < θ ≤ 45°	43	36	27	37	31	23	33	27	21	29	24	18	26	22	16	23	20	15	21	18	13
	C		θ ≤ 7°	35	26	23	30	23	20	27	20	18	24	18	16	21	16	14	19	15	13	17	13	12
			7° < θ ≤ 20°	26	20	18	23	17	16	20	15	14	18	14	13	16	12	11	15	11	10	13	10	9
			20° < θ ≤ 27°	34	24	24	29	21	21	26	18	18	23	16	16	21	15	15	19	13	13	17	12	12
			27° < θ ≤ 45°	31	26	20	27	23	17	24	20	15	22	18	14	19	16	12	17	15	11	16	13	10
	D		θ ≤ 7°	30	23	20	26	20	17	23	17	15	21	16	14	18	14	12	17	13	11	15	11	10
			7° < θ ≤ 20°	23	17	16	20	15	14	17	13	12	16	12	11	14	11	10	13	10	9	11	9	8
			20° < θ ≤ 27°	29	20	20	25	18	18	22	16	16	20	14	14	18	13	13	16	11	11	14	10	10
			27° < θ ≤ 45°	27	23	17	24	20	15	21	17	13	19	16	12	17	14	11	15	13	10	14	11	9

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 18. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	44	48	48	37	48	46	32
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	48	48	48	43	48	48	36	48	48	30	48	46	26
	C		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	44	48	48	39	48	47	33	48	40	28	47	34	24
			10° < θ ≤ 30°	48	48	44	48	48	39	48	48	35	48	48	32	48	48	26	48	40	22	42	34	19
	D		3° < θ ≤ 10°	48	48	47	48	48	42	48	48	37	48	48	34	48	40	28	47	34	24	40	29	20
			10° < θ ≤ 30°	48	48	38	48	48	34	48	48	30	48	48	27	48	41	23	42	34	19	36	29	16
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	40	28	48	35	24	42	30	21	37	27	19	33	24	17	30	22	15	27	20	14
			10° < θ ≤ 30°	48	40	22	43	35	20	38	31	17	34	27	15	30	24	14	27	22	12	24	20	11
	C		3° < θ ≤ 10°	40	29	20	35	25	18	31	22	16	27	20	14	25	18	13	22	16	11	20	15	10
			10° < θ ≤ 30°	36	30	17	32	26	14	28	23	13	25	20	11	22	18	10	20	16	9	18	15	8
	D		3° < θ ≤ 10°	35	25	18	30	22	15	27	19	14	24	17	12	21	15	11	19	14	10	17	13	9
			10° < θ ≤ 30°	31	25	14	27	22	12	24	20	11	21	17	10	19	16	9	17	14	8	16	13	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.2.9 *Two Set Screw Installation on 24-Gauge Metal Roof Panels - ≤ 70-psf ($P_{g,snow}$):*

6.2.9.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 19**.

6.2.9.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are outlined in **Table 20**.

6.2.9.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are specified in **Table 21**.

Table 19. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 24-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 70-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	45	39	48	38	33
			7° < θ ≤ 20°	48	48	45	48	48	40	48	48	36	48	43	32	48	36	27	40	30	23	34	26	19
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	43	48	46	39	48	38	32	48	32	27	46	28	23
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	46	48	48	38	45	40	32	38	34	28
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	46	48	47	41	48	39	34	44	33	29	37	28	25
			7° < θ ≤ 20°	48	44	33	48	39	29	47	35	26	43	32	24	35	26	20	30	22	17	25	19	14
			20° < θ ≤ 27°	48	47	39	48	42	35	48	38	32	48	34	29	47	28	24	40	24	20	34	20	17
			27° < θ ≤ 45°	48	48	47	48	48	42	48	47	38	47	43	34	39	35	28	33	30	24	28	25	20
	D		θ ≤ 7°	48	48	48	48	48	44	48	45	39	48	41	35	45	34	29	38	28	25	32	24	21
			7° < θ ≤ 20°	48	38	28	45	34	25	41	30	23	37	27	21	30	23	17	26	19	14	22	16	12
			20° < θ ≤ 27°	48	41	34	48	36	30	48	33	27	48	29	25	40	24	20	34	21	17	29	18	15
			27° < θ ≤ 45°	48	48	41	48	45	36	45	41	33	41	37	29	34	30	24	28	26	21	24	22	18
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 70-psf	B	Roof/Panel Angle	θ ≤ 7°	44	33	29	38	29	25	34	25	22	30	23	20	27	20	18	24	18	16	22	16	14
			7° < θ ≤ 20°	30	22	17	26	19	15	23	17	13	20	15	12	18	14	10	16	12	9	15	11	8
			20° < θ ≤ 27°	40	24	20	35	21	18	30	18	15	27	16	14	24	15	12	22	13	11	20	12	10
			27° < θ ≤ 45°	33	30	24	29	26	21	25	23	18	23	20	16	20	18	15	18	16	13	16	15	12
	C		θ ≤ 7°	32	24	21	28	21	19	25	19	16	22	17	15	20	15	13	18	13	12	16	12	11
			7° < θ ≤ 20°	22	16	12	19	14	11	17	13	10	15	11	9	14	10	8	12	9	7	11	8	-
			20° < θ ≤ 27°	29	18	15	25	15	13	22	14	11	20	12	10	18	11	9	16	10	8	15	9	8
			27° < θ ≤ 45°	24	22	18	21	19	15	19	17	14	17	15	12	15	14	11	13	12	10	12	11	9
	D		θ ≤ 7°	28	21	18	24	18	16	21	16	14	19	14	13	17	13	11	15	12	10	14	11	9
			7° < θ ≤ 20°	19	14	11	17	12	9	15	11	8	13	10	7	12	9	7	11	8	-	10	7	-
			20° < θ ≤ 27°	25	15	13	22	13	11	19	12	10	17	11	9	15	9	8	14	9	7	13	8	7
			27° < θ ≤ 45°	21	19	15	18	17	13	16	15	12	14	13	11	13	12	9	12	11	9	11	10	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 20. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 24-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 70-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	45	39	48	38	33
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	45	48	40	37	45	34	31	38	29	27
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	40	40	48	34	34
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	40	48	45	34	46	38	29
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	46	48	47	41	48	39	34	44	33	29	37	28	25
			7° < θ ≤ 20°	48	48	45	48	44	41	48	39	36	47	36	33	39	30	27	33	25	23	28	21	20
			20° < θ ≤ 27°	48	48	48	48	48	48	48	47	47	48	43	43	48	35	35	42	30	30	36	25	25
			27° < θ ≤ 45°	48	48	48	48	48	44	48	48	39	48	47	36	47	39	30	40	33	25	34	28	21
	D		θ ≤ 7°	48	48	48	48	48	44	48	45	39	48	41	35	45	34	29	38	28	25	32	24	21
			7° < θ ≤ 20°	48	42	39	48	38	35	45	34	31	41	31	28	34	25	23	28	21	20	24	18	17
			20° < θ ≤ 27°	48	48	48	48	45	45	48	41	41	48	37	37	43	30	30	36	26	26	31	22	22
			27° < θ ≤ 45°	48	48	42	48	48	38	48	45	34	48	41	31	40	34	25	34	28	21	29	24	18
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 70-psf	B	Roof/Panel Angle	θ ≤ 7°	44	33	29	38	29	25	34	25	22	30	23	20	27	20	18	24	18	16	22	16	14
			7° < θ ≤ 20°	33	25	23	29	22	20	25	19	18	23	17	16	20	15	14	18	14	13	16	12	12
			20° < θ ≤ 27°	42	30	30	37	26	26	33	23	23	29	20	20	26	18	18	23	16	16	21	15	15
			27° < θ ≤ 45°	40	33	25	35	29	22	30	25	19	27	23	17	24	20	15	22	18	14	20	16	12
	C		θ ≤ 7°	32	24	21	28	21	19	25	19	16	22	17	15	20	15	13	18	13	12	16	12	11
			7° < θ ≤ 20°	24	18	17	21	16	15	19	14	13	17	13	12	15	11	11	13	10	9	12	9	9
			20° < θ ≤ 27°	31	22	22	27	19	19	24	17	17	21	15	15	19	14	14	17	12	12	16	11	11
			27° < θ ≤ 45°	29	24	18	25	21	16	22	19	14	20	17	13	18	15	11	16	13	10	15	12	9
	D		θ ≤ 7°	28	21	18	24	18	16	21	16	14	19	14	13	17	13	11	15	12	10	14	11	9
			7° < θ ≤ 20°	21	16	15	18	14	13	16	12	11	14	11	10	13	10	9	12	9	8	11	8	7
			20° < θ ≤ 27°	27	19	19	23	17	17	21	15	15	18	13	13	16	12	12	15	11	11	13	10	10
			27° < θ ≤ 45°	25	21	16	22	18	14	19	16	12	17	14	11	15	13	10	14	12	9	13	11	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 21. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 24-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 70-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	41	48	48	35	48	42	30
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	44	48	48	40	48	48	33	48	48	28	48	43	24
	C		3° < θ ≤ 10°	48	48	48	48	48	45	48	48	40	48	48	37	48	44	30	48	37	26	43	31	22
			10° < θ ≤ 30°	48	48	41	48	48	36	48	48	33	48	48	30	48	44	25	46	37	21	39	32	18
	D		3° < θ ≤ 10°	48	48	43	48	48	39	48	48	35	48	45	31	48	37	26	43	31	22	37	27	19
			10° < θ ≤ 30°	48	48	35	48	48	31	48	48	28	48	46	25	46	38	21	39	32	18	33	27	15
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 70-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	37	26	44	32	22	39	28	20	34	25	17	31	22	16	28	20	14	25	18	13
			10° < θ ≤ 30°	46	37	21	40	32	18	35	29	16	31	25	14	28	23	13	25	20	11	23	18	10
	C		3° < θ ≤ 10°	37	27	19	33	24	17	29	21	15	25	19	13	23	17	12	20	15	10	19	14	10
			10° < θ ≤ 30°	34	27	15	29	24	13	26	21	12	23	19	11	21	17	9	18	15	9	17	14	8
	D		3° < θ ≤ 10°	32	23	16	28	20	14	25	18	13	22	16	11	20	14	10	18	13	9	16	12	8
			10° < θ ≤ 30°	29	24	13	25	21	12	22	18	10	20	16	9	18	14	8	16	13	7	14	12	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.2.10 *Two Set Screw Installation on 22-Gauge Metal Roof Panels - ≤ 100-psf ($P_{g,snow}$):*

6.2.10.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 22**.

6.2.10.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are outlined in **Table 23**.

6.2.10.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are stated in **Table 24**.

Table 22. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 22-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	46	40
			7° < θ ≤ 20°	48	48	48	48	48	47	48	48	43	48	48	39	48	42	32	48	36	27	41	31	23
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	46	48	46	38	48	39	32	48	33	28
			27° < θ ≤ 45°	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	33
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41	48	39	34	45	34	29
			7° < θ ≤ 20°	48	48	39	48	46	35	48	42	31	48	38	28	42	31	24	35	26	20	30	23	17
			20° < θ ≤ 27°	48	48	47	48	48	42	48	45	38	48	41	34	48	34	28	47	28	24	40	24	20
			27° < θ ≤ 45°	42	42	42	42	42	42	42	42	42	42	42	41	42	42	34	39	35	28	34	30	24
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	47	48	48	42	48	40	35	45	34	29	38	29	25
			7° < θ ≤ 20°	48	45	34	48	40	30	48	36	27	44	32	24	36	27	20	30	23	17	26	19	15
			20° < θ ≤ 27°	48	48	40	48	43	36	48	39	32	48	35	29	48	29	24	40	24	20	34	21	17
			27° < θ ≤ 45°	45	45	45	45	45	43	45	45	39	45	44	35	40	36	29	34	30	24	29	26	21
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	39	34	46	34	30	40	30	26	36	27	23	32	24	21	29	22	19	26	20	17
			7° < θ ≤ 20°	35	26	20	31	23	17	27	20	15	24	18	14	22	16	12	19	15	11	18	13	10
			20° < θ ≤ 27°	47	28	24	41	25	21	36	22	18	32	19	16	29	17	15	26	16	13	23	14	12
			27° < θ ≤ 45°	38	35	28	34	31	25	30	27	22	27	24	19	24	22	17	22	19	16	20	18	14
	C		θ ≤ 7°	38	29	25	34	25	22	30	22	19	26	20	17	23	18	15	21	16	14	19	14	13
			7° < θ ≤ 20°	26	19	15	23	17	13	20	15	11	18	13	10	16	12	9	14	11	8	13	10	7
			20° < θ ≤ 27°	35	21	18	30	18	15	27	16	14	24	14	12	21	13	11	19	12	10	17	11	9
			27° < θ ≤ 45°	29	26	21	25	23	18	22	20	16	20	18	14	18	16	13	16	14	12	14	13	11
	D		θ ≤ 7°	33	25	22	29	22	19	25	19	17	23	17	15	20	15	13	18	14	12	16	12	11
			7° < θ ≤ 20°	22	17	13	20	15	11	17	13	10	15	12	9	14	10	8	12	9	7	11	8	-
			20° < θ ≤ 27°	30	18	15	26	16	13	23	14	12	20	12	10	18	11	9	16	10	8	15	9	8
			27° < θ ≤ 45°	25	22	18	22	20	16	19	17	14	17	15	12	15	14	11	14	12	10	12	11	9

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 23. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 22-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	46	40
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	44	48	40	37	46	34	32
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	41	41
			27° < θ ≤ 45°	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	34
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41	48	39	34	45	34	29
			7° < θ ≤ 20°	48	48	48	48	48	48	48	47	43	48	42	39	47	35	32	39	30	27	34	25	23
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	42	42	48	35	35	43	30	30
			27° < θ ≤ 45°	42	42	42	42	42	42	42	42	42	42	42	42	42	42	35	42	39	30	40	34	25
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	47	48	48	42	48	40	35	45	34	29	38	29	25
			7° < θ ≤ 20°	48	48	46	48	45	41	48	40	37	48	36	34	40	30	28	34	25	24	29	22	20
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	44	44	48	36	36	43	30	30	37	26	26
			27° < θ ≤ 45°	45	45	45	45	45	45	45	45	40	45	45	36	45	40	30	40	34	25	34	29	22
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	39	34	46	34	30	40	30	26	36	27	23	32	24	21	29	22	19	26	20	17
			7° < θ ≤ 20°	39	30	27	34	26	24	30	23	21	27	20	19	24	18	17	22	16	15	20	15	14
			20° < θ ≤ 27°	48	35	35	44	31	31	39	27	27	34	24	24	31	22	22	28	19	19	25	18	18
			27° < θ ≤ 45°	38	38	30	38	34	26	36	30	23	32	27	20	29	24	18	26	22	16	23	20	15
	C		θ ≤ 7°	38	29	25	34	25	22	30	22	19	26	20	17	23	18	15	21	16	14	19	14	13
			7° < θ ≤ 20°	29	22	20	25	19	18	22	17	16	20	15	14	18	13	12	16	12	11	14	11	10
			20° < θ ≤ 27°	37	26	26	32	23	23	29	20	20	25	18	18	23	16	16	20	14	14	18	13	13
			27° < θ ≤ 45°	35	29	22	30	25	19	27	22	17	24	20	15	21	18	13	19	16	12	17	14	11
	D		θ ≤ 7°	33	25	22	29	22	19	25	19	17	23	17	15	20	15	13	18	14	12	16	12	11
			7° < θ ≤ 20°	25	19	17	22	16	15	19	15	13	17	13	12	15	12	11	14	10	10	12	9	9
			20° < θ ≤ 27°	32	22	22	28	20	20	25	17	17	22	15	15	19	14	14	18	12	12	16	11	11
			27° < θ ≤ 45°	30	25	19	26	22	16	23	19	15	20	17	13	18	15	12	16	14	10	15	12	9

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 24. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 22-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	41	48	48	35
			10° < θ ≤ 30°	45	45	45	45	45	45	45	45	45	45	45	45	45	45	40	45	45	33	45	45	28
	C		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	43	48	48	36	48	44	30	48	37	26
			10° < θ ≤ 30°	48	48	48	48	48	43	48	48	39	48	48	35	48	48	29	48	44	25	46	38	21
	D		3° < θ ≤ 10°	48	48	48	48	48	46	48	48	41	48	48	37	48	44	31	48	37	26	44	32	22
			10° < θ ≤ 30°	48	48	42	48	48	37	48	48	33	48	48	30	48	45	25	47	38	21	40	32	18
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	44	30	48	38	27	46	34	23	41	30	21	37	27	19	33	24	17	30	22	15
			10° < θ ≤ 30°	45	44	25	45	39	21	42	34	19	37	30	17	33	27	15	30	24	14	27	22	12
	C		3° < θ ≤ 10°	44	32	22	39	28	20	34	25	17	30	22	15	27	20	14	24	18	12	22	16	11
			10° < θ ≤ 30°	40	33	18	35	28	16	31	25	14	27	22	12	24	20	11	22	18	10	20	16	9
	D		3° < θ ≤ 10°	38	28	19	33	24	17	29	21	15	26	19	13	23	17	12	21	15	11	19	14	10
			10° < θ ≤ 30°	34	28	16	30	24	14	26	22	12	23	19	11	21	17	10	19	15	9	17	14	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.2.11 *Two Set Screw Installation on 0.032" Aluminum Roof Panels - ≤100-psf ($P_{g,snow}$):*

6.2.11.1 The maximum spacing of SCI PV Cube Standing Seam Clamps on gable roofs are given in **Table 25**.

6.2.11.2 The maximum spacing of SCI PV Cube Standing Seam Clamps on hip roofs are outlined in **Table 26**.

6.2.11.3 The maximum spacing of SCI PV Cube Standing Seam Clamps on monoslope roofs are specified in **Table 27**.

Table 25. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 0.032" Aluminum Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41	48	39	34	45	34	29
			7° < θ ≤ 20°	48	48	39	48	47	35	48	42	32	48	38	29	42	31	24	36	26	20	30	23	17
			20° < θ ≤ 27°	48	48	47	48	48	42	48	45	38	48	41	34	48	34	28	47	29	24	40	24	20
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	45	48	48	41	47	42	34	39	36	29	34	30	24
	C		θ ≤ 7°	48	48	48	48	48	45	48	46	40	48	42	36	46	35	30	39	29	25	33	25	22
			7° < θ ≤ 20°	48	38	29	46	34	26	42	31	23	38	28	21	31	23	18	26	20	15	22	17	13
			20° < θ ≤ 27°	48	42	35	48	37	31	48	33	28	48	30	25	41	25	21	35	21	18	30	18	15
			27° < θ ≤ 45°	48	48	42	48	46	37	46	42	33	42	38	30	35	31	25	29	26	21	25	22	18
	D		θ ≤ 7°	48	48	43	48	44	38	48	40	35	48	36	31	39	30	26	33	25	22	28	21	19
			7° < θ ≤ 20°	44	33	25	40	30	22	36	27	20	32	24	18	27	20	15	23	17	13	19	14	11
			20° < θ ≤ 27°	48	36	30	48	32	27	47	29	24	43	26	22	36	22	18	30	18	15	26	16	13
			27° < θ ≤ 45°	48	44	36	44	40	32	40	36	29	36	32	26	30	27	22	25	23	18	21	19	16
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	39	29	25	34	25	22	30	22	20	26	20	17	24	18	16	21	16	14	19	15	13
			7° < θ ≤ 20°	26	20	15	23	17	13	20	15	11	18	13	10	16	12	9	14	11	8	13	10	8
			20° < θ ≤ 27°	35	21	18	30	18	15	27	16	14	24	14	12	21	13	11	19	12	10	17	11	9
			27° < θ ≤ 45°	29	26	21	25	23	18	22	20	16	20	18	14	18	16	13	16	14	12	15	13	11
	C		θ ≤ 7°	29	22	19	25	19	16	22	17	14	19	15	13	17	13	12	16	12	10	14	11	9
			7° < θ ≤ 20°	19	15	11	17	13	10	15	11	9	13	10	8	12	9	7	11	8	-	10	7	-
			20° < θ ≤ 27°	26	16	13	22	14	11	20	12	10	18	11	9	16	10	8	14	9	7	13	8	7
			27° < θ ≤ 45°	22	19	16	19	17	14	17	15	12	15	13	11	13	12	10	12	11	9	11	10	8
	D		θ ≤ 7°	25	19	16	21	16	14	19	14	12	17	13	11	15	11	10	14	10	9	12	9	8
			7° < θ ≤ 20°	17	13	10	15	11	8	13	10	7	11	9	7	10	8	-	9	7	-	8	-	-
			20° < θ ≤ 27°	22	13	11	19	12	10	17	10	9	15	9	8	14	8	7	12	8	-	11	7	-
			27° < θ ≤ 45°	19	17	13	16	15	12	14	13	10	13	11	9	11	10	8	10	9	8	9	8	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 26. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 0.032" Aluminum Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41	48	39	34	45	34	29
			7° < θ ≤ 20°	48	48	48	48	48	48	48	47	44	48	43	39	47	35	33	39	30	27	34	25	23
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	42	42	48	36	36	43	30	30
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	47	48	48	43	48	47	35	47	39	30	40	34	25
	C		θ ≤ 7°	48	48	48	48	48	45	48	46	40	48	42	36	46	35	30	39	29	25	33	25	22
			7° < θ ≤ 20°	48	43	40	48	39	36	46	35	32	42	31	29	35	26	24	29	22	20	25	19	17
			20° < θ ≤ 27°	48	48	48	48	46	46	48	42	42	48	38	38	44	31	31	37	26	26	32	22	22
			27° < θ ≤ 45°	48	48	43	48	48	39	48	46	35	48	42	31	41	35	26	35	29	22	30	25	19
	D		θ ≤ 7°	48	48	43	48	44	38	48	40	35	48	36	31	39	30	26	33	25	22	28	21	19
			7° < θ ≤ 20°	48	37	34	44	33	31	40	30	28	36	27	25	30	22	21	25	19	17	21	16	15
			20° < θ ≤ 27°	48	44	44	48	40	40	48	36	36	46	32	32	38	27	27	32	23	23	27	19	19
			27° < θ ≤ 45°	48	48	37	48	44	33	47	40	30	43	36	27	36	30	22	30	25	19	26	21	16

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	39	29	25	34	25	22	30	22	20	26	20	17	24	18	16	21	16	14	19	15	13
			7° < θ ≤ 20°	29	22	20	25	19	18	22	17	16	20	15	14	18	13	12	16	12	11	15	11	10
			20° < θ ≤ 27°	37	26	26	33	23	23	29	20	20	25	18	18	23	16	16	20	14	14	19	13	13
			27° < θ ≤ 45°	35	29	22	30	25	19	27	22	17	24	20	15	21	18	13	19	16	12	17	15	11
	C		θ ≤ 7°	29	22	19	25	19	16	22	17	14	19	15	13	17	13	12	16	12	10	14	11	9
			7° < θ ≤ 20°	22	16	15	19	14	13	17	13	12	15	11	10	13	10	9	12	9	8	11	8	8
			20° < θ ≤ 27°	28	19	19	24	17	17	21	15	15	19	13	13	17	12	12	15	11	11	14	10	10
			27° < θ ≤ 45°	26	22	16	22	19	14	20	17	13	18	15	11	16	13	10	14	12	9	13	11	8
	D		θ ≤ 7°	25	19	16	21	16	14	19	14	12	17	13	11	15	11	10	14	10	9	12	9	8
			7° < θ ≤ 20°	19	14	13	16	12	11	14	11	10	13	10	9	11	9	8	10	8	7	9	7	7
			20° < θ ≤ 27°	24	17	17	21	15	15	18	13	13	16	11	11	15	10	10	13	9	9	12	8	8
			27° < θ ≤ 45°	22	19	14	19	16	12	17	14	11	15	13	10	14	11	9	12	10	8	11	9	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 27. Required Spacing (in. o.c.) for all PV Cube Clamps with 2 Set Screws Installed on 0.032" Aluminum Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	44	48	48	36	48	44	30	48	37	26
			10° < θ ≤ 30°	48	48	48	48	48	43	48	48	39	48	48	35	48	48	29	48	44	25	46	38	21
	C		3° < θ ≤ 10°	48	48	44	48	48	40	48	48	36	48	46	32	48	38	27	44	32	22	38	28	19
			10° < θ ≤ 30°	48	48	36	48	48	32	48	48	29	48	47	26	48	39	22	40	33	18	34	28	16
	D		3° < θ ≤ 10°	48	48	38	48	48	34	48	44	31	48	40	28	45	33	23	38	28	19	33	24	17
			10° < θ ≤ 30°	48	48	31	48	48	28	48	44	25	48	40	22	41	33	19	34	28	16	29	24	13
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	45	32	23	39	28	20	34	25	17	30	22	15	27	20	14	24	18	12	22	16	11
			10° < θ ≤ 30°	40	33	18	35	29	16	31	25	14	27	22	13	24	20	11	22	18	10	20	16	9
	C		3° < θ ≤ 10°	33	24	17	29	21	15	25	18	13	22	16	11	20	15	10	18	13	9	16	12	8
			10° < θ ≤ 30°	30	24	14	26	21	12	23	19	10	20	17	9	18	15	8	16	13	8	15	12	7
	D		3° < θ ≤ 10°	28	21	14	25	18	13	22	16	11	19	14	10	17	13	9	16	11	8	14	10	7
			10° < θ ≤ 30°	25	21	12	22	18	10	20	16	9	17	14	8	16	13	7	14	11	7	13	10	-
SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm																								

6.3 *Maximum Spacing of SCI PowerMounts*

6.3.1 Spacing values were based the methodology in ASCE 7 and were grounded on the following assumptions:

6.3.1.1 *ASCE 7 Parameter Assumptions:*

6.3.1.1.1 Building height of 60 ft; an effective wind area (e.g., 10 ft^2) that will result in the largest external pressure coefficient, GC_p, per roof zones

6.3.1.1.2 factor, K_{zt}, of 1.0

6.3.1.1.3 Ground elevation factor, K_e, of 1.0

6.3.1.1.4 Wind directionality factor, K_d, of 1.0

6.3.1.1.5 Internal pressure coefficient, GC_{pi}, of 0

6.3.1.1.6 Array edge factor, γ_E, of 1.0

6.3.1.1.7 Solar panel pressure equalization factor, γ_a, of 0.6

6.3.1.1.8 Parapet height factor, γ_p, of 0.9

6.3.1.1.9 Panel chord factor, γ_c, of 0.8

6.3.1.1.10 Panel width of 68" and panel chord length of 43"

6.3.2 *Z-Bracket Installed onto Wood Framing Members Overlaid with 26-Gauge Meal Roof Panels - ≤ 20-psf ($P_{g,snow}$):*

6.3.2.1 The maximum spacing of SCI Z-Bracket on gable roofs are given in **Table 28**.

6.3.2.2 The maximum spacing of SCI Z-Bracket on hip roofs are outlined in **Table 29**.

6.3.2.3 The maximum spacing of SCI Z-Bracket on monoslope roofs are provided in **Table 30**.

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Table 28. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on Wood Framing Members Overlaid with 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	46	40	48	39	34	44	33	29
			7° < θ ≤ 20°	48	48	38	48	46	34	48	41	31	48	37	28	41	31	23	35	26	20	30	22	17
			20° < θ ≤ 27°	48	48	46	48	48	41	48	44	37	48	40	33	48	33	28	46	28	23	39	24	20
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	44	48	48	40	46	41	33	39	35	28	33	30	24
	C		θ ≤ 7°	48	48	48	48	48	44	48	45	39	48	41	35	45	34	29	38	28	25	32	24	21
			7° < θ ≤ 20°	48	38	28	45	34	25	41	30	23	37	27	21	30	23	17	26	19	14	22	16	12
			20° < θ ≤ 27°	48	41	34	48	36	30	48	33	27	48	29	25	40	24	20	34	21	17	29	18	15
			27° < θ ≤ 45°	48	48	41	48	45	36	45	41	33	41	37	29	34	30	24	28	26	21	24	22	18
	D		θ ≤ 7°	48	48	42	48	43	38	48	39	34	46	35	30	38	29	25	32	24	21	28	21	18
			7° < θ ≤ 20°	43	32	24	39	29	22	35	26	20	32	23	18	26	19	15	22	16	12	19	14	11
			20° < θ ≤ 27°	48	35	29	48	31	26	46	28	23	42	25	21	35	21	18	29	18	15	25	15	13
			27° < θ ≤ 45°	48	43	35	43	39	31	39	35	28	35	32	25	29	26	21	24	22	18	21	19	15

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	38	28	25	33	25	22	29	22	19	26	19	17	23	17	15	21	16	14	19	14	12
			7° < θ ≤ 20°	26	19	14	22	17	13	20	15	11	18	13	10	16	12	9	14	11	8	13	10	7
			20° < θ ≤ 27°	34	21	17	30	18	15	26	16	13	23	14	12	21	13	11	19	11	10	17	10	9
			27° < θ ≤ 45°	28	26	21	25	22	18	22	20	16	19	18	14	17	16	13	16	14	11	14	13	10
	C		θ ≤ 7°	28	21	18	24	18	16	21	16	14	19	14	13	17	13	11	15	12	10	14	11	9
			7° < θ ≤ 20°	19	14	11	17	12	9	15	11	8	13	10	7	12	9	7	11	8	-	10	7	-
			20° < θ ≤ 27°	25	15	13	22	13	11	19	12	10	17	11	9	15	9	8	14	9	7	13	8	7
			27° < θ ≤ 45°	21	19	15	18	17	13	16	15	12	14	13	11	13	12	9	12	11	9	11	10	8
	D		θ ≤ 7°	24	18	16	21	16	14	18	14	12	16	12	11	15	11	10	13	10	9	12	9	8
			7° < θ ≤ 20°	16	12	9	14	11	8	13	9	7	11	8	-	10	8	-	9	7	-	8	-	-
			20° < θ ≤ 27°	22	13	11	19	12	10	17	10	9	15	9	8	13	8	7	12	7	-	11	7	-
			27° < θ ≤ 45°	18	16	13	16	14	12	14	13	10	12	11	9	11	10	8	10	9	7	9	8	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 29. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on Wood Framing Members Overlaid with 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Roof/Panel Angle	Wind Speed-mph	85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	46	40	48	39	34	44	33	29
			7° < θ ≤ 20°	48	48	48	48	48	47	48	46	43	48	42	38	46	34	32	39	29	27	33	25	23
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	41	41	48	35	35	42	30	30
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	46	48	48	42	48	46	34	46	39	29	39	33	25
	C		θ ≤ 7°	48	48	48	48	48	44	48	45	39	48	41	35	45	34	29	38	28	25	32	24	21
			7° < θ ≤ 20°	48	42	39	48	38	35	45	34	31	41	31	28	34	25	24	28	21	20	24	18	17
			20° < θ ≤ 27°	48	48	48	48	45	45	48	41	41	48	37	37	43	30	30	36	26	26	31	22	22
			27° < θ ≤ 45°	48	48	42	48	48	38	48	45	34	48	41	31	40	34	25	34	28	21	29	24	18
	D		θ ≤ 7°	48	48	42	48	43	38	48	39	34	46	35	30	38	29	25	32	24	21	28	21	18
			7° < θ ≤ 20°	48	36	34	43	32	30	39	29	27	35	26	24	29	22	20	24	18	17	21	16	15
			20° < θ ≤ 27°	48	43	43	48	39	39	48	35	35	45	32	32	37	26	26	31	22	22	27	19	19
			27° < θ ≤ 45°	48	48	36	48	43	32	46	39	29	42	35	26	35	29	22	29	24	18	25	21	16

Ground Snow	Exp. Cat.	Roof/Panel Angle	Wind Speed-mph	140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B		θ ≤ 7°	38	28	25	33	25	22	29	22	19	26	19	17	23	17	15	21	16	14	19	14	12
			7° < θ ≤ 20°	28	21	20	25	19	17	22	17	15	19	15	14	17	13	12	16	12	11	14	11	10
			20° < θ ≤ 27°	36	26	26	32	22	22	28	20	20	25	18	18	22	16	16	20	14	14	18	13	13
			27° < θ ≤ 45°	34	28	21	30	25	19	26	22	17	23	19	15	21	17	13	19	16	12	17	14	11
	C		θ ≤ 7°	28	21	18	24	18	16	21	16	14	19	14	13	17	13	11	15	12	10	14	11	9
			7° < θ ≤ 20°	21	16	15	18	14	13	16	12	11	14	11	10	13	10	9	12	9	8	11	8	7
			20° < θ ≤ 27°	27	19	19	23	17	17	21	15	15	18	13	13	16	12	12	15	11	11	13	10	10
			27° < θ ≤ 45°	25	21	16	22	18	14	19	16	12	17	14	11	15	13	10	14	12	9	13	11	8
	D		θ ≤ 7°	24	18	16	21	16	14	18	14	12	16	12	11	15	11	10	13	10	9	12	9	8
			7° < θ ≤ 20°	18	14	13	16	12	11	14	11	10	12	9	9	11	8	8	10	8	7	9	7	-
			20° < θ ≤ 27°	23	16	16	20	14	14	18	13	13	16	11	11	14	10	10	13	9	9	12	8	8
			27° < θ ≤ 45°	22	18	14	19	16	12	17	14	11	15	12	9	13	11	8	12	10	8	11	9	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 30. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on Wood Framing Members Overlaid with 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	47	48	48	43	48	48	35	48	43	30	48	37	25
			10° < θ ≤ 30°	48	48	48	48	48	42	48	48	38	48	48	35	48	48	29	48	43	24	45	37	21
	C		3° < θ ≤ 10°	48	48	43	48	48	39	48	48	35	48	45	31	48	37	26	43	32	22	37	27	19
			10° < θ ≤ 30°	48	48	35	48	48	31	48	48	28	48	46	25	47	38	21	39	32	18	33	27	15
	D		3° < θ ≤ 10°	48	48	37	48	48	33	48	43	30	48	39	27	44	32	22	37	27	19	32	23	16
			10° < θ ≤ 30°	48	48	30	48	48	27	48	43	24	48	39	22	40	33	18	34	27	15	29	23	13
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	43	32	22	38	28	19	33	24	17	30	22	15	27	19	14	24	17	12	22	16	11
			10° < θ ≤ 30°	39	32	18	34	28	16	30	25	14	27	22	12	24	20	11	22	18	10	19	16	9
	C		3° < θ ≤ 10°	32	23	16	28	20	14	25	18	13	22	16	11	20	14	10	18	13	9	16	12	8
			10° < θ ≤ 30°	29	24	13	25	21	12	22	18	10	20	16	9	18	14	8	16	13	7	14	12	7
	D		3° < θ ≤ 10°	28	20	14	24	18	12	21	15	11	19	14	10	17	12	9	15	11	8	14	10	7
			10° < θ ≤ 30°	25	20	11	22	18	10	19	16	9	17	14	8	15	12	7	14	11	-	12	10	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.3 *Z-Bracket Installed onto $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels – ≤ 20 psf ($P_{g,snow}$):*

6.3.3.1 The maximum spacing of SCI Z-Bracket on gable roofs are outlined in **Table 31**.

6.3.3.2 The maximum spacing of SCI Z-Bracket on hip roofs are provided in **Table 32**.

6.3.3.3 The maximum spacing of SCI Z-Bracket on monoslope roofs are specified in **Table 33**.

Table 31. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	36	27	24	32	24	21	29	22	19	26	20	17	22	16	14	18	14	12	16	12	10
			7° < θ ≤ 20°	25	18	14	22	16	12	20	15	11	18	13	10	15	11	8	13	9	7	11	8	-
			20° < θ ≤ 27°	33	20	17	29	18	15	26	16	13	24	14	12	20	12	10	17	10	9	14	9	7
			27° < θ ≤ 45°	27	25	20	24	22	18	22	20	16	20	18	14	16	15	12	14	13	10	12	11	9
	C		θ ≤ 7°	27	20	18	24	18	16	21	16	14	19	15	13	16	12	11	14	10	9	12	9	8
			7° < θ ≤ 20°	18	14	10	16	12	9	15	11	8	13	10	8	11	8	-	9	7	-	8	-	-
			20° < θ ≤ 27°	24	15	12	22	13	11	19	12	10	18	11	9	15	9	8	12	8	-	11	7	-
			27° < θ ≤ 45°	20	18	15	18	16	13	16	15	12	15	13	11	12	11	9	10	9	8	9	8	7
	D		θ ≤ 7°	23	17	15	21	16	14	18	14	12	17	13	11	14	11	9	12	9	8	10	8	7
			7° < θ ≤ 20°	16	12	9	14	11	8	13	9	7	11	9	7	10	7	-	8	-	-	7	-	-
			20° < θ ≤ 27°	21	13	11	19	11	10	17	10	9	15	9	8	13	8	7	11	7	-	9	-	-
			27° < θ ≤ 45°	17	16	13	16	14	11	14	13	10	13	11	9	11	10	8	9	8	7	8	7	-

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	14	10	9	12	9	8	11	8	7	9	7	-	8	-	-	8	-	-	7	-	-
			7° < θ ≤ 20°	9	7	-	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	12	8	-	11	7	-	10	-	-	9	-	-	8	-	-	7	-	-	-	-	-
			27° < θ ≤ 45°	10	9	8	9	8	7	8	7	-	7	7	-	-	-	-	-	-	-	-	-	-
	C		θ ≤ 7°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 32. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	36	27	24	32	24	21	29	22	19	26	20	17	22	16	14	18	14	12	16	12	10
			7° < θ ≤ 20°	27	21	19	24	18	17	22	17	15	20	15	14	16	12	12	14	11	10	12	9	8
			20° < θ ≤ 27°	35	25	25	31	22	22	28	20	20	25	18	18	21	15	15	18	13	13	15	11	11
			27° < θ ≤ 45°	33	27	21	29	24	18	26	22	17	24	20	15	20	16	12	17	14	11	14	12	9
	C		θ ≤ 7°	27	20	18	24	18	16	21	16	14	19	15	13	16	12	11	14	10	9	12	9	8
			7° < θ ≤ 20°	20	15	14	18	14	13	16	12	11	15	11	10	12	9	9	10	8	7	9	7	-
			20° < θ ≤ 27°	26	18	18	23	16	16	21	15	15	19	13	13	16	11	11	13	9	9	11	8	8
			27° < θ ≤ 45°	24	20	15	22	18	14	19	16	12	18	15	11	15	12	9	12	10	8	11	9	7
	D		θ ≤ 7°	23	17	15	21	16	14	18	14	12	17	13	11	14	11	9	12	9	8	10	8	7
			7° < θ ≤ 20°	17	13	12	16	12	11	14	11	10	13	10	9	11	8	7	9	7	-	8	-	-
			20° < θ ≤ 27°	22	16	16	20	14	14	18	13	13	16	11	11	13	10	10	11	8	8	10	7	7
			27° < θ ≤ 45°	21	17	13	19	16	12	17	14	11	15	13	10	13	11	8	11	9	7	9	8	-

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	14	10	9	12	9	8	11	8	7	9	7	-	8	-	-	8	-	-	7	-	-
			7° < θ ≤ 20°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	13	9	9	12	8	8	10	7	7	9	7	7	8	-	-	7	-	-	7	-	-
			27° < θ ≤ 45°	12	10	8	11	9	7	10	8	-	9	7	-	8	-	-	7	-	-	-	-	-
	C		θ ≤ 7°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	10	7	7	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 33. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	42	30	21	37	27	19	33	24	17	30	22	15	25	18	13	21	15	11	18	13	9
			10° < θ ≤ 30°	38	31	17	34	27	15	30	25	14	27	22	13	23	18	10	19	16	9	16	13	8
	C		3° < θ ≤ 10°	31	22	16	27	20	14	25	18	13	22	16	11	19	14	10	16	11	8	13	10	7
			10° < θ ≤ 30°	28	23	13	25	20	11	22	18	10	20	16	9	17	14	8	14	12	7	12	10	-
	D		3° < θ ≤ 10°	26	19	13	24	17	12	21	15	11	19	14	10	16	12	8	14	10	7	12	9	-
			10° < θ ≤ 30°	24	19	11	21	17	10	19	16	9	17	14	8	14	12	7	12	10	-	10	9	-

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	16	11	8	14	10	7	12	9	-	11	8	-	10	7	-	9	-	-	8	-	-
			10° < θ ≤ 30°	14	12	7	12	10	-	11	9	-	10	8	-	9	7	-	8	7	-	7	-	-
	C		3° < θ ≤ 10°	12	9	-	10	8	-	9	7	-	8	-	-	7	-	-	7	-	-	-	-	-
			10° < θ ≤ 30°	11	9	-	9	8	-	8	7	-	7	-	-	7	-	-	-	-	-	-	-	-
	D		3° < θ ≤ 10°	10	7	-	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			10° < θ ≤ 30°	9	7	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.4 *Z-Bracket Installed onto 20-Gauge CFS Framing Members Overlaid with 26-Gauge Metal Roof Panels – ≤ 20-psf ($P_{g,snow}$):*

6.3.4.1 The maximum spacing of SCI Z-Bracket on gable roofs are given in **Table 34**.

6.3.4.2 The maximum spacing of SCI Z-Bracket on hip roofs are outlined in **Table 35**.

6.3.4.3 The maximum spacing of SCI Z-Bracket on monoslope roofs are provided in **Table 36**.

Table 34. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on 20-Gauge CFS Framing Members Overlaid with 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	36	32	43	32	28	39	29	25	35	26	23	29	22	19	24	18	16	21	16	14
			7° < θ ≤ 20°	33	24	18	29	22	16	26	20	15	24	18	13	20	15	11	17	12	9	14	11	8
			20° < θ ≤ 27°	34	26	22	34	23	20	34	21	18	31	19	16	26	16	13	22	13	11	19	11	10
			27° < θ ≤ 45°	26	26	26	26	26	23	26	26	21	26	24	19	22	20	16	18	17	13	16	14	11
	C		θ ≤ 7°	35	27	23	32	24	21	28	21	19	26	19	17	21	16	14	18	14	12	15	12	10
			7° < θ ≤ 20°	24	18	14	22	16	12	19	14	11	18	13	10	15	11	8	12	9	7	11	8	-
			20° < θ ≤ 27°	32	19	16	29	17	15	26	16	13	23	14	12	19	12	10	16	10	8	14	9	7
			27° < θ ≤ 45°	27	24	19	24	22	17	21	19	16	19	18	14	16	15	12	14	12	10	12	11	9
	D		θ ≤ 7°	30	23	20	27	21	18	24	18	16	22	17	15	18	14	12	16	12	10	13	10	9
			7° < θ ≤ 20°	21	15	12	19	14	11	17	12	9	15	11	9	13	9	7	11	8	-	9	7	-
			20° < θ ≤ 27°	27	17	14	25	15	13	22	13	11	20	12	10	17	10	9	14	9	7	12	7	-
			27° < θ ≤ 45°	23	21	17	21	19	15	18	17	13	17	15	12	14	13	10	12	11	9	10	9	7

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	18	14	12	16	12	10	14	11	9	12	9	8	11	8	7	10	8	7	9	7	-
			7° < θ ≤ 20°	12	9	7	11	8	-	10	7	-	9	-	-	8	-	-	7	-	-	-	-	-
			20° < θ ≤ 27°	16	10	8	14	9	7	13	8	7	11	7	-	10	-	-	9	-	-	8	-	-
			27° < θ ≤ 45°	14	12	10	12	11	9	11	10	8	9	9	7	8	8	-	8	7	-	7	-	-
	C		θ ≤ 7°	13	10	9	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	7	-	-
			7° < θ ≤ 20°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	12	7	-	11	7	-	9	-	-	8	-	-	8	-	-	7	-	-	-	-	-
			27° < θ ≤ 45°	10	9	7	9	8	7	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	10	-	-	9	-	-	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 35. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on 20-Gauge CFS Framing Members Overlaid with 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	36	32	43	32	28	39	29	25	35	26	23	29	22	19	24	18	16	21	16	14
			7° < θ ≤ 20°	36	27	25	32	24	23	29	22	20	26	20	18	22	16	15	18	14	13	16	12	11
			20° < θ ≤ 27°	34	33	33	34	29	29	34	26	26	34	24	24	28	20	20	24	17	17	20	14	14
			27° < θ ≤ 45°	26	26	26	26	26	24	26	26	22	26	26	20	26	22	16	22	18	14	19	16	12
	C		θ ≤ 7°	35	27	23	32	24	21	28	21	19	26	19	17	21	16	14	18	14	12	15	12	10
			7° < θ ≤ 20°	27	20	19	24	18	17	21	16	15	19	15	14	16	12	11	14	10	10	12	9	8
			20° < θ ≤ 27°	34	24	24	31	22	22	27	19	19	25	18	18	21	15	15	17	12	12	15	11	11
			27° < θ ≤ 45°	28	27	20	28	24	18	26	21	16	23	19	15	19	16	12	16	14	10	14	12	9
	D		θ ≤ 7°	30	23	20	27	21	18	24	18	16	22	17	15	18	14	12	16	12	10	13	10	9
			7° < θ ≤ 20°	23	17	16	21	16	14	18	14	13	17	13	12	14	11	10	12	9	8	10	8	7
			20° < θ ≤ 27°	29	21	21	26	19	19	24	17	17	21	15	15	18	13	13	15	11	11	13	9	9
			27° < θ ≤ 45°	27	23	17	25	21	16	22	18	14	20	17	13	17	14	11	14	12	9	12	10	8

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	18	14	12	16	12	10	14	11	9	12	9	8	11	8	7	10	8	7	9	7	-
			7° < θ ≤ 20°	14	10	10	12	9	8	11	8	7	9	7	7	8	-	-	8	-	-	7	-	-
			20° < θ ≤ 27°	17	12	12	15	11	11	13	10	10	12	9	9	11	8	8	10	7	7	9	-	-
			27° < θ ≤ 45°	16	14	10	14	12	9	13	11	8	11	9	7	10	8	-	9	8	-	8	7	-
	C		θ ≤ 7°	13	10	9	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	7	-	-
			7° < θ ≤ 20°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	13	9	9	11	8	8	10	7	7	9	-	-	8	-	-	7	-	-	7	-	-
			27° < θ ≤ 45°	12	10	8	11	9	7	9	8	-	8	7	-	8	-	-	7	-	-	-	-	-
	D		θ ≤ 7°	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	11	8	8	10	7	7	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	10	9	7	9	8	-	8	7	-	7	-	-	7	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 36. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on 20-Gauge CFS Framing Members Overlaid with 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	40	28	48	36	25	44	32	22	40	29	20	33	24	17	28	20	14	24	17	12
			10° < θ ≤ 30°	32	32	23	32	32	20	32	32	18	32	30	17	30	24	14	25	21	12	22	18	10
	C		3° < θ ≤ 10°	41	30	21	36	26	18	33	24	17	30	22	15	25	18	13	21	15	11	18	13	9
			10° < θ ≤ 30°	34	30	17	33	27	15	30	24	14	27	22	12	22	18	10	19	15	9	16	13	7
	D		3° < θ ≤ 10°	35	25	18	31	23	16	28	20	14	25	19	13	21	15	11	18	13	9	15	11	8
			10° < θ ≤ 30°	32	26	14	28	23	13	25	21	12	23	19	11	19	16	9	16	13	7	14	11	-
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	21	15	11	18	13	9	16	12	8	14	10	7	13	9	7	11	8	-	10	8	-
			10° < θ ≤ 30°	19	15	9	16	13	8	14	12	7	13	11	-	12	9	-	10	9	-	9	8	-
	C		3° < θ ≤ 10°	15	11	8	13	10	7	12	9	-	11	8	-	9	7	-	9	-	-	8	-	-
			10° < θ ≤ 30°	14	11	-	12	10	-	11	9	-	10	8	-	9	7	-	8	-	-	7	-	-
	D		3° < θ ≤ 10°	13	10	7	12	9	-	10	8	-	9	7	-	8	-	-	7	-	-	7	-	-
			10° < θ ≤ 30°	12	10	-	10	9	-	9	8	-	8	7	-	7	-	-	7	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.5 *Z-Bracket Installed onto 22-Gauge Metal Roof Panels on Decking - ≤ 20-psf ($P_{g,snow}$):*

6.3.5.1 The maximum spacing of SCI Z-Bracket on gable roofs are provided in **Table 37**.

6.3.5.2 The maximum spacing of SCI Z-Bracket on hip roofs are provided in **Table 38**.

6.3.5.3 The maximum spacing of SCI Z-Bracket on monoslope roofs are provided in **Table 39**.

Table 37. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on 22-Gauge Metal Roof Panels on Decking– Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	39	34	46	35	30	41	31	27	37	28	25	31	23	20	26	20	17	22	17	15
			7° < θ ≤ 20°	35	26	20	31	23	18	28	21	16	25	19	14	21	16	12	18	13	10	15	11	9
			20° < θ ≤ 27°	29	28	24	29	25	21	29	23	19	29	20	17	28	17	14	24	14	12	20	12	10
			27° < θ ≤ 45°	23	23	23	23	23	23	23	23	23	23	23	20	23	21	17	20	18	14	17	15	12
	C		θ ≤ 7°	38	29	25	34	26	22	31	23	20	28	21	18	23	17	15	19	15	13	17	13	11
			7° < θ ≤ 20°	26	19	15	23	17	13	21	16	12	19	14	11	16	12	9	13	10	8	11	9	7
			20° < θ ≤ 27°	31	21	17	31	19	16	28	17	14	25	15	13	21	13	11	17	11	9	15	9	8
			27° < θ ≤ 45°	24	24	21	24	23	19	23	21	17	21	19	15	17	16	13	15	13	11	13	11	9
	D		θ ≤ 7°	33	25	21	29	22	19	26	20	17	24	18	16	20	15	13	17	13	11	14	11	9
			7° < θ ≤ 20°	22	17	13	20	15	11	18	13	10	16	12	9	13	10	8	11	9	7	10	7	-
			20° < θ ≤ 27°	29	18	15	26	16	13	24	14	12	21	13	11	18	11	9	15	9	8	13	8	7
			27° < θ ≤ 45°	25	22	18	22	20	16	20	18	14	18	16	13	15	13	11	13	11	9	11	10	8

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	19	15	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7	10	7	7
			7° < θ ≤ 20°	13	10	8	12	9	7	10	8	-	9	7	-	8	-	-	7	-	-	7	-	-
			20° < θ ≤ 27°	17	11	9	15	9	8	13	8	7	12	7	-	11	7	-	10	-	-	9	-	-
			27° < θ ≤ 45°	15	13	11	13	12	9	11	10	8	10	9	7	9	8	7	8	7	-	7	7	-
	C		θ ≤ 7°	14	11	10	13	10	8	11	8	7	10	8	7	9	7	-	8	-	-	7	-	-
			7° < θ ≤ 20°	10	7	-	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	13	8	7	11	7	-	10	-	-	9	-	-	8	-	-	7	-	-	7	-	-
			27° < θ ≤ 45°	11	10	8	10	9	7	8	8	-	8	7	-	7	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	12	9	8	11	8	7	10	7	-	9	7	-	8	-	-	7	-	-	-	-	-
			7° < θ ≤ 20°	9	-	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	11	7	-	10	-	-	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	9	9	7	8	7	-	7	7	-	7	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 38. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on 22-Gauge Metal Roof Panels on Decking – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	39	34	46	35	30	41	31	27	37	28	25	31	23	20	26	20	17	22	17	15
			7° < θ ≤ 20°	37	29	27	35	26	24	31	24	22	28	21	20	23	18	16	20	15	14	17	13	12
			20° < θ ≤ 27°	29	29	29	29	29	29	29	28	28	29	25	25	29	21	21	25	18	18	22	15	15
			27° < θ ≤ 45°	23	23	23	23	23	23	23	23	23	23	23	21	23	23	18	23	20	15	20	17	13
	C		θ ≤ 7°	38	29	25	34	26	22	31	23	20	28	21	18	23	17	15	19	15	13	17	13	11
			7° < θ ≤ 20°	29	22	20	26	19	18	23	17	16	21	16	15	17	13	12	15	11	10	13	10	9
			20° < θ ≤ 27°	31	26	26	31	23	23	29	21	21	27	19	19	22	16	16	19	13	13	16	11	11
			27° < θ ≤ 45°	24	24	22	24	24	19	24	23	17	24	21	16	21	17	13	17	15	11	15	13	10
	D		θ ≤ 7°	33	25	21	29	22	19	26	20	17	24	18	16	20	15	13	17	13	11	14	11	9
			7° < θ ≤ 20°	25	19	17	22	17	15	20	15	14	18	14	13	15	11	10	13	10	9	11	8	8
			20° < θ ≤ 27°	32	22	22	28	20	20	25	18	18	23	16	16	19	13	13	16	11	11	14	10	10
			27° < θ ≤ 45°	26	25	19	26	22	17	24	20	15	21	18	14	18	15	11	15	13	10	13	11	8
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	19	15	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7	10	7	7
			7° < θ ≤ 20°	15	11	10	13	10	9	11	9	8	10	8	7	9	7	-	8	-	-	7	-	-
			20° < θ ≤ 27°	19	13	13	16	12	12	14	10	10	13	9	9	11	8	8	10	7	7	9	7	7
			27° < θ ≤ 45°	17	15	11	15	13	10	13	11	9	12	10	8	11	9	7	10	8	-	9	7	-
	C		θ ≤ 7°	14	11	10	13	10	8	11	8	7	10	8	7	9	7	-	8	-	-	7	-	-
			7° < θ ≤ 20°	11	8	8	10	7	7	8	-	-	8	-	-	7	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	14	10	10	12	9	9	11	8	8	10	7	7	9	-	-	8	-	-	7	-	-
			27° < θ ≤ 45°	13	11	8	11	10	7	10	8	-	9	8	-	8	7	-	7	-	-	7	-	-
	D		θ ≤ 7°	12	9	8	11	8	7	10	7	-	9	7	-	8	-	-	7	-	-	-	-	-
			7° < θ ≤ 20°	9	7	7	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	12	9	9	10	7	7	9	7	7	8	-	-	7	-	-	7	-	-	-	-	-
			27° < θ ≤ 45°	11	9	7	10	8	-	9	7	-	8	7	-	7	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 39. Required Spacing (in. o.c.) for SCI Z-Bracket Installed on 22-Gauge Metal Roof Panels on Decking – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	43	30	48	39	27	48	35	24	43	31	22	36	26	18	30	22	15	26	19	13
			10° < θ ≤ 30°	27	27	24	27	27	22	27	27	20	27	27	18	27	26	15	27	22	12	23	19	11
	C		3° < θ ≤ 10°	44	32	22	39	28	20	35	26	18	32	23	16	26	19	13	22	16	11	19	14	10
			10° < θ ≤ 30°	29	29	18	29	29	16	29	26	14	29	23	13	24	19	11	20	16	9	17	14	8
	D		3° < θ ≤ 10°	38	27	19	34	24	17	30	22	15	27	20	14	23	17	12	19	14	10	16	12	8
			10° < θ ≤ 30°	31	28	15	30	25	14	27	22	12	25	20	11	20	17	9	17	14	8	15	12	7
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	22	16	11	19	14	10	17	13	9	15	11	8	14	10	7	12	9	-	11	8	-
			10° < θ ≤ 30°	20	16	9	18	14	8	15	13	7	14	11	-	12	10	-	11	9	-	10	8	-
	C		3° < θ ≤ 10°	16	12	8	14	11	7	13	9	7	11	8	-	10	7	-	9	7	-	8	-	-
			10° < θ ≤ 30°	15	12	7	13	11	-	12	9	-	10	8	-	9	8	-	8	7	-	8	-	-
	D		3° < θ ≤ 10°	14	10	7	12	9	-	11	8	-	10	7	-	9	-	-	8	-	-	7	-	-
			10° < θ ≤ 30°	13	11	-	11	9	-	10	8	-	9	7	-	8	7	-	7	-	-	7	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.6 *PM 9000-S Installed onto Wood Framing Members Overlaid with 26-Gauge Metal Roof Panels - ≤ 20-psf ($P_{g,snow}$):*

6.3.6.1 The maximum spacing of SCI PM 9000-S on gable roofs are provided in **Table 40**.

6.3.6.2 The maximum spacing of SCI PM 9000-S on hip roofs are provided in **Table 41**.

6.3.6.3 The maximum spacing of SCI PM 9000-S on monoslope roofs are provided in **Table 42**.

Table 40. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on SPF Framing Members Overlaid with 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	44	48	48	40	48	44	33	48	37	28	43	32	24
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	40	48	40	34	48	34	29
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	40	47	43	34
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	48	41	36	46	35	30
			7° < θ ≤ 20°	48	48	41	48	48	36	48	43	33	48	39	30	44	33	25	37	27	21	31	23	18
			20° < θ ≤ 27°	48	48	48	48	48	44	48	47	39	48	42	35	48	35	29	48	30	25	42	25	21
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	47	48	48	42	48	44	35	41	37	30	35	31	25
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	44	48	42	36	47	35	31	40	30	26
			7° < θ ≤ 20°	48	47	35	48	42	31	48	37	28	45	34	25	38	28	21	32	24	18	27	20	15
			20° < θ ≤ 27°	48	48	42	48	45	37	48	40	34	48	36	30	48	30	25	42	25	21	36	22	18
			27° < θ ≤ 45°	48	48	48	48	48	45	48	48	40	48	45	36	42	38	30	35	32	25	30	27	22

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	41	36	47	36	31	42	31	27	37	28	24	33	25	22	30	22	20	27	20	18
			7° < θ ≤ 20°	37	27	21	32	24	18	28	21	16	25	19	14	23	17	13	20	15	11	18	14	10
			20° < θ ≤ 27°	48	30	25	43	26	22	38	23	19	33	20	17	30	18	15	27	16	14	24	15	12
			27° < θ ≤ 45°	41	37	30	36	32	26	31	28	23	28	25	20	25	23	18	22	20	16	20	18	15
	C		θ ≤ 7°	40	30	26	35	26	23	31	23	20	27	21	18	24	18	16	22	17	15	20	15	13
			7° < θ ≤ 20°	27	20	15	24	18	13	21	16	12	19	14	11	17	12	9	15	11	9	14	10	8
			20° < θ ≤ 27°	36	22	18	32	19	16	28	17	14	25	15	13	22	13	11	20	12	10	18	11	9
			27° < θ ≤ 45°	30	27	22	26	24	19	23	21	17	21	19	15	18	17	13	17	15	12	15	14	11
	D		θ ≤ 7°	34	26	23	30	23	20	26	20	17	24	18	16	21	16	14	19	14	13	17	13	11
			7° < θ ≤ 20°	23	17	13	20	15	12	18	13	10	16	12	9	14	11	8	13	10	7	12	9	7
			20° < θ ≤ 27°	31	19	16	27	16	14	24	15	12	21	13	11	19	12	10	17	10	9	15	9	8
			27° < θ ≤ 45°	26	23	19	23	20	16	20	18	15	18	16	13	16	14	12	14	13	10	13	12	9

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 41. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on SPF Framing Members Overlaid with 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	42	39	47	36	33
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	43	43
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	48	47	36
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	48	41	36	46	35	30
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	45	48	44	41	48	37	34	41	31	28	35	26	24
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	44	44	48	37	37	45	31	31
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	44	48	48	37	48	41	31	42	35	26
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	44	48	42	36	47	35	31	40	30	26
			7° < θ ≤ 20°	48	48	48	48	47	43	48	42	39	48	38	35	42	31	29	35	26	24	30	23	21
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	45	45	48	38	38	45	32	32	38	27	27
			27° < θ ≤ 45°	48	48	48	48	48	47	48	48	42	48	48	38	48	42	31	42	35	26	36	30	23
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	41	36	47	36	31	42	31	27	37	28	24	33	25	22	30	22	20	27	20	18
			7° < θ ≤ 20°	41	31	29	36	27	25	31	24	22	28	21	19	25	19	17	22	17	16	20	15	14
			20° < θ ≤ 27°	48	37	37	46	32	32	40	28	28	36	25	25	32	23	23	29	20	20	26	18	18
			27° < θ ≤ 45°	48	41	31	43	36	27	38	31	24	33	28	21	30	25	19	27	22	17	24	20	15
	C		θ ≤ 7°	40	30	26	35	26	23	31	23	20	27	21	18	24	18	16	22	17	15	20	15	13
			7° < θ ≤ 20°	30	23	21	26	20	18	23	18	16	21	16	14	18	14	13	17	13	12	15	11	11
			20° < θ ≤ 27°	39	27	27	34	24	24	30	21	21	26	19	19	24	17	17	21	15	15	19	14	14
			27° < θ ≤ 45°	36	30	23	32	26	20	28	23	18	25	21	16	22	18	14	20	17	13	18	15	11
	D		θ ≤ 7°	34	26	23	30	23	20	26	20	17	24	18	16	21	16	14	19	14	13	17	13	11
			7° < θ ≤ 20°	26	20	18	23	17	16	20	15	14	18	13	12	16	12	11	14	11	10	13	10	9
			20° < θ ≤ 27°	33	23	23	29	20	20	26	18	18	23	16	16	20	14	14	18	13	13	17	12	12
			27° < θ ≤ 45°	31	26	20	27	23	17	24	20	15	21	18	13	19	16	12	17	14	11	15	13	10

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 42. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on SPF Framing Members Overlaid with 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	43	48	48	37
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	41	48	48	35	48	48	30
	C		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	45	48	48	37	48	45	32	48	39	27
			10° < θ ≤ 30°	48	48	48	48	48	45	48	48	41	48	48	37	48	48	30	48	46	26	48	39	22
	D		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	43	48	48	39	48	46	32	48	39	27	46	33	23
			10° < θ ≤ 30°	48	48	43	48	48	39	48	48	35	48	48	31	48	47	26	48	39	22	41	34	19
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	45	32	48	40	28	48	35	24	43	31	22	38	28	19	34	25	17	31	23	16
			10° < θ ≤ 30°	48	46	26	48	40	22	43	35	20	38	31	18	34	28	16	31	25	14	28	23	13
	C		3° < θ ≤ 10°	46	33	23	40	29	20	35	26	18	31	23	16	28	20	14	25	18	13	23	17	12
			10° < θ ≤ 30°	42	34	19	36	30	17	32	26	15	28	23	13	25	21	12	23	19	11	21	17	10
	D		3° < θ ≤ 10°	40	29	20	35	25	18	30	22	15	27	20	14	24	18	12	22	16	11	20	14	10
			10° < θ ≤ 30°	36	29	16	31	25	14	27	22	13	24	20	11	22	18	10	20	16	9	18	15	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.7 *PM 9000-S Installed onto $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels - ≤ 20-psf ($P_{g,snow}$):*

6.3.7.1 The maximum spacing of SCI PM 9000-S on gable roofs are provided in **Table 43**.

6.3.7.2 The maximum spacing of SCI PM 9000-S on hip roofs are provided in **Table 44**.

6.3.7.3 The maximum spacing of SCI PM 9000-S on monoslope roofs are provided in **Table 45**.

Table 43. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph	85			90			95			100			110			120			130		
		Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle θ ≤ 7°	35	26	23	31	24	21	28	21	19	25	19	17	21	16	14	18	13	12	15	12	10
		7° < θ ≤ 20°	24	18	13	21	16	12	19	14	11	17	13	10	14	11	8	12	9	7	10	8	-
		20° < θ ≤ 27°	32	19	16	28	17	14	25	15	13	23	14	12	19	12	10	16	10	8	14	8	7
		27° < θ ≤ 45°	26	24	19	24	21	17	21	19	15	19	17	14	16	14	12	13	12	10	12	10	8
	C	θ ≤ 7°	26	19	17	23	17	15	21	16	14	19	14	12	16	12	10	13	10	9	11	9	8
		7° < θ ≤ 20°	18	13	10	16	12	9	14	11	8	13	10	7	11	8	-	9	7	-	8	-	-
		20° < θ ≤ 27°	23	14	12	21	13	11	19	11	10	17	10	9	14	9	7	12	7	-	10	-	-
		27° < θ ≤ 45°	19	18	14	17	16	13	16	14	11	14	13	10	12	11	9	10	9	7	9	8	-
	D	θ ≤ 7°	22	17	15	20	15	13	18	14	12	16	12	11	13	10	9	11	9	8	10	7	7
		7° < θ ≤ 20°	15	11	9	14	10	8	12	9	7	11	8	-	9	7	-	8	-	-	7	-	-
		20° < θ ≤ 27°	20	12	10	18	11	9	16	10	8	15	9	8	12	8	-	10	-	-	9	-	-
		27° < θ ≤ 45°	17	15	12	15	14	11	14	12	10	12	11	9	10	9	8	9	8	-	7	7	-

Ground Snow	Exp. Cat.	Wind Speed-mph	140			150			160			170			180			190			200		
		Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle θ ≤ 7°	13	10	9	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	7	-	-
		7° < θ ≤ 20°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20° < θ ≤ 27°	12	7	-	10	-	-	9	-	-	8	-	-	7	-	-	7	-	-	-	-	-
		27° < θ ≤ 45°	10	9	7	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-
	C	θ ≤ 7°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
		7° < θ ≤ 20°	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20° < θ ≤ 27°	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27° < θ ≤ 45°	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D	θ ≤ 7°	9	7	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		7° < θ ≤ 20°	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20° < θ ≤ 27°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27° < θ ≤ 45°	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 44. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	35	26	23	31	24	21	28	21	19	25	19	17	21	16	14	18	13	12	15	12	10
			7° < θ ≤ 20°	26	20	18	24	18	16	21	16	15	19	15	13	16	12	11	13	10	9	12	9	8
			20° < θ ≤ 27°	34	24	24	30	21	21	27	19	19	25	17	17	20	14	14	17	12	12	15	10	10
			27° < θ ≤ 45°	26	26	20	26	24	18	25	21	16	23	19	15	19	16	12	16	13	10	14	12	9
	C		θ ≤ 7°	26	19	17	23	17	15	21	16	14	19	14	12	16	12	10	13	10	9	11	9	8
			7° < θ ≤ 20°	19	15	14	17	13	12	16	12	11	14	11	10	12	9	8	10	8	7	9	7	-
			20° < θ ≤ 27°	25	18	18	22	16	16	20	14	14	18	13	13	15	11	11	13	9	9	11	8	8
			27° < θ ≤ 45°	23	19	15	21	17	13	19	16	12	17	14	11	14	12	9	12	10	8	10	9	7
	D		θ ≤ 7°	22	17	15	20	15	13	18	14	12	16	12	11	13	10	9	11	9	8	10	7	7
			7° < θ ≤ 20°	17	13	12	15	11	11	14	10	10	12	9	9	10	8	7	9	7	-	7	-	-
			20° < θ ≤ 27°	21	15	15	19	14	14	17	12	12	16	11	11	13	9	9	11	8	8	9	7	7
			27° < θ ≤ 45°	20	17	13	18	15	11	16	14	10	15	12	9	12	10	8	10	9	7	9	7	-

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	13	10	9	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	7	-	-
			7° < θ ≤ 20°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	13	9	9	11	8	8	10	7	7	9	-	-	8	-	-	7	-	-	7	-	-
			27° < θ ≤ 45°	12	10	8	10	9	7	9	8	-	8	7	-	7	-	-	7	-	-	-	-	-
	C		θ ≤ 7°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	10	7	7	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	9	7	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 45. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on $^{7}/_{16}$" OSB Overlaid with 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	40	29	20	36	26	18	32	24	16	29	21	15	24	18	12	20	15	10	18	13	9
			10° < θ ≤ 30°	32	30	17	32	26	15	29	24	13	26	22	12	22	18	10	18	15	9	16	13	7
	C		3° < θ ≤ 10°	30	22	15	27	19	14	24	17	12	22	16	11	18	13	9	15	11	8	13	10	7
			10° < θ ≤ 30°	27	22	12	24	20	11	22	18	10	19	16	9	16	13	8	14	11	-	12	10	-
	D		3° < θ ≤ 10°	26	19	13	23	17	12	21	15	11	19	14	10	15	11	8	13	10	7	11	8	-
			10° < θ ≤ 30°	23	19	11	21	17	10	19	15	9	17	14	8	14	11	7	12	10	-	10	8	-
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	15	11	8	13	10	7	12	9	-	10	8	-	9	7	-	8	-	-	8	-	-
			10° < θ ≤ 30°	14	11	-	12	10	-	11	9	-	9	8	-	8	7	-	8	-	-	7	-	-
	C		3° < θ ≤ 10°	11	8	-	10	7	-	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-
			10° < θ ≤ 30°	10	8	-	9	7	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-
	D		3° < θ ≤ 10°	10	7	-	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			10° < θ ≤ 30°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.8 *PM 9000-S Installed onto 20-Gauge CFS Framing Members Overlaid with 26-Guage Metal Roof Panels - ≤ 20-psf ($P_{g,snow}$):*

6.3.8.1 The maximum spacing of SCI PM 9000-S on gable roofs are provided in **Table 46**.

6.3.8.2 The maximum spacing of SCI PM 9000-S on hip roofs are provided in **Table 47**.

6.3.8.3 The maximum spacing of SCI PM 9000-S on monoslope roofs are provided in **Table 48**.

Table 46. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on 20-Gauge CFS Framing Members Overlaid with 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	36	32	43	32	28	39	29	25	35	26	23	29	22	19	24	18	16	21	16	14
			7° < θ ≤ 20°	31	24	18	29	22	16	26	20	15	24	18	13	20	15	11	17	12	9	14	11	8
			20° < θ ≤ 27°	25	25	22	25	23	20	25	21	18	25	19	16	25	16	13	22	13	11	19	11	10
			27° < θ ≤ 45°	19	19	19	19	19	19	19	19	19	19	19	19	19	19	16	18	17	13	16	14	11
	C		θ ≤ 7°	35	27	23	32	24	21	28	21	19	26	19	17	21	16	14	18	14	12	15	12	10
			7° < θ ≤ 20°	24	18	14	22	16	12	19	14	11	18	13	10	15	11	8	12	9	7	11	8	-
			20° < θ ≤ 27°	26	19	16	26	17	15	26	16	13	23	14	12	19	12	10	16	10	8	14	9	7
			27° < θ ≤ 45°	20	20	19	20	20	17	20	19	16	19	18	14	16	15	12	14	12	10	12	11	9
	D		θ ≤ 7°	30	23	20	27	21	18	24	18	16	22	17	15	18	14	12	16	12	10	13	10	9
			7° < θ ≤ 20°	21	15	12	19	14	11	17	12	9	15	11	9	13	9	7	11	8	-	9	7	-
			20° < θ ≤ 27°	27	17	14	25	15	13	22	13	11	20	12	10	17	10	9	14	9	7	12	7	-
			27° < θ ≤ 45°	22	21	17	21	19	15	18	17	13	17	15	12	14	13	10	12	11	9	10	9	7

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	18	14	12	16	12	10	14	11	9	12	9	8	11	8	7	10	8	7	9	7	-
			7° < θ ≤ 20°	12	9	7	11	8	-	10	7	-	9	-	-	8	-	-	7	-	-	-	-	-
			20° < θ ≤ 27°	16	10	8	14	9	7	13	8	7	11	7	-	10	-	-	9	-	-	8	-	-
			27° < θ ≤ 45°	14	12	10	12	11	9	11	10	8	9	9	7	8	8	-	8	7	-	7	-	-
	C		θ ≤ 7°	13	10	9	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	7	-	-
			7° < θ ≤ 20°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	12	7	-	11	7	-	9	-	-	8	-	-	8	-	-	7	-	-	-	-	-
			27° < θ ≤ 45°	10	9	7	9	8	7	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	10	-	-	9	-	-	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 47. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on 20-Gauge CFS Framing Members Overlaid with 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	48	36	32	43	32	28	39	29	25	35	26	23	29	22	19	24	18	16	21	16	14
			7° < θ ≤ 20°	31	27	25	31	24	23	29	22	20	26	20	18	22	16	15	18	14	13	16	12	11
			20° < θ ≤ 27°	25	25	25	25	25	25	25	25	25	25	24	24	25	20	20	24	17	17	20	14	14
			27° < θ ≤ 45°	19	19	19	19	19	19	19	19	19	19	19	19	19	19	16	19	18	14	19	16	12
	C		θ ≤ 7°	35	27	23	32	24	21	28	21	19	26	19	17	21	16	14	18	14	12	15	12	10
			7° < θ ≤ 20°	27	20	19	24	18	17	21	16	15	19	15	14	16	12	11	14	10	10	12	9	8
			20° < θ ≤ 27°	26	24	24	26	22	22	26	19	19	25	18	18	21	15	15	17	12	12	15	11	11
			27° < θ ≤ 45°	20	20	20	20	20	18	20	20	16	20	19	15	19	16	12	16	14	10	14	12	9
	D		θ ≤ 7°	30	23	20	27	21	18	24	18	16	22	17	15	18	14	12	16	12	10	13	10	9
			7° < θ ≤ 20°	23	17	16	21	16	14	18	14	13	17	13	12	14	11	10	12	9	8	10	8	7
			20° < θ ≤ 27°	28	21	21	26	19	19	24	17	17	21	15	15	18	13	13	15	11	11	13	9	9
			27° < θ ≤ 45°	22	22	17	22	21	16	22	18	14	20	17	13	17	14	11	14	12	9	12	10	8

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	18	14	12	16	12	10	14	11	9	12	9	8	11	8	7	10	8	7	9	7	-
			7° < θ ≤ 20°	14	10	10	12	9	8	11	8	7	9	7	7	8	-	-	8	-	-	7	-	-
			20° < θ ≤ 27°	17	12	12	15	11	11	13	10	10	12	9	9	11	8	8	10	7	7	9	-	-
			27° < θ ≤ 45°	16	14	10	14	12	9	13	11	8	11	9	7	10	8	-	9	8	-	8	7	-
	C		θ ≤ 7°	13	10	9	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	7	-	-
			7° < θ ≤ 20°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	13	9	9	11	8	8	10	7	7	9	-	-	8	-	-	7	-	-	7	-	-
			27° < θ ≤ 45°	12	10	8	11	9	7	9	8	-	8	7	-	8	-	-	7	-	-	-	-	-
	D		θ ≤ 7°	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	11	8	8	10	7	7	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	10	9	7	9	8	-	8	7	-	7	-	-	7	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 48. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on 20-Gauge CFS Framing Members Overlaid with 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	40	28	48	36	25	44	32	22	40	29	20	33	24	17	28	20	14	24	17	12
			10° < θ ≤ 30°	23	23	23	23	23	20	23	23	18	23	23	17	23	23	14	23	21	12	22	18	10
	C		3° < θ ≤ 10°	41	30	21	36	26	18	33	24	17	30	22	15	25	18	13	21	15	11	18	13	9
			10° < θ ≤ 30°	24	24	17	24	24	15	24	24	14	24	22	12	22	18	10	19	15	9	16	13	7
	D		3° < θ ≤ 10°	35	25	18	31	23	16	28	20	14	25	19	13	21	15	11	18	13	9	15	11	8
			10° < θ ≤ 30°	26	26	14	26	23	13	25	21	12	23	19	11	19	16	9	16	13	7	14	11	-
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	21	15	11	18	13	9	16	12	8	14	10	7	13	9	7	11	8	-	10	8	-
			10° < θ ≤ 30°	19	15	9	16	13	8	14	12	7	13	11	-	12	9	-	10	9	-	9	8	-
	C		3° < θ ≤ 10°	15	11	8	13	10	7	12	9	-	11	8	-	9	7	-	9	-	-	8	-	-
			10° < θ ≤ 30°	14	11	-	12	10	-	11	9	-	10	8	-	9	7	-	8	-	-	7	-	-
	D		3° < θ ≤ 10°	13	10	7	12	9	-	10	8	-	9	7	-	8	-	-	7	-	-	7	-	-
			10° < θ ≤ 30°	12	10	-	10	9	-	9	8	-	8	7	-	7	-	-	7	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.9 *PM 9000-S Installed onto 22-Gauge Metal Roof Panels on Decking - ≤ 20-psf ($P_{g,snow}$):*

6.3.9.1 The maximum spacing of SCI PM 9000-S on gable roofs are provided in **Table 49**.

6.3.9.2 The maximum spacing of SCI PM 9000-S on hip roofs are provided in **Table 50**.

6.3.9.3 The maximum spacing of SCI PM 9000-S on monoslope roofs are provided in **Table 51**.

Table 49. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on 22-Gauge Metal Roof Panels on Decking – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	41	31	27	37	28	24	33	25	22	30	22	20	25	19	16	21	16	14	18	13	12
			7° < θ ≤ 20°	17	17	16	17	17	14	17	17	13	17	15	11	17	13	10	14	11	8	12	9	7
			20° < θ ≤ 27°	13	13	13	13	13	13	13	13	13	13	13	13	13	13	11	13	11	10	13	10	8
			27° < θ ≤ 45°	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	C		θ ≤ 7°	30	23	20	27	20	18	24	18	16	22	17	14	18	14	12	15	12	10	13	10	9
			7° < θ ≤ 20°	18	15	12	18	14	10	17	12	9	15	11	9	12	9	7	11	8	-	9	7	-
			20° < θ ≤ 27°	14	14	14	14	14	12	14	13	11	14	12	10	14	10	8	14	9	7	12	7	-
			27° < θ ≤ 45°	11	11	11	11	11	11	11	11	11	11	11	11	11	11	10	11	11	9	10	9	7
	D		θ ≤ 7°	26	20	17	23	18	15	21	16	14	19	14	12	16	12	10	13	10	9	11	9	8
			7° < θ ≤ 20°	18	13	10	16	12	9	14	11	8	13	10	7	11	8	-	9	7	-	8	-	-
			20° < θ ≤ 27°	15	14	12	15	13	11	15	12	10	15	10	9	14	9	7	12	7	-	10	-	-
			27° < θ ≤ 45°	12	12	12	12	12	12	12	12	12	12	12	10	12	11	9	10	9	7	9	8	-

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	15	12	10	13	10	9	12	9	8	11	8	7	10	7	-	9	7	-	8	-	-
			7° < θ ≤ 20°	11	8	-	9	7	-	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	13	9	7	12	8	-	11	7	-	10	-	-	9	-	-	8	-	-	7	-	-
			27° < θ ≤ 45°	10	10	9	10	9	8	9	8	7	8	7	-	7	7	-	7	-	-	-	-	-
	C		θ ≤ 7°	11	9	8	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	10	-	-	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 50. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on 22-Gauge Metal Roof Panels on Decking – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	41	31	27	37	28	24	33	25	22	30	22	20	25	19	16	21	16	14	18	13	12
			7° < θ ≤ 20°	17	17	17	17	17	17	17	17	17	17	17	16	17	14	13	16	12	11	13	10	9
			20° < θ ≤ 27°	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	12	12
			27° < θ ≤ 45°	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	C		θ ≤ 7°	30	23	20	27	20	18	24	18	16	22	17	14	18	14	12	15	12	10	13	10	9
			7° < θ ≤ 20°	18	17	16	18	15	14	18	14	13	17	13	12	14	10	10	12	9	8	10	8	7
			20° < θ ≤ 27°	14	14	14	14	14	14	14	14	14	14	14	14	14	12	12	14	11	11	13	9	9
			27° < θ ≤ 45°	11	11	11	11	11	11	11	11	11	11	11	11	11	11	10	11	11	9	11	10	8
	D		θ ≤ 7°	26	20	17	23	18	15	21	16	14	19	14	12	16	12	10	13	10	9	11	9	8
			7° < θ ≤ 20°	19	15	14	18	13	12	16	12	11	14	11	10	12	9	8	10	8	7	9	7	-
			20° < θ ≤ 27°	15	15	15	15	15	15	15	14	14	15	13	13	15	11	11	13	9	9	11	8	8
			27° < θ ≤ 45°	12	12	12	12	12	12	12	12	12	12	12	11	12	12	9	12	10	8	10	9	7

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	θ ≤ 7°	15	12	10	13	10	9	12	9	8	11	8	7	10	7	-	9	7	-	8	-	-
			7° < θ ≤ 20°	12	9	8	10	8	7	9	7	-	8	-	-	7	-	-	7	-	-	-	-	-
			20° < θ ≤ 27°	13	11	11	13	9	9	12	8	8	10	7	7	9	7	7	8	-	-	8	-	-
			27° < θ ≤ 45°	10	10	9	10	10	8	10	9	7	10	8	-	9	7	-	8	7	-	7	-	-
	C		θ ≤ 7°	11	9	8	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	11	8	8	10	7	7	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	10	9	7	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-
	D		θ ≤ 7°	10	8	7	9	7	-	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			7° < θ ≤ 20°	8	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20° < θ ≤ 27°	10	7	7	8	-	-	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-
			27° < θ ≤ 45°	9	8	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 51. Required Spacing (in. o.c.) for SCI PM 9000-S Installed on 22-Gauge Metal Roof Panels on Decking – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	32	32	24	32	31	21	32	27	19	32	25	17	28	21	14	24	17	12	20	15	10
			10° < θ ≤ 30°	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	12	12	9
	C		3° < θ ≤ 10°	34	25	18	31	23	16	28	20	14	25	18	13	21	15	11	18	13	9	15	11	8
			10° < θ ≤ 30°	13	13	13	13	13	13	13	13	12	13	13	10	13	13	9	13	13	7	13	11	-
	D		3° < θ ≤ 10°	30	22	15	27	19	14	24	17	12	22	16	11	18	13	9	15	11	8	13	10	7
			10° < θ ≤ 30°	14	14	12	14	14	11	14	14	10	14	14	9	14	13	8	14	11	-	12	10	-

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
		Roof Zone:		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 20-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	18	13	9	15	11	8	14	10	7	12	9	-	11	8	-	10	7	-	9	7	-
			10° < θ ≤ 30°	12	12	7	12	11	7	12	10	-	11	9	-	10	8	-	9	7	-	8	7	-
	C		3° < θ ≤ 10°	13	10	7	11	8	-	10	7	-	9	7	-	8	-	-	7	-	-	7	-	-
			10° < θ ≤ 30°	12	10	-	10	9	-	9	8	-	8	7	-	7	-	-	7	-	-	-	-	-
	D		3° < θ ≤ 10°	11	8	-	10	7	-	9	-	-	8	-	-	7	-	-	-	-	-	-	-	-
			10° < θ ≤ 30°	10	8	-	9	7	-	8	7	-	7	-	-	-	-	-	-	-	-	-	-	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.10 *PMR1-S Installed on 26-Gauge Metal Roof Panels - ≤ 50-psf ($P_{g,snow}$):*

6.3.10.1 The maximum spacing of SCI PMR1-S on gable roofs are provided in **Table 52**.

6.3.10.2 The maximum spacing of SCI PMR1-S on hip roofs are provided in **Table 53**.

6.3.10.3 The maximum spacing of SCI PMR1-S on monoslope roofs are provided in **Table 54**.

Table 52. Required Spacing (in. o.c.) for SCI PMR1-S Installed on 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph	85			90			95			100			110			120			130		
		Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	45	39	48	38	33
		7° < θ ≤ 20°	48	48	45	48	48	40	48	48	36	48	43	32	48	36	27	40	30	23	34	26	19
		20° < θ ≤ 27°	48	48	48	48	48	48	48	48	43	48	46	39	48	38	32	48	32	27	46	28	23
		27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	46	48	48	38	45	40	32	38	34	28
	C	θ ≤ 7°	48	48	48	48	48	48	48	48	46	48	47	41	48	39	34	44	33	29	37	28	25
		7° < θ ≤ 20°	48	44	33	48	39	29	47	35	26	43	32	24	35	26	20	30	22	17	25	19	14
		20° < θ ≤ 27°	48	47	39	48	42	35	48	38	32	48	34	29	47	28	24	40	24	20	34	20	17
		27° < θ ≤ 45°	48	48	47	48	48	42	48	47	38	47	43	34	39	35	28	33	30	24	28	25	20
	D	θ ≤ 7°	48	48	48	48	48	44	48	45	39	48	41	35	45	34	29	38	28	25	32	24	21
		7° < θ ≤ 20°	48	38	28	45	34	25	41	30	23	37	27	21	30	23	17	26	19	14	22	16	12
		20° < θ ≤ 27°	48	41	34	48	36	30	48	33	27	48	29	25	40	24	20	34	21	17	29	18	15
		27° < θ ≤ 45°	48	48	41	48	45	36	45	41	33	41	37	29	34	30	24	28	26	21	24	22	18
Ground Snow	Exp. Cat.	Wind Speed-mph	140			150			160			170			180			190			200		
		Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	θ ≤ 7°	44	33	29	38	29	25	34	25	22	30	23	20	27	20	18	24	18	16	22	16	14
		7° < θ ≤ 20°	30	22	17	26	19	15	23	17	13	20	15	12	18	14	10	16	12	9	15	11	8
		20° < θ ≤ 27°	40	24	20	35	21	18	30	18	15	27	16	14	24	15	12	22	13	11	20	12	10
		27° < θ ≤ 45°	33	30	24	29	26	21	25	23	18	23	20	16	20	18	15	18	16	13	16	15	12
	C	θ ≤ 7°	32	24	21	28	21	19	25	19	16	22	17	15	20	15	13	18	13	12	16	12	11
		7° < θ ≤ 20°	22	16	12	19	14	11	17	13	10	15	11	9	14	10	8	12	9	7	11	8	-
		20° < θ ≤ 27°	29	18	15	25	15	13	22	14	11	20	12	10	18	11	9	16	10	8	15	9	8
		27° < θ ≤ 45°	24	22	18	21	19	15	19	17	14	17	15	12	15	14	11	13	12	10	12	11	9
	D	θ ≤ 7°	28	21	18	24	18	16	21	16	14	19	14	13	17	13	11	15	12	10	14	11	9
		7° < θ ≤ 20°	19	14	11	17	12	9	15	11	8	13	10	7	12	9	7	11	8	-	10	7	-
		20° < θ ≤ 27°	25	15	13	22	13	11	19	12	10	17	11	9	15	9	8	14	9	7	13	8	7
		27° < θ ≤ 45°	21	19	15	18	17	13	16	15	12	14	13	11	13	12	9	12	11	9	11	10	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 53. Required Spacing (in. o.c.) for SCI PMR1-S Installed on 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph	85			90			95			100			110			120			130		
		Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	45	39	48	38	33
		7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	45	48	40	37	45	34	31	38	29	27
		20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	40	40	48	34	34
		27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	40	48	45	34	46	38	29
	C	θ ≤ 7°	48	48	48	48	48	48	48	48	46	48	47	41	48	39	34	44	33	29	37	28	25
		7° < θ ≤ 20°	48	48	45	48	44	41	48	39	36	47	36	33	39	30	27	33	25	23	28	21	20
		20° < θ ≤ 27°	48	48	48	48	48	48	48	47	47	48	43	43	48	35	35	42	30	30	36	25	25
		27° < θ ≤ 45°	48	48	48	48	48	44	48	48	39	48	47	36	47	39	30	40	33	25	34	28	21
	D	θ ≤ 7°	48	48	48	48	48	44	48	45	39	48	41	35	45	34	29	38	28	25	32	24	21
		7° < θ ≤ 20°	48	42	39	48	38	35	45	34	31	41	31	28	34	25	23	28	21	20	24	18	17
		20° < θ ≤ 27°	48	48	48	48	45	45	48	41	41	48	37	37	43	30	30	36	26	26	31	22	22
		27° < θ ≤ 45°	48	48	42	48	48	38	48	45	34	48	41	31	40	34	25	34	28	21	29	24	18
Ground Snow	Exp. Cat.	Wind Speed-mph	140			150			160			170			180			190			200		
		Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	θ ≤ 7°	44	33	29	38	29	25	34	25	22	30	23	20	27	20	18	24	18	16	22	16	14
		7° < θ ≤ 20°	33	25	23	29	22	20	25	19	18	23	17	16	20	15	14	18	14	13	16	12	12
		20° < θ ≤ 27°	42	30	30	37	26	26	33	23	23	29	20	20	26	18	18	23	16	16	21	15	15
		27° < θ ≤ 45°	40	33	25	35	29	22	30	25	19	27	23	17	24	20	15	22	18	14	20	16	12
	C	θ ≤ 7°	32	24	21	28	21	19	25	19	16	22	17	15	20	15	13	18	13	12	16	12	11
		7° < θ ≤ 20°	24	18	17	21	16	15	19	14	13	17	13	12	15	11	11	13	10	9	12	9	9
		20° < θ ≤ 27°	31	22	22	27	19	19	24	17	17	21	15	15	19	14	14	17	12	12	16	11	11
		27° < θ ≤ 45°	29	24	18	25	21	16	22	19	14	20	17	13	18	15	11	16	13	10	15	12	9
	D	θ ≤ 7°	28	21	18	24	18	16	21	16	14	19	14	13	17	13	11	15	12	10	14	11	9
		7° < θ ≤ 20°	21	16	15	18	14	13	16	12	11	14	11	10	13	10	9	12	9	8	11	8	7
		20° < θ ≤ 27°	27	19	19	23	17	17	21	15	15	18	13	13	16	12	12	15	11	11	13	10	10
		27° < θ ≤ 45°	25	21	16	22	18	14	19	16	12	17	14	11	15	13	10	14	12	9	13	11	8

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 54. Required Spacing (in. o.c.) for SCI PMR1-S Installed on 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	41	48	48	35	48	42	30
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	44	48	48	40	48	48	33	48	48	28	48	43	24
	C		3° < θ ≤ 10°	48	48	48	48	48	45	48	48	40	48	48	37	48	44	30	48	37	26	43	31	22
			10° < θ ≤ 30°	48	48	41	48	48	36	48	48	33	48	48	30	48	44	25	46	37	21	39	32	18
	D		3° < θ ≤ 10°	48	48	43	48	48	39	48	48	35	48	45	31	48	37	26	43	31	22	37	27	19
			10° < θ ≤ 30°	48	48	35	48	48	31	48	48	28	48	46	25	46	38	21	39	32	18	33	27	15
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 50-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	37	26	44	32	22	39	28	20	34	25	17	31	22	16	28	20	14	25	18	13
			10° < θ ≤ 30°	46	37	21	40	32	18	35	29	16	31	25	14	28	23	13	25	20	11	23	18	10
	C		3° < θ ≤ 10°	37	27	19	33	24	17	29	21	15	25	19	13	23	17	12	20	15	10	19	14	10
			10° < θ ≤ 30°	34	27	15	29	24	13	26	21	12	23	19	11	21	17	9	18	15	9	17	14	8
	D		3° < θ ≤ 10°	32	23	16	28	20	14	25	18	13	22	16	11	20	14	10	18	13	9	16	12	8
			10° < θ ≤ 30°	29	24	13	25	21	12	22	18	10	20	16	9	18	14	8	16	13	7	14	12	7

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.11 *PM Adjust on 26-Guage Metal Roof Panels - ≤ 40-psf ($P_{g,snow}$):*

6.3.11.1 The maximum spacing of SCI PM Adjust on gable roofs are provided in **Table 55**.

6.3.11.2 The maximum spacing of SCI PM Adjust on hip roofs are provided in **Table 56**.

6.3.11.3 The maximum spacing of SCI PM Adjust on monoslope roofs are provided in **Table 57**.

Table 55. Required Spacing (in. o.c.) for PM Adjust Installed on 26-Gauge Metal Roof Panels – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 40-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	43	48	45	39	48	37	32	42	31	27	36	27	23
			7° < θ ≤ 20°	48	42	31	48	37	28	45	33	25	41	30	23	34	25	19	28	21	16	24	18	14
			20° < θ ≤ 27°	48	45	37	48	40	33	48	36	30	48	33	27	45	27	23	38	23	19	32	19	16
			27° < θ ≤ 45°	48	48	45	48	48	40	48	45	36	45	41	33	37	34	27	31	28	23	27	24	19
	C		θ ≤ 7°	48	46	40	48	41	36	48	37	32	44	33	29	36	27	24	31	23	20	26	20	17
			7° < θ ≤ 20°	41	31	23	37	27	21	33	25	19	30	22	17	25	18	14	21	16	12	18	13	10
			20° < θ ≤ 27°	48	33	28	48	30	25	44	27	22	40	24	20	33	20	17	28	17	14	24	14	12
			27° < θ ≤ 45°	46	41	33	41	37	30	37	33	27	33	30	24	27	25	20	23	21	17	20	18	14
	D		θ ≤ 7°	48	39	34	47	35	31	42	32	27	38	28	25	31	24	21	26	20	17	23	17	15
			7° < θ ≤ 20°	35	26	20	32	24	18	28	21	16	26	19	14	21	16	12	18	13	10	15	12	9
			20° < θ ≤ 27°	47	28	24	42	25	21	38	23	19	34	21	17	28	17	14	24	14	12	20	12	10
			27° < θ ≤ 45°	39	35	28	35	32	25	32	28	23	28	26	21	24	21	17	20	18	14	17	15	12
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 40-psf	B	Roof/Panel Angle	θ ≤ 7°	31	23	20	27	20	18	24	18	16	21	16	14	19	14	12	17	13	11	15	12	10
			7° < θ ≤ 20°	21	16	12	18	14	10	16	12	9	14	11	8	13	10	7	12	9	7	11	8	-
			20° < θ ≤ 27°	28	17	14	24	15	12	21	13	11	19	12	10	17	10	9	15	9	8	14	9	7
			27° < θ ≤ 45°	23	21	17	20	18	15	18	16	13	16	14	12	14	13	10	13	12	9	12	11	9
	C		θ ≤ 7°	23	17	15	20	15	13	18	13	12	16	12	10	14	11	9	13	10	8	11	9	8
			7° < θ ≤ 20°	15	12	9	14	10	8	12	9	7	11	8	-	10	7	-	9	7	-	8	-	-
			20° < θ ≤ 27°	20	12	10	18	11	9	16	10	8	14	9	7	13	8	7	11	7	-	10	-	-
			27° < θ ≤ 45°	17	15	12	15	14	11	13	12	10	12	11	9	11	10	8	10	9	7	9	8	-
	D		θ ≤ 7°	20	15	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7	10	7	7
			7° < θ ≤ 20°	13	10	8	12	9	7	10	8	-	9	7	-	8	-	-	7	-	-	7	-	-
			20° < θ ≤ 27°	18	11	9	15	9	8	14	8	7	12	7	-	11	7	-	10	-	-	9	-	-
			27° < θ ≤ 45°	15	13	11	13	12	9	11	10	8	10	9	7	9	8	7	8	7	-	7	7	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 56. Required Spacing (in. o.c.) for SCI PM Adjust Installed on 26-Gauge Metal Roof Panels – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 40-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	43	48	45	39	48	37	32	42	31	27	36	27	23
			7° < θ ≤ 20°	48	47	43	48	42	39	48	37	35	45	34	31	37	28	26	31	24	22	27	20	19
			20° < θ ≤ 27°	48	48	48	48	48	48	48	45	45	48	41	41	48	34	34	40	28	28	34	24	24
			27° < θ ≤ 45°	48	48	47	48	48	42	48	48	37	48	45	34	45	37	28	38	31	24	32	27	20
	C		θ ≤ 7°	48	46	40	48	41	36	48	37	32	44	33	29	36	27	24	31	23	20	26	20	17
			7° < θ ≤ 20°	46	34	32	41	31	28	37	28	26	33	25	23	27	21	19	23	18	16	20	15	14
			20° < θ ≤ 27°	48	41	41	48	37	37	47	33	33	42	30	30	35	25	25	30	21	21	25	18	18
			27° < θ ≤ 45°	48	46	34	48	41	31	44	37	28	40	33	25	33	27	21	28	23	18	24	20	15
	D		θ ≤ 7°	48	39	34	47	35	31	42	32	27	38	28	25	31	24	21	26	20	17	23	17	15
			7° < θ ≤ 20°	39	30	27	35	26	24	32	24	22	28	21	20	24	18	17	20	15	14	17	13	12
			20° < θ ≤ 27°	48	35	35	45	32	32	40	28	28	36	26	26	30	21	21	25	18	18	22	15	15
			27° < θ ≤ 45°	47	39	30	42	35	26	38	32	24	34	28	21	28	24	18	24	20	15	20	17	13

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 40-psf	B	Roof/Panel Angle	θ ≤ 7°	31	23	20	27	20	18	24	18	16	21	16	14	19	14	12	17	13	11	15	12	10
			7° < θ ≤ 20°	23	18	16	20	15	14	18	14	13	16	12	11	14	11	10	13	10	9	12	9	8
			20° < θ ≤ 27°	30	21	21	26	18	18	23	16	16	20	14	14	18	13	13	16	12	12	15	11	11
			27° < θ ≤ 45°	28	23	18	24	20	15	21	18	14	19	16	12	17	14	11	15	13	10	14	12	9
	C		θ ≤ 7°	23	17	15	20	15	13	18	13	12	16	12	10	14	11	9	13	10	8	11	9	8
			7° < θ ≤ 20°	17	13	12	15	11	11	13	10	9	12	9	8	11	8	7	10	7	7	9	7	-
			20° < θ ≤ 27°	22	15	15	19	14	14	17	12	12	15	11	11	13	10	10	12	9	9	11	8	8
			27° < θ ≤ 45°	20	17	13	18	15	11	16	13	10	14	12	9	13	11	8	11	10	7	10	9	7
	D		θ ≤ 7°	20	15	13	17	13	11	15	11	10	13	10	9	12	9	8	11	8	7	10	7	7
			7° < θ ≤ 20°	15	11	10	13	10	9	11	9	8	10	8	7	9	7	-	8	-	-	7	-	-
			20° < θ ≤ 27°	19	13	13	16	12	12	15	10	10	13	9	9	12	8	8	10	7	7	9	7	7
			27° < θ ≤ 45°	18	15	11	15	13	10	14	11	9	12	10	8	11	9	7	10	8	-	9	7	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 57. Required Spacing (in. o.c.) for SCI PM Adjust Installed on 26-Gauge Metal Roof Panels – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 40-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	43	48	48	38	48	48	35	48	41	29	48	35	24	41	30	21
			10° < θ ≤ 30°	48	48	39	48	48	35	48	48	31	48	48	28	48	42	23	43	35	20	37	30	17
	C		3° < θ ≤ 10°	48	48	35	48	45	32	48	41	28	48	37	26	42	30	21	35	26	18	30	22	15
			10° < θ ≤ 30°	48	48	29	48	46	26	48	41	23	46	37	21	38	31	17	32	26	15	27	22	12
	D		3° < θ ≤ 10°	48	44	30	48	39	27	48	35	24	44	32	22	36	26	18	30	22	15	26	19	13
			10° < θ ≤ 30°	48	44	25	48	39	22	43	35	20	39	32	18	33	27	15	27	22	13	23	19	11

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 40-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	35	26	18	31	22	16	27	20	14	24	18	12	22	16	11	19	14	10	18	13	9
			10° < θ ≤ 30°	32	26	15	28	23	13	25	20	11	22	18	10	20	16	9	18	14	8	16	13	7
	C		3° < θ ≤ 10°	26	19	13	23	17	12	20	15	10	18	13	9	16	12	8	14	11	7	13	10	7
			10° < θ ≤ 30°	24	19	11	21	17	10	18	15	8	16	13	8	14	12	7	13	11	-	12	10	-
	D		3° < θ ≤ 10°	22	16	11	20	14	10	17	13	9	15	11	8	14	10	7	12	9	-	11	8	-
			10° < θ ≤ 30°	20	17	9	18	14	8	16	13	7	14	11	7	12	10	-	11	9	-	10	8	-

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.12 *L-Foot SLT Installed on 1/4" Steel Plate - ≤ 60-psf ($P_{g,snow}$):*

6.3.12.1 The maximum spacing of SCI L-Foot SLT on gable roofs are provided in **Table 58**.

6.3.12.2 The maximum spacing of SCI L-Foot SLT on hip roofs are provided in **Table 59**.

6.3.12.3 The maximum spacing of SCI L-Foot SLT on monoslope roofs are provided in **Table 60**.

Table 58. Required Spacing (in. o.c.) for SCI L-Foot SLT Installed on 1/4" Steel Plate – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	45	48	48	38	48	42	32	48	36	27
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	45	48	45	38	48	39	32
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	45	48	48	39
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	40	48	39	34
			7° < θ ≤ 20°	48	48	46	48	48	41	48	48	37	48	44	33	48	37	28	42	31	23	36	26	20
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	44	48	48	40	48	40	33	48	33	28	47	29	24
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	40	46	42	33	39	36	29
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41	48	40	35	45	34	30
			7° < θ ≤ 20°	48	48	40	48	47	35	48	42	32	48	38	29	42	32	24	36	27	20	31	23	17
			20° < θ ≤ 27°	48	48	47	48	48	42	48	45	38	48	41	34	48	34	28	47	29	24	41	25	21
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	45	48	48	41	47	42	34	40	36	29	34	31	25
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	θ ≤ 7°	48	46	40	48	40	35	47	35	31	42	31	27	37	28	25	34	25	22	30	23	20
			7° < θ ≤ 20°	42	31	23	36	27	20	32	24	18	28	21	16	25	19	14	23	17	13	21	15	12
			20° < θ ≤ 27°	48	33	28	48	29	24	42	26	21	38	23	19	34	20	17	30	18	15	27	17	14
			27° < θ ≤ 45°	46	42	33	40	36	29	35	32	26	31	28	23	28	25	20	25	23	18	23	21	17
	C		θ ≤ 7°	45	34	30	39	30	26	35	26	23	31	23	20	28	21	18	25	19	16	22	17	15
			7° < θ ≤ 20°	31	23	17	27	20	15	24	18	13	21	16	12	19	14	11	17	13	10	15	11	9
			20° < θ ≤ 27°	41	25	21	36	22	18	31	19	16	28	17	14	25	15	13	22	14	11	20	12	10
			27° < θ ≤ 45°	34	31	25	30	27	22	26	24	19	23	21	17	21	19	15	19	17	14	17	15	12
	D		θ ≤ 7°	39	29	26	34	26	22	30	23	20	27	20	17	24	18	16	21	16	14	19	15	13
			7° < θ ≤ 20°	26	20	15	23	17	13	20	15	12	18	14	10	16	12	9	15	11	8	13	10	8
			20° < θ ≤ 27°	35	21	18	31	19	16	27	16	14	24	15	12	21	13	11	19	12	10	17	11	9
			27° < θ ≤ 45°	29	26	21	26	23	19	23	20	16	20	18	15	18	16	13	16	15	12	15	13	11

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 59. Required Spacing (in. o.c.) for SCI L-Foot SLT Installed on 1/4" Steel Plate – Hip Roof

Ground Snow	Exp. Cat.	Roof/Panel Angle	Wind Speed-mph	85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	44	48	40	37
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	48	48	40
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	40	48	39	34
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	46	48	41	38	46	35	32	39	30	27
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	42	48	36	36
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	41	48	46	35	47	39	30
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	47	41	48	40	35	45	34	30
			7° < θ ≤ 20°	48	48	48	48	48	48	48	47	44	48	43	40	47	35	33	40	30	28	34	26	24
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	42	42	48	36	36	43	31	31
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	47	48	48	43	48	47	35	47	40	30	41	34	26

Ground Snow	Exp. Cat.	Roof/Panel Angle	Wind Speed-mph	140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B		θ ≤ 7°	48	46	40	48	40	35	47	35	31	42	31	27	37	28	25	34	25	22	30	23	20
			7° < θ ≤ 20°	46	35	32	40	30	28	35	27	25	31	24	22	28	21	20	25	19	18	23	17	16
			20° < θ ≤ 27°	48	42	42	48	36	36	45	32	32	40	28	28	36	25	25	32	23	23	29	21	21
			27° < θ ≤ 45°	48	46	35	48	40	30	42	35	27	38	31	24	34	28	21	30	25	19	27	23	17
	C		θ ≤ 7°	45	34	30	39	30	26	35	26	23	31	23	20	28	21	18	25	19	16	22	17	15
			7° < θ ≤ 20°	34	26	24	30	22	21	26	20	18	23	18	16	21	16	15	19	14	13	17	13	12
			20° < θ ≤ 27°	44	31	31	38	27	27	34	24	24	30	21	21	27	19	19	24	17	17	22	15	15
			27° < θ ≤ 45°	41	34	26	36	30	22	31	26	20	28	23	18	25	21	16	22	19	14	20	17	13
	D		θ ≤ 7°	39	29	26	34	26	22	30	23	20	27	20	17	24	18	16	21	16	14	19	15	13
			7° < θ ≤ 20°	29	22	20	26	19	18	23	17	16	20	15	14	18	14	13	16	12	11	15	11	10
			20° < θ ≤ 27°	37	26	26	33	23	23	29	20	20	26	18	18	23	16	16	21	15	15	19	13	13
			27° < θ ≤ 45°	35	29	22	31	26	19	27	23	17	24	20	15	21	18	14	19	16	12	17	15	11

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 60. Required Spacing (in. o.c.) for SCI L-Foot SLT Installed on 1/4" Steel Plate – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	41
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	48	39	48	48	33
	C		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	42	48	48	36	48	44	30
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	46	48	48	41	48	48	34	48	48	29	48	44	25
	D		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	44	48	48	36	48	44	31	48	38	26
			10° < θ ≤ 30°	48	48	48	48	48	44	48	48	39	48	48	35	48	48	29	48	45	25	47	38	21
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 60-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	36	48	45	31	48	39	27	48	35	24	43	31	22	39	28	20	35	25	18
			10° < θ ≤ 30°	48	48	29	48	45	25	48	40	22	43	35	20	39	32	18	35	28	16	32	26	14
	C		3° < θ ≤ 10°	48	38	26	45	33	23	40	29	20	36	26	18	32	23	16	29	21	15	26	19	13
			10° < θ ≤ 30°	47	38	21	41	33	19	36	29	16	32	26	15	29	23	13	26	21	12	23	19	11
	D		3° < θ ≤ 10°	45	32	23	39	28	20	34	25	17	31	22	16	27	20	14	25	18	13	22	16	11
			10° < θ ≤ 30°	40	33	18	35	29	16	31	25	14	28	22	13	25	20	11	22	18	10	20	16	9

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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6.3.13 *iClamp360 Installed on $^3/_8$" Steel Plate - ≤ 100-psf ($P_{g,\ snow}$):*

6.3.13.1 The maximum spacing of SCI iClamp360 on gable roofs are provided in **Table 61**.

6.3.13.2 The maximum spacing of SCI iClamp360 on hip roofs are provided in **Table 62**.

6.3.13.3 The maximum spacing of SCI iClamp360 on monoslope roofs are provided in **Table 63**.

6.3.13.4 **Table 61** through **Table 63** are applicable to both iClamp360 M8 and iClamp360 Cup Point.

Table 61. Required Spacing (in. o.c.) for SCI iClamp360 Installed on $^3/_8$" Steel Plate – Gable Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	45
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	47	48	48	42	48	48	37	48	45	34	48	40	30
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	45	48	48	40	48	43	36
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	43
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	48	48	43	48	44	39
			7° < θ ≤ 20°	48	48	45	48	48	39	48	46	35	48	41	31	48	37	28	44	33	25	40	30	22
			20° < θ ≤ 27°	48	48	48	48	48	47	48	48	42	48	44	37	48	39	33	48	35	30	48	32	27
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	44	48	48	39	48	44	35	44	40	32
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	46	48	47	41	48	42	37	48	38	33
			7° < θ ≤ 20°	48	48	39	48	45	34	48	40	30	47	35	26	42	31	24	38	28	21	34	26	19
			20° < θ ≤ 27°	48	48	46	48	48	41	48	43	36	48	38	32	48	34	28	48	30	25	46	28	23
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	43	48	47	38	47	42	34	42	38	30	38	34	28

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 62. Required Spacing (in. o.c.) for SCI iClamp360 Installed on $^{3}/_{8}$" Steel Plate – Hip Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48

Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	45	42
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	45
	C		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	47	48	48	43	48	44	39
			7° < θ ≤ 20°	48	48	48	48	48	48	48	48	48	48	46	42	48	41	38	48	37	34	44	33	31
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	44	44	48	40	40
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	48	48	48	46	48	48	41	48	48	37	48	44	33
	D		θ ≤ 7°	48	48	48	48	48	48	48	48	48	48	48	46	48	47	41	48	42	37	48	38	33
			7° < θ ≤ 20°	48	48	48	48	48	47	48	44	41	48	39	36	47	35	33	42	32	29	38	29	26
			20° < θ ≤ 27°	48	48	48	48	48	48	48	48	48	48	47	47	48	42	42	48	38	38	48	34	34
			27° < θ ≤ 45°	48	48	48	48	48	48	48	48	44	48	48	39	48	47	35	48	42	32	46	38	29

SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm

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Table 63. Required Spacing (in. o.c.) for SCI iClamp360 Installed on $^{3}/_{8}$" Steel Plate – Monoslope Roof

Ground Snow	Exp. Cat.	Wind Speed-mph		85			90			95			100			110			120			130		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	C		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	D		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Ground Snow	Exp. Cat.	Wind Speed-mph		140			150			160			170			180			190			200		
			Roof Zone:	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
≤ 100-psf	B	Roof/Panel Angle	3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	48	48	48	48	48	48	46	48	48	42	48	48	38
	C		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	48	48	48	47	48	48	42	48	48	38	48	48	34
			10° < θ ≤ 30°	48	48	48	48	48	48	48	48	43	48	48	38	48	48	34	48	48	31	48	48	28
	D		3° < θ ≤ 10°	48	48	48	48	48	48	48	48	46	48	48	40	48	48	36	48	47	32	48	42	29
			10° < θ ≤ 30°	48	48	48	48	48	42	48	48	37	48	48	33	48	48	29	48	47	26	48	43	24
SI: 1-psf = 0.0479 kPa, 1 mph = 1.61 km/hr, 1 in = 25.4 mm																								

6.4 *High-Velocity Hurricane Zones (HVHZ)*

6.4.1 Per FBC Section 1512.2.1, all roofing components, such as SCI Solar Attachment Solutions, shall comply with the applicable sections in FBC Chapter 15.

6.4.1.1 Construction of the roof assembly shall comply with the applicable sections in FBC Chapter 15 for HVHZ compliance.

6.4.1.2 SCI Solar Attachment Solutions and the provided fasteners comply with the corrosion resistance specified in FBC Section 1517.

6.4.2 Roof assemblies with SCI PowerMounts installed were evaluated for wind-driven water infiltration testing in accordance with TAS 100, per FBC Section 1523.6.5.

6.4.2.1 Sample test roof decks were constructed in general accordance with the requirements of TAS 100 and SCI PowerMounts were installed in accordance with manufacturer installation instructions.

6.4.2.2 Roof assemblies were evaluated up to 110 mph wind speeds and no water infiltration was observed.

6.5 Alternative techniques shall be permitted in accordance with accepted engineering practice and experience. These provisions for the use of alternative materials, designs, and methods of construction are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed herein. This includes, but is not limited to, the following areas of engineering: mechanics of materials, structures, building science, and fire science.

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7 Certified Performance[27]

7.1 All construction methods shall conform to accepted engineering practices to ensure durable, livable, and safe construction and shall demonstrate acceptable workmanship reflecting journeyman quality of work of the various trades.[28]

7.2 The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur.[29]

8 Regulatory Evaluation and Accepted Engineering Practice

8.1 SCI Solar Attachment Solutions comply with the following legislatively adopted regulations and/or accepted engineering practice for the following reasons:

8.1.1 SCI Solar Attachment Solutions demonstrated compliance with the intent of IBC Section 1706 and IBC Section 1707.

8.1.1.1 SCI Solar Attachment Solutions were evaluated to assess performance regarding uplift resistance and lateral resistance.

8.1.2 *For HVHZ:*

8.1.2.1 Product demonstrated compliance with the intent of FBC Section 1708.2.

8.1.2.2 All SCI Solar Attachment Solutions metal components and fasteners comply with the corrosion resistance requirement specified in FBC Section 1506.6, FBC Section 1507.4.4, FBC Section 1517.5.1, and FBC Section 1517.6.1.

8.1.2.2.1 FBC Section 1513 defines *"corrosion resistant"* as *"any component that passes FM Global Test Standard 4470's Appendix, as modified, and set forth in TAS 114."* TAS 114 Appendix E Section 1.2 states that all carbon steel fasteners shall be tested for corrosion resistance.

8.1.2.2.1.1 SCI Solar Attachment Solutions products are manufactured from 6061 T6 aluminum and some fasteners are manufactured from stainless steel. These materials comply with the ones specified in FBC Section 1506.6 and FBC Section 1507.4.4.

8.1.2.3 Per FBC Section 1523.6.5, all discontinuous roofing systems shall be evaluated in accordance with TAS 100 for wind-driven water infiltration resistance.

8.2 Any building code, regulation and/or accepted engineering evaluations (e.g., research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ, which is an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDP or approved sources. DrJ is qualified[30] to practice product and regulatory compliance services within its scope of accreditation and engineering expertise,[31] respectively.

8.3 Engineering evaluations are conducted with DrJ's ANAB accredited ICS code scope of expertise, which is also its areas of professional engineering competence.

9 Installation

9.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this report, and the applicable building code.

9.2 In the event of a conflict between the manufacturer installation instructions and this report, contact the manufacturer for counsel on the proper installation method.

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9.3 *Installation Procedure*

9.3.1 *General:*

9.3.1.1 Wipe away any excess dirt and oil from the surface of the roof panel.

9.3.1.2 Measure the distance from the eave to the first row and use a string line over the roof panel seams to establish a straight guideline for installation.

9.3.1.3 Verify that the SCI Mounts are secure, straight, and level after every installation. Repeat for remaining clamps per design (e.g., spacing, layout).

9.3.1.4 Do not over-drive or over-tighten the fasteners. In the case where a fastener is stripped, remove and replace with a similar fastener, but of a larger diameter.

9.3.1.4.1 Contact Solar Connections International for more information.

9.3.2 *PV Cubes:*

9.3.2.1 Align the standing seam PV Cube on the seam, depending on the applicable seam profile.

9.3.2.2 Install the SCI Stainless Steel Silver Bullet™ Set Screws and make sure the torque is verified with a calibrated torque wrench within the recommended guidelines set forth by the manufacturer.

9.3.2.2.1 Contact Solar Connections International for the recommended torque requirements of any metal gauge and/or material not listed in **Table 3**.

9.3.3 *Z-Bracket:*

9.3.3.1 Align the Z-Bracket to the string line and place onto the flat locations of the panel or the valley of the metal roof panel system application.

9.3.3.2 For wood substrates, secure the Z-Bracket by installing the supplied #14 x 2" Self-tapping Type-17, Type A, Dyna-Coat Coated HWH Screw with EPDM washer through the pre-punched holes and into the metal roof panel and roof decking or framing.

9.3.3.3 For metal substrates, secure the Z-Bracket by installing the supplied #14 x $1^1/_2$" T-5 Self-drilling, Fenderhead Dyna-Coat Coated HWH Screw with EPDM washer through the pre-punched holes and into the metal roof panel and roof decking or framing.

9.3.4 *PM 9000-S:*

9.3.4.1 Align the PM 9000-S to the string line and place onto the flat locations of the panel or the valley of the metal roof panel system application.

9.3.4.2 For wood substrates, secure the PM 9000-S by installing the supplied #14 x 2" Self-tapping Type-17, Type A, Dyna-Coat Coated HWH Screw with EPDM washer through the pre-punched holes and into the metal roof panel and roof decking or framing.

9.3.4.3 For metal substrates, secure the PM 9000-S by installing the supplied #14 x $1^1/_2$" T-5 Self-drilling, Fenderhead Dyna-Coat Coated HWH Screw with EPDM washer through the pre-punched holes and into the metal roof panel and roof decking or framing.

9.3.5 *PM Adjust:*

9.3.5.1 Align the PM Adjust to the string line and place on the roof panel seam/corrugation.

9.3.5.2 Slide the PM Adjust wing component onto the main body while keeping the PM Adjust centered on the panel. Ensure that the wing is as far over and down as possible, and firmly press the wing against the panel seam/corrugation prior to fastening.

9.3.5.3 While holding the wing in-place, install the supplied self-drilling, gasketed, stainless steel capped HWH fastener through the pre-punched holes on the wing component and into the metal roof panel seam/corrugation. Repeat for the other side.

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9.3.6 *PMR1-S:*

9.3.6.1 Align the PMR1-S to the string line and place on the roof panel seam.

9.3.6.2 Secure the PMR1-S by installing the supplied self-drilling, gasketed, stainless steel capped HWH fastener through the pre-punched holes on the wings and into the metal roof panel seam/corrugation.

9.3.7 *L-Foot SLT:*

9.3.7.1 Install L-Foot SLT onto SCI PV Cubes or SCI PowerMounts using the provided M8 stainless steel flange bolt.

9.3.8 *iClamp360:*

9.3.8.1 Slide the iClamp360 over the edge of $^{3}/_{8}$" thick steel.

9.3.8.2 Install the provided fasteners, (e.g., M8 (1.25" x 25 mm) Stainless Steel Flange Bolt or $^{3}/_{8}$" 24 x 1" stainless steel cup point set screw) to the specified torque rating in accordance with manufacturer installation instructions.

10 Substantiating Data

10.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:

10.1.1 Uplift and lateral load test data from approved sources

10.1.2 Wind-driven water infiltration testing from approved sources

10.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies, approved sources, and/or an RDP. Accuracy of external test data and resulting analysis is relied upon.

10.3 Where applicable, testing and/or engineering analysis are based upon provisions that have been codified into law through state or local adoption of regulations and standards. The developers of these regulations and standards are responsible for the reliability of published content. DrJ's engineering practice may use a regulation-adopted provision as the control. A regulation-endorsed control versus a simulation of the conditions of application to occur establishes a new material as being equivalent to the regulatory provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.

10.4 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, or duly authenticated reports from approved agencies and/or approved sources provided by the supplier. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this duly authenticated report, may be dependent upon published design properties by others.

10.5 *Testing and Engineering Analysis*

10.5.1 The strength, rigidity, and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.[32]

10.6 Where additional condition of use and/or regulatory compliance information is required, please search for SCI Solar Attachment Solutions on the DrJ Certification website.

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11 Findings

11.1 As outlined in **Section 6**, SCI Solar Attachment Solutions have performance characteristics that were tested and/or meet applicable regulations. In addition, they are suitable for use pursuant to its specified purpose.

11.2 When used and installed in accordance with this duly authenticated report and the manufacturer installation instructions, SCI Solar Attachment Solutions shall be approved for the following applications:

11.2.1 As a sub-system to attach photovoltaic panel systems or other non-structural components to rooftops.

11.3 Unless exempt by state statute, when SCI Solar Attachment Solutions are to be used as a structural and/or building envelope component in the design of a specific building, the design shall be performed by an RDP.

11.4 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Solar Connections International.

11.5 IBC Section 104.2.3[33] (IRC Section R104.2.2[34] and IFC Section 104.2.3[35] are similar) in pertinent part state:

> 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.

11.6 **Approved:**[36] Building regulations require that the building official shall accept duly authenticated reports.[37]

11.6.1 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited.

11.6.2 An approved source is *"approved"* when an RDP is properly licensed to transact engineering commerce.

11.6.3 Federal law, Title 18 US Code Section 242, requires that, where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved. Denial without written reason deprives a protected right to free and fair competition in the marketplace.

11.7 DrJ is a licensed engineering company, employs licensed RDPs and is an ANAB Accredited Product Certification Body – Accreditation #1131.

11.8 Through the IAF Multilateral Arrangement (MLA), this duly authenticated report can be used to obtain product approval in any jurisdiction or country because all ANAB ISO/IEC 17065 duly authenticated reports are equivalent.[38]

12 Conditions of Use

12.1 As defined in **Section 6**, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.

12.2 As listed herein, SCI Solar Attachment Solutions shall be subject to the following conditions:

12.2.1 Z-Bracket and PM 9000-S shall be installed with the fastener holes parallel with the roof slope.

12.2.2 Use of SCI Solar Attachment Solutions in wind Exposure Category B where basic wind speed is 150 mph or greater or in wind Exposure Category C or D where basic wind speed is 140 mph or greater shall be subject to special inspections as specified in IBC Section 1705.12.

12.2.2.1 Periodic special inspections are required as specified in IBC Section 1705.12.3, Item 1.

12.2.3 Use of SCI Solar Attachment Solutions in Seismic Design Category (SDC) E or F shall be subject to periodic special inspections as specified in IBC Section 1705.13.6, Item 2.

12.2.4 SCI Standing Seam Clamps subjected to vibrations induced by mechanical equipment are outside the scope of this report and shall be verified by an RDP.

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12.2.5 The connection of the photovoltaic panel system to SCI Solar Attachment Solutions is outside the scope of this report and shall be designed by an RDP.

12.2.6 The ability of the roof structure to support the additional loads by the photovoltaic panel system or other non-structural components/assemblies shall be verified by RDP.

12.3 When required by adopted legislation and enforced by the building official, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:

12.3.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an approved source, shall be approved when signed and sealed.

12.3.2 This report and the installation instructions shall be submitted at the time of permit application.

12.3.3 At a minimum, these innovative products shall be installed per **Section 9**.

12.3.4 The review of this report by the AHJ shall comply with IBC Section 104.2.3.2 and IBC Section 105.3.1.

12.3.5 These innovative products have an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.7.2, IBC Section 110.4, IBC Section 1703, IRC Section R104.7.2, and IRC Section R109.2.

12.3.6 The application of these innovative products in the context of this report is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2, and any other regulatory requirements that may apply.

12.4 The approval of this report by the AHJ shall comply with IBC Section 1707.1, where legislation states in part, *"the building official shall make, or cause to be made, the necessary tests and investigations; or the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.2.3"*, all of IBC Section 104, and IBC Section 105.3.

12.5 Design loads shall be determined in accordance with the regulations adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).

12.6 The actual design, suitability, and use of this report for any particular building, is the responsibility of the owner or the authorized agent of the owner.

13 Identification

13.1 SCI Solar Attachment Solutions, as listed in **Section 1.1**, are identified by a label on the board or packaging material bearing the manufacturer name, product name, this report number, and other information to confirm code compliance.

13.2 Additional technical information can be found at solarconnectionsinternational.com.

14 Review Schedule

14.1 This report is subject to periodic review and revision. For the latest version, visit www.drjcertification.org.

14.2 For information on the status of this report, please contact DrJ Certification.

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Issue Date: August 8, 2025
Supplement Revision Date: August 8, 2025
Subject to Renewal: October 1, 2027

FBC Supplement to Report Number 2411-105

REPORT HOLDER: Solar Connections International

1 Evaluation Subject

1.1 SCI Solar Attachment Solutions:

1.1.1 *PowerMounts:*

1.1.1.1 PM Adjust

1.1.1.2 PM 9000-S

1.1.1.3 PMR1-S

1.1.1.4 iClamp360:

1.1.1.4.1 iClamp360 M8

1.1.1.4.2 iClamp360 Cup Point

1.1.1.5 Z-Bracket

1.1.1.6 L-Foot SLT

1.1.2 *PV Cube Standing Seam Clamps:*

1.1.2.1 PV Cube Standard

1.1.2.2 PV Cube Mini

1.1.2.3 PV Cube KLOC

1.1.2.4 PV Cube KLOC Mini

1.1.3 PV Cube Wide

2 Purpose and Scope

2.1 Purpose

2.1.1 The purpose of this Report Supplement is to show SCI Solar Attachment Solutions, recognized in Report Number 2411-105, have also been evaluated for compliance with the codes listed below as adopted by the Florida Building Commission.

2.2 *Applicable Code Editions*

2.2.1 *FBC-B – 20, 23: Florida Building Code – Building (FL47698)*

2.2.2 *FBC-R – 20, 23: Florida Building Code – Residential (FL47698)*

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3 Conclusions

3.1 SCI Solar Attachment Solutions, described in Report Number 2411-105, comply with the FBC-B and FBC-R and are subject to the conditions of use described in this supplement.

3.2 Where there are variations between the IBC and IRC and the FBC-B and FBC-R applicable to this report, they are listed here:

3.2.1 FBC-B Section 104 is reserved.

3.2.2 FBC-B Section 110.4 is reserved and replaces IBC Section 110.4.

3.2.3 FBC-B Section 104.6 is reserved and replaces IBC Section 104.4.

3.2.4 FBC-B Section 104.11 replaces IBC Section 104.2.3 and Section 104.2.3.2.

3.2.5 FBC-B Section 105.3 replaces IBC Section 105.3.

3.2.6 FBC-B Section 105.3.1 replaces IBC Section 105.3.1.

3.2.7 FBC-B Section 110.3 replaces IBC Section 110.3.

3.2.8 FBC-B Section 1503 replaces IBC Section 1503.

3.2.9 FBC-B Section 1504 replaces IBC Section 1504.

3.2.10 FBC-B Section 1505 replaces IBC Section 1505.

3.2.11 FBC-B Section 1506 replaces IBC Section 1506.

3.2.12 FBC-B Section 1507 replaces IBC Section 1507.

3.2.13 FBC-B Section 1510 replaces IBC Section 1510.

3.2.14 FBC-B Section 1511 replaces IBC Section 1511.

3.2.15 FBC-B Section 1512 replaces IBC Section 1512.

3.2.16 FBC-B Section 1707.1 replaces IBC Section 1707.1.

3.2.17 FBC-B Section 2306.1 replaces IBC Section 2306.1.

3.2.18 FBC-B Section 2306.3 replaces IBC Section 2306.3.

3.2.19 FBC-R Section R104 and Section R109 are reserved.

4 Conditions of Use

4.1 SCI Solar Attachment Solutions, described in Report Number 2411-105, must comply with all of the following conditions:

4.1.1 All applicable sections in Report Number 2411-105.

4.1.2 The design, installation, and inspections are in accordance with additional requirements of FBC-B Chapter 16 and Chapter 17, as applicable.

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Notes

1 For more information, visit drjcertification.org or call us at 608-310-6748.

2 Capitalized terms and responsibilities are defined pursuant to the applicable building code, applicable reference standards, the latest edition of TPI 1, the NDS, AISI S202, US professional engineering law, Canadian building code, Canada professional engineering law, Qualtim External Appendix A: Definitions/Commentary, Qualtim External Appendix B: Project/Deliverables, Qualtim External Appendix C: Intellectual Property and Trade Secrets, definitions created within Design Drawings and/or definitions within Reference Sheets. Beyond this, terms not defined shall have ordinarily accepted meanings as the context implies. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

3 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1702

4 Alternative Materials, Design and Methods of Construction and Equipment: The provisions of any regulation code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by a regulation. Please review https://www.justice.gov/atr/mission and https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3

5 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.2:~:text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests

6 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design of accepted engineering practice. https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.1:~:text=Conformance%20to%20Standards-,The%20design%20strengths%20and%20permissible%20stresses,-of%20any%20structural

7 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1:~:text=the%20building%20official%20shall%20make%2C%20or%20cause%20to%20be%20made%2C%20the%20necessary%20tests%20and%20investigations%3B%20or%20the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20quality%20and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.2.3.

8 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2

9 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_agency

10 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_source

11 https://www.law.cornell.edu/uscode/text/18/1832 (b) Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of $5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. To follow DTSA and comply state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.

12 https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional AND https://apassociation.org/list-of-engineering-boards-in-each-state-archive/

13 https://www.cbitest.com/accreditation/

14 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.1:~:text=directed%20to%20enforce%20the%20provisions%20of%20this%20code

15 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3 AND https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#105.3.1

16 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

17 https://iaf.nu/en/about-iaf-mla/#:~:text=Once%20an%20accreditation%20body%20is%20a%20signatory%20of%20the%20IAF%20MLA%2C%20it%20is%20required%20to%20recognise%20certificates%20and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessment%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope

18 True for all ANAB accredited product evaluation agencies and all International Trade Agreements.

19 https://www.justice.gov/crt/deprivation-rights-under-color-law AND https://www.justice.gov/atr/mission

20 Unless otherwise noted, the links referenced herein use un-amended versions of the 2024 International Code Council (ICC) 2024 International Code Council (ICC) model codes as foundation references. Mississippi versions of the IBC 2024 and the IRC 2024 are un-amended. This material, product, design, service and/or method of construction also complies with the 2000-2012 versions of the referenced codes and the standards referenced therein. As pertinent to this technical and code compliance evaluation, CBI and/or DrJ staff have reviewed any state or local regulatory amendments to assure this report is in compliance.

21 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by the local jurisdiction. https://up.codes/codes/general

22 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by state. https://up.codes/codes/general

23 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14

24 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

25 All references to the FBC-B and FBC-R are the same as the 2024 IBC and 2024 IRC unless otherwise noted in the Florida Supplement at the end of this report.

26 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2(Listed%20or%20certified); https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#listed AND https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#labeled

27 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4

28 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%2C%20livable%2C%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the%20various%20trades

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[29] https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=The%20strength%20and%20rigidity%20of%20the%20component%20parts%20and/or%20the%20integrated%20structure%20shall%20be%20determined%20by%20engineering%20analysis%20or%20by%20suitable%20load%20tests%20to%20simulate%20the%20actual%20loads%20and%20conditions%20of%20application%20that%20occur

[30] Qualification is performed by a legislatively defined Accreditation Body. ANSI National Accreditation Board (ANAB) is the largest independent accreditation body in North America and provides services in more than 75 countries. DrJ is an ANAB accredited product certification body.

[31] https://anabpd.ansi.org/Accreditation/product-certification/AllDirectoryDetails?prgID=1&orgID=2125&statusID=4#:~:text=Bill%20Payment%20Date-,Accredited%20Scopes,-13%20ENVIRONMENT.%20HEALTH

[32] See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

[33] 2021 IBC Section 104.11

[34] 2021 IRC Section R104.11

[35] 2018: https://up.codes/viewer/wyoming/ifc-2018/chapter/1/scope-and-administration#104.9 AND 2021: https://up.codes/viewer/wyoming/ibc-2021/chapter/1/scope-and-administration#104.11

[36] Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 (https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#201.4) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

[37] https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

[38] Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.

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