



November 2, 2020

Attn: Mr. Peter Abou Chacra  
SunModo  
14800 NE 65<sup>th</sup> St.  
Vancouver, WA 98682

RE: SunModo – SMR100 System  
PV Panel Racking System  
State of Hawaii Certification Letter

SEI Project No.: 19498.00

Dear Mr. Abou Chacra:

Structural Enginuity Inc. (SEI) has completed its review of the SunModo – SMR100 Rail System for typical installations in the state of Hawaii. The SMR100 Rail is compliant with the sections of the following design references and codes when installed per the conditions and design criteria delineated herein.

**Design References and Codes:**

- ASCE 7-10 – Minimum Design Loads for Buildings and Other Structures
- 2015 Aluminum Design Manual, by the Aluminum Association
- Materials information and section and details provided by SunModo as appendages to this letter
- 2015 International Building Code and 2015 International Residential Code
- AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Modules, November 2012 by ICC-ES

**General Mounting System and Analysis Overview:**

The SMR100 Rail consists of 6005-T5 (acceptable alternative materials include 6005A-T61 and 6061-T6) extruded aluminum per ASTM B221-08. The rails are used in pairs to support photovoltaic solar panels in order to span between points of attachment to the existing roof structure. The following tables and information summarize the structural analysis performed by SEI in order to certify the SMR100 Rail for the state noted above.

The analysis for certification included the following parameters for each rail system.

**QRail Standard:**

- Risk Category II
- Roof Slopes up to 45 degrees
- Portrait & Landscape orientation of photovoltaic panels
- Max Module Dimensions = Varies, see tables
- Max Mean Roof Height = Varies, see tables (If roof slope < 10°, use eave height)

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- Wind Analysis:
  - o Wind Category: B, C, and D
  - o Roof Zones 1, 2, and 3
  - o Wind Directionality Factor ( $K_d$ ) = 0.85
  - o Topographic Factor ( $K_{zt}$ ) = 1
- Snow Analysis:
  - o Snow Exposure Factor ( $C_e$ ) = 1.0
  - o Thermal Factor ( $C_t$ ) = 1.0
  - o Slope Factor ( $C_s$ ) per ASCE 7-10, Figure 7-2a
  - o Importance Factor ( $I_s$ ) = 1
- Seismic Analysis:
  - o Seismic Design Category E or less ( $S_d$  = 2.0 max)
  - o Importance Factor ( $I_p$ ) = 1
  - o Amplification Factor ( $a_p$ ) = 1.0 per ICC-AC428
  - o Component Response Modification Factor ( $R_p$ ) = 1.5 per ICC-AC 428

Applicable loading combinations consisting of dead, wind, snow, and seismic loads in accordance with the governing code requirements were used to determine allowable rail span lengths, based on bending stress capacity, shear capacity, axial capacity, and an assumption of a single-span condition with an allowable deflection of  $L/60$ . Design wind pressures were determined using Components and Cladding calculations per ASCE 7-10, Chapters 26-30 in conjunction with the loading parameters noted above. Applicable roof snow load shall be based on ground snow load maps, equations, and factors of ASCE 7-10, Chapter 7 and applicable sections of the 2015 International Building Code for the location of the project in combination with the loading parameters noted above.

It should be noted that the analysis was limited to the capacity of the SMR100 Rail. Attachments of the rail to the roof structure and analysis of the roof structure itself shall be the responsibility of the installer, and should be reviewed and approved by a registered design professional where required by the local authority having jurisdiction.

### **Installation Notes:**

The SMR100 Rail shall be installed with the following guidelines to be in compliance with attached span tables:

- Tables noted below assume two support rails are being used per each row of photovoltaic modules in a roof solar array.
- Rails shall be continuous and not spliced over a minimum of 2 supports except for span lengths shaded with  In these cases it is acceptable to use a minimum of 1 support per rail section as long as all supports are located at a maximum of 48" on center and the first and last rail sections have a minimum of 2 supports. Splices shall be made with SunModo's structural splice.
- System shall be mounted parallel to roof surface with a 2" to 10" gap between roof surface and bottom of module.
- Installation over roof overhangs or within 10" of any roof edge is not recommended
- Maximum end cantilever of aluminum support rail shall not exceed 1/3 of allowable span in the roof wind pressure zone of the cantilever.



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60 Cell Module (Portrait Orientation, Max Length 67.5") \_\_\_\_\_ C1-C18

    Mean Roof Height Less Than 15 Feet

        -Gable Roof, Roof Slope Between 0 and 7 degrees \_\_\_\_\_ C1-C3

        -Gable Roof, Roof Slope Between 7 and 27 degrees \_\_\_\_\_ C4-C6

        -Gable Roof, Roof Slope Between 27 and 45 degrees \_\_\_\_\_ C7-C9

    Mean Roof Height Between 15 and 30 Feet

        -Gable Roof, Roof Slope Between 0 and 7 degrees \_\_\_\_\_ C10-C12

        -Gable Roof, Roof Slope Between 7 and 27 degrees \_\_\_\_\_ C13-C15

        -Gable Roof, Roof Slope Between 27 and 45 degrees \_\_\_\_\_ C16-C18

Module in Landscape Orientation (Max Width 42") \_\_\_\_\_ C19-C36

    Mean Roof Height Less Than 15 Feet

        -Gable Roof, Roof Slope Between 0 and 7 degrees \_\_\_\_\_ C19-C21

        -Gable Roof, Roof Slope Between 7 and 27 degrees \_\_\_\_\_ C22-C24

        -Gable Roof, Roof Slope Between 27 and 45 degrees \_\_\_\_\_ C25-C27

    Mean Roof Height Between 15 and 30 Feet

        -Gable Roof, Roof Slope Between 0 and 7 degrees \_\_\_\_\_ C28-C30

        -Gable Roof, Roof Slope Between 7 and 27 degrees \_\_\_\_\_ C31-C33

        -Gable Roof, Roof Slope Between 27 and 45 degrees \_\_\_\_\_ C34-C36

72 Cell Module (Portrait Orientation, Max Length 82") \_\_\_\_\_ C37-C54

    Mean Roof Height Less Than 15 Feet

        -Gable Roof, Roof Slope Between 0 and 7 degrees \_\_\_\_\_ C37-C39

        -Gable Roof, Roof Slope Between 7 and 27 degrees \_\_\_\_\_ C40-C42

        -Gable Roof, Roof Slope Between 27 and 45 degrees \_\_\_\_\_ C43-C45

    Mean Roof Height Between 15 and 30 Feet

        -Gable Roof, Roof Slope Between 0 and 7 degrees \_\_\_\_\_ C46-C48

        -Gable Roof, Roof Slope Between 7 and 27 degrees \_\_\_\_\_ C49-C52

        -Gable Roof, Roof Slope Between 27 and 45 degrees \_\_\_\_\_ C53-C56

**Max Rail Spans for SunModo SMR100 System**

<b>Table 1</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Portrait	
		Roof Angle:	$0 < \theta \leq 7$ degrees													
		Exposure Category:	B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)														
		100	110	115	120	125	130	140	150	160	170	175	180	190		
Zone 1	0	101	101	101	101	101	99	94	88	81	76	73	71	67		
	10	87	87	87	87	87	87	87	87	81	76	73	71	67		
	20	69	69	69	69	69	69	69	69	69	69	69	69	67		
	30	68	68	68	68	68	68	68	68	68	68	68	68	67		
	40	60	60	60	60	60	60	60	60	60	60	60	60	60		
	50	54	54	54	54	54	54	54	54	54	54	54	54	54		
	60	50	50	50	50	50	50	50	50	50	50	50	50	50		
	70	46	46	46	46	46	46	46	46	46	46	46	46	46		
	80	44	44	44	44	44	44	44	44	44	44	44	44	44		
90	41	41	41	41	41	41	41	41	41	41	41	41	41			
Zone 2	0	101	94	90	85	81	77	70	65	60	56	54	52	49		
	10	87	87	87	85	81	77	70	65	60	56	54	52	49		
	20	69	69	69	69	69	69	69	65	60	56	54	52	49		
	30	68	68	68	68	68	68	68	65	60	56	54	52	49		
	40	60	60	60	60	60	60	60	60	60	56	54	52	49		
	50	54	54	54	54	54	54	54	54	54	54	54	52	49		
	60	50	50	50	50	50	50	50	50	50	50	50	50	49		
	70	46	46	46	46	46	46	46	46	46	46	46	46	46		
	80	44	44	44	44	44	44	44	44	44	44	44	44	44		
90	41	41	41	41	41	41	41	41	41	41	41	41	41			
Zone 3	0	85	75	71	67	63	60	55	50	47	43	42	41	38		
	10	85	75	71	67	63	60	55	50	47	43	42	41	38		
	20	69	69	69	67	63	60	55	50	47	43	42	41	38		
	30	68	68	68	67	63	60	55	50	47	43	42	41	38		
	40	60	60	60	60	60	60	55	50	47	43	42	41	38		
	50	54	54	54	54	54	54	54	50	47	43	42	41	38		
	60	50	50	50	50	50	50	50	50	47	43	42	41	38		
	70	46	46	46	46	46	46	46	46	46	43	42	41	38		
	80	44	44	44	44	44	44	44	44	44	43	42	41	38		
90	41	41	41	41	41	41	41	41	41	41	41	41	38			

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 2</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Portrait
		Roof Angle:	$0 < \theta \leq 7$ degrees												
		Exposure Category:	C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	101	101	98	95	92	85	78	73	68	66	64	60	
	10	87	87	87	87	87	87	85	78	73	68	66	64	60	
	20	69	69	69	69	69	69	69	69	69	68	66	64	60	
	30	68	68	68	68	68	68	68	68	68	67	66	64	60	
	40	60	60	60	60	60	60	60	60	60	60	60	60	60	
	50	54	54	54	54	54	54	54	54	54	54	54	54	54	
	60	50	50	50	50	50	50	50	50	50	50	50	50	50	
	70	46	46	46	46	46	46	46	46	46	46	46	46	46	
	80	44	44	44	44	44	44	44	44	44	44	44	44	44	
90	41	41	41	41	41	41	41	41	41	41	41	41	41		
Zone 2	0	94	84	80	76	72	68	63	58	54	50	48	47	44	
	10	87	84	80	76	72	68	63	58	54	50	48	47	44	
	20	69	69	69	69	69	68	63	58	54	50	48	47	44	
	30	68	68	68	68	68	68	63	58	54	50	48	47	44	
	40	60	60	60	60	60	60	60	58	54	50	48	47	44	
	50	54	54	54	54	54	54	54	54	54	50	48	47	44	
	60	50	50	50	50	50	50	50	50	50	50	48	47	44	
	70	46	46	46	46	46	46	46	46	46	46	46	46	44	
	80	44	44	44	44	44	44	44	44	44	44	44	44	44	
90	41	41	41	41	41	41	41	41	41	41	41	41	41		
Zone 3	0	75	66	62	59	56	53	49	45	42	39	38	37	35	
	10	75	66	62	59	56	53	49	45	42	39	38	37	35	
	20	69	66	62	59	56	53	49	45	42	39	38	37	35	
	30	68	66	62	59	56	53	49	45	42	39	38	37	35	
	40	60	60	60	59	56	53	49	45	42	39	38	37	35	
	50	54	54	54	54	54	53	49	45	42	39	38	37	35	
	60	50	50	50	50	50	50	49	45	42	39	38	37	35	
	70	46	46	46	46	46	46	46	45	42	39	38	37	35	
	80	44	44	44	44	44	44	44	44	42	39	38	37	35	
90	41	41	41	41	41	41	41	41	41	39	38	37	35		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 3</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation: Portrait		
		Roof Angle:	$0 < \theta \leq 7$ degrees												
		Exposure Category:	D												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	97	94	91	87	83	76	70	65	61	59	57	54	
	10	87	87	87	87	87	83	76	70	65	61	59	57	54	
	20	69	69	69	69	69	69	69	69	65	61	59	57	54	
	30	68	68	68	68	68	68	68	67	65	61	59	57	54	
	40	60	60	60	60	60	60	60	60	60	60	59	57	54	
	50	54	54	54	54	54	54	54	54	54	54	54	54	54	
	60	50	50	50	50	50	50	50	50	50	50	50	50	50	
	70	46	46	46	46	46	46	46	46	46	46	46	46	46	
	80	44	44	44	44	44	44	44	44	44	44	44	44	44	
90	41	41	41	41	41	41	41	41	41	41	41	41	41		
Zone 2	0	84	75	71	67	64	61	56	52	48	45	43	42	40	
	10	84	75	71	67	64	61	56	52	48	45	43	42	40	
	20	69	69	69	67	64	61	56	52	48	45	43	42	40	
	30	68	68	68	67	64	61	56	52	48	45	43	42	40	
	40	60	60	60	60	60	60	56	52	48	45	43	42	40	
	50	54	54	54	54	54	54	54	52	48	45	43	42	40	
	60	50	50	50	50	50	50	50	50	48	45	43	42	40	
	70	46	46	46	46	46	46	46	46	46	45	43	42	40	
	80	44	44	44	44	44	44	44	44	44	44	43	42	40	
90	41	41	41	41	41	41	41	41	41	41	41	41	40		
Zone 3	0	66	58	55	52	50	47	43	40	38	35	34	33	31	
	10	66	58	55	52	50	47	43	40	38	35	34	33	31	
	20	66	58	55	52	50	47	43	40	38	35	34	33	31	
	30	66	58	55	52	50	47	43	40	38	35	34	33	31	
	40	60	58	55	52	50	47	43	40	38	35	34	33	31	
	50	54	54	54	52	50	47	43	40	38	35	34	33	31	
	60	50	50	50	50	50	47	43	40	38	35	34	33	31	
	70	46	46	46	46	46	46	43	40	38	35	34	33	31	
	80	44	44	44	44	44	44	43	40	38	35	34	33	31	
90	41	41	41	41	41	41	41	40	38	35	34	33	31		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 4</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Portrait	
		Roof Angle:	$7 < \theta \leq 27$ degrees												
		Exposure Category:	B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	101	101	101	101	101	97	92	88	82	79	76	72	
	10	78	78	78	78	77	76	75	74	72	71	70	69	68	
	20	60	60	60	60	60	60	60	60	60	59	58	58	57	
	30	60	60	60	60	60	60	60	60	60	59	58	58	57	
	40	53	53	53	53	53	53	53	53	53	53	53	53	52	
	50	48	48	48	48	48	48	48	48	48	48	48	48	48	
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 2	0	101	94	91	88	83	79	73	67	62	58	56	54	51	
	10	78	78	78	78	77	76	73	67	62	58	56	54	51	
	20	60	60	60	60	60	60	60	60	60	58	56	54	51	
	30	60	60	60	60	60	60	60	60	60	58	56	54	51	
	40	53	53	53	53	53	53	53	53	53	53	53	53	51	
	50	48	48	48	48	48	48	48	48	48	48	48	48	48	
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 3	0	83	74	71	67	64	61	56	52	48	45	44	42	40	
	10	78	74	71	67	64	61	56	52	48	45	44	42	40	
	20	60	60	60	60	60	60	56	52	48	45	44	42	40	
	30	60	60	60	60	60	60	56	52	48	45	44	42	40	
	40	53	53	53	53	53	53	53	52	48	45	44	42	40	
	50	48	48	48	48	48	48	48	48	48	45	44	42	40	
	60	44	44	44	44	44	44	44	44	44	44	44	42	40	
	70	41	41	41	41	41	41	41	41	41	41	41	41	40	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"



**Max Rail Spans for SunModo SMR100 System**

<b>Table 5</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Portrait
		Roof Angle:	$7 < \theta \leq 27$ degrees												
		Exposure Category:	C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	101	101	101	99	96	90	84	78	73	70	68	64	
	10	78	77	77	76	75	74	73	71	70	68	67	67	64	
	20	60	60	60	60	60	60	60	59	58	57	57	56	55	
	30	60	60	60	60	60	60	60	59	58	57	57	56	55	
	40	53	53	53	53	53	53	53	53	53	52	52	52	51	
	50	48	48	48	48	48	48	48	48	48	48	48	48	47	
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 2	0	94	87	82	78	74	71	65	60	55	52	50	48	45	
	10	78	77	77	76	74	71	65	60	55	52	50	48	45	
	20	60	60	60	60	60	60	60	59	55	52	50	48	45	
	30	60	60	60	60	60	60	60	59	55	52	50	48	45	
	40	53	53	53	53	53	53	53	53	53	52	50	48	45	
	50	48	48	48	48	48	48	48	48	48	48	48	48	45	
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 3	0	74	66	63	60	57	55	50	47	43	41	39	38	36	
	10	74	66	63	60	57	55	50	47	43	41	39	38	36	
	20	60	60	60	60	57	55	50	47	43	41	39	38	36	
	30	60	60	60	60	57	55	50	47	43	41	39	38	36	
	40	53	53	53	53	53	53	50	47	43	41	39	38	36	
	50	48	48	48	48	48	48	48	47	43	41	39	38	36	
	60	44	44	44	44	44	44	44	44	43	41	39	38	36	
	70	41	41	41	41	41	41	41	41	41	41	39	38	36	
	80	39	39	39	39	39	39	39	39	39	39	39	38	36	
90	37	37	37	37	37	37	37	37	37	37	37	37	36		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 6</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Portrait	
		Roof Angle:	$7 < \theta \leq 27$ degrees													
		Exposure Category:	D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)														
		100	110	115	120	125	130	140	150	160	170	175	180	190		
Zone 1	0	101	101	98	94	91	89	82	75	70	65	63	61	58		
	10	77	76	75	74	73	72	71	69	67	65	63	61	58		
	20	60	60	60	60	60	60	60	59	58	57	56	55	54	53	
	30	60	60	60	60	60	60	60	59	58	57	56	55	54	53	
	40	53	53	53	53	53	53	53	53	53	52	51	51	50	49	
	50	48	48	48	48	48	48	48	48	48	48	47	47	47	46	
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	43	
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	41	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 2	0	87	77	73	69	66	63	58	53	49	46	45	43	41		
	10	77	76	73	69	66	63	58	53	49	46	45	43	41		
	20	60	60	60	60	60	60	58	53	49	46	45	43	41		
	30	60	60	60	60	60	60	58	53	49	46	45	43	41		
	40	53	53	53	53	53	53	53	53	49	46	45	43	41		
	50	48	48	48	48	48	48	48	48	48	48	46	45	43	41	
	60	44	44	44	44	44	44	44	44	44	44	44	44	43	41	
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	41	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 3	0	66	59	56	54	51	49	45	42	39	37	36	35	33		
	10	66	59	56	54	51	49	45	42	39	37	36	35	33		
	20	60	59	56	54	51	49	45	42	39	37	36	35	33		
	30	60	59	56	54	51	49	45	42	39	37	36	35	33		
	40	53	53	53	53	51	49	45	42	39	37	36	35	33		
	50	48	48	48	48	48	48	45	42	39	37	36	35	33		
	60	44	44	44	44	44	44	44	42	39	37	36	35	33		
	70	41	41	41	41	41	41	41	41	39	37	36	35	33		
	80	39	39	39	39	39	39	39	39	39	37	36	35	33		
90	37	37	37	37	37	37	37	37	37	37	36	35	33			

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 7</b>		Mean Roof Height: $h \leq 15$ ft					Panel Orientation: Portrait								
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	95	90	88	86	83	81	77	73	70	67	65	64	61	
	10	83	81	80	78	77	76	73	71	68	66	65	64	61	
	20	72	70	70	69	68	67	65	63	62	60	59	58	57	
	30	64	63	63	62	61	61	59	58	57	55	55	54	53	
	40	57	57	57	57	56	56	55	54	53	52	51	50	49	
	50	52	52	52	52	52	52	51	50	49	49	48	48	47	
	60	48	48	48	48	48	48	48	47	47	46	46	45	44	
	70	45	45	45	45	45	45	45	45	44	44	43	43	42	
	80	42	42	42	42	42	42	42	42	42	42	42	42	41	41
90	40	40	40	40	40	40	40	40	40	40	40	40	40	39	
Zone 2	0	95	90	88	86	83	81	77	73	70	67	65	64	61	
	10	83	81	80	78	77	76	73	71	68	66	65	64	61	
	20	72	70	70	69	68	67	65	63	62	60	59	58	57	
	30	64	63	63	62	61	61	59	58	57	55	55	54	53	
	40	57	57	57	57	56	56	55	54	53	52	51	50	49	
	50	52	52	52	52	52	52	51	50	49	49	48	48	47	
	60	48	48	48	48	48	48	48	47	47	46	46	45	44	
	70	45	45	45	45	45	45	45	45	44	44	43	43	42	
	80	42	42	42	42	42	42	42	42	42	42	42	42	41	41
90	40	40	40	40	40	40	40	40	40	40	40	40	40	39	
Zone 3	0	95	90	88	86	83	81	77	73	70	67	65	64	61	
	10	83	81	80	78	77	76	73	71	68	66	65	64	61	
	20	72	70	70	69	68	67	65	63	62	60	59	58	57	
	30	64	63	63	62	61	61	59	58	57	55	55	54	53	
	40	57	57	57	57	56	56	55	54	53	52	51	50	49	
	50	52	52	52	52	52	52	51	50	49	49	48	48	47	
	60	48	48	48	48	48	48	48	47	47	46	46	45	44	
	70	45	45	45	45	45	45	45	45	44	44	43	43	42	
	80	42	42	42	42	42	42	42	42	42	42	42	42	41	41
90	40	40	40	40	40	40	40	40	40	40	40	40	40	39	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 8</b>		Mean Roof Height: $h \leq 15$ ft		Panel Orientation: Portrait										
		Roof Angle: $27 < \theta \leq 45$ degrees												
		Exposure Category: C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	90	85	83	80	78	76	72	68	65	62	60	59	56
	10	81	78	76	75	74	72	70	67	65	62	60	59	56
	20	70	68	68	67	66	65	63	61	59	57	56	55	54
	30	63	62	61	60	60	59	57	56	54	53	52	52	50
	40	57	57	56	56	55	54	53	52	51	50	49	49	47
	50	52	52	52	52	51	51	50	49	48	47	46	46	45
	60	48	48	48	48	48	48	47	46	45	45	44	44	43
	70	45	45	45	45	45	45	45	44	43	43	42	42	41
	80	42	42	42	42	42	42	42	42	41	41	40	40	39
90	40	40	40	40	40	40	40	40	40	39	39	39	38	
Zone 2	0	90	85	83	80	78	76	72	68	65	62	60	59	56
	10	81	78	76	75	74	72	70	67	65	62	60	59	56
	20	70	68	68	67	66	65	63	61	59	57	56	55	54
	30	63	62	61	60	60	59	57	56	54	53	52	52	50
	40	57	57	56	56	55	54	53	52	51	50	49	49	47
	50	52	52	52	52	51	51	50	49	48	47	46	46	45
	60	48	48	48	48	48	48	47	46	45	45	44	44	43
	70	45	45	45	45	45	45	45	44	43	43	42	42	41
	80	42	42	42	42	42	42	42	42	41	41	40	40	39
90	40	40	40	40	40	40	40	40	40	39	39	39	38	
Zone 3	0	90	85	83	80	78	76	72	68	65	62	60	59	56
	10	81	78	76	75	74	72	70	67	65	62	60	59	56
	20	70	68	68	67	66	65	63	61	59	57	56	55	54
	30	63	62	61	60	60	59	57	56	54	53	52	52	50
	40	57	57	56	56	55	54	53	52	51	50	49	49	47
	50	52	52	52	52	51	51	50	49	48	47	46	46	45
	60	48	48	48	48	48	48	47	46	45	45	44	44	43
	70	45	45	45	45	45	45	45	44	43	43	42	42	41
	80	42	42	42	42	42	42	42	42	41	41	40	40	39
90	40	40	40	40	40	40	40	40	40	39	39	39	38	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 9</b>		Mean Roof Height: $h \leq 15$ ft					Panel Orientation: Portrait								
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	85	80	77	75	73	71	67	63	60	57	55	54	52	
	10	78	75	73	72	70	69	66	63	60	57	55	54	52	
	20	68	66	65	64	63	62	60	58	56	54	53	52	51	
	30	62	60	59	59	58	57	55	54	52	51	50	49	48	
	40	57	56	55	54	54	53	52	50	49	48	47	46	45	
	50	52	52	51	51	50	50	49	47	46	45	45	44	43	
	60	48	48	48	48	47	47	46	45	44	43	43	42	41	
	70	45	45	45	45	45	45	44	43	42	41	41	40	40	
	80	42	42	42	42	42	42	42	41	40	40	39	39	38	
90	40	40	40	40	40	40	40	40	39	38	38	38	37		
Zone 2	0	85	80	77	75	73	71	67	63	60	57	55	53	50	
	10	78	75	73	72	70	69	66	63	60	57	55	53	50	
	20	68	66	65	64	63	62	60	58	56	54	53	52	50	
	30	62	60	59	59	58	57	55	54	52	51	50	49	48	
	40	57	56	55	54	54	53	52	50	49	48	47	46	45	
	50	52	52	51	51	50	50	49	47	46	45	45	44	43	
	60	48	48	48	48	47	47	46	45	44	43	43	42	41	
	70	45	45	45	45	45	45	44	43	42	41	41	40	40	
	80	42	42	42	42	42	42	42	41	40	40	39	39	38	
90	40	40	40	40	40	40	40	40	39	38	38	38	37		
Zone 3	0	85	80	77	75	73	71	67	63	60	57	55	53	50	
	10	78	75	73	72	70	69	66	63	60	57	55	53	50	
	20	68	66	65	64	63	62	60	58	56	54	53	52	50	
	30	62	60	59	59	58	57	55	54	52	51	50	49	48	
	40	57	56	55	54	54	53	52	50	49	48	47	46	45	
	50	52	52	51	51	50	50	49	47	46	45	45	44	43	
	60	48	48	48	48	47	47	46	45	44	43	43	42	41	
	70	45	45	45	45	45	45	44	43	42	41	41	40	40	
	80	42	42	42	42	42	42	42	41	40	40	39	39	38	
90	40	40	40	40	40	40	40	40	39	38	38	38	37		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 10</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $0 < \theta \leq 7$ degrees													
		Exposure Category: B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	101	101	101	101	99	94	88	81	76	73	71	67	
	10	87	87	87	87	87	87	87	87	81	76	73	71	67	
	20	69	69	69	69	69	69	69	69	69	69	69	69	67	
	30	68	68	68	68	68	68	68	68	68	68	68	68	67	
	40	60	60	60	60	60	60	60	60	60	60	60	60	60	
	50	54	54	54	54	54	54	54	54	54	54	54	54	54	
	60	50	50	50	50	50	50	50	50	50	50	50	50	50	
	70	46	46	46	46	46	46	46	46	46	46	46	46	46	
	80	44	44	44	44	44	44	44	44	44	44	44	44	44	
90	41	41	41	41	41	41	41	41	41	41	41	41	41		
Zone 2	0	101	94	90	85	81	77	70	65	60	56	54	52	49	
	10	87	87	87	85	81	77	70	65	60	56	54	52	49	
	20	69	69	69	69	69	69	69	65	60	56	54	52	49	
	30	68	68	68	68	68	68	68	65	60	56	54	52	49	
	40	60	60	60	60	60	60	60	60	60	56	54	52	49	
	50	54	54	54	54	54	54	54	54	54	54	54	52	49	
	60	50	50	50	50	50	50	50	50	50	50	50	50	49	
	70	46	46	46	46	46	46	46	46	46	46	46	46	46	
	80	44	44	44	44	44	44	44	44	44	44	44	44	44	
90	41	41	41	41	41	41	41	41	41	41	41	41	41		
Zone 3	0	85	75	71	67	63	60	55	50	47	43	42	41	38	
	10	85	75	71	67	63	60	55	50	47	43	42	41	38	
	20	69	69	69	67	63	60	55	50	47	43	42	41	38	
	30	68	68	68	67	63	60	55	50	47	43	42	41	38	
	40	60	60	60	60	60	60	55	50	47	43	42	41	38	
	50	54	54	54	54	54	54	54	50	47	43	42	41	38	
	60	50	50	50	50	50	50	50	50	47	43	42	41	38	
	70	46	46	46	46	46	46	46	46	46	43	42	41	38	
	80	44	44	44	44	44	44	44	44	44	43	42	41	38	
90	41	41	41	41	41	41	41	41	41	41	41	41	38		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

Roof Wind Zone		Ground Snow Load (psf)	Wind Speed (mph)													
			100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1		0	101	99	96	93	89	85	78	72	67	63	61	59	56	
		10	87	87	87	87	87	85	78	72	67	63	61	59	56	
		20	69	69	69	69	69	69	69	69	67	63	61	59	56	
		30	68	68	68	68	68	68	68	68	67	63	61	59	56	
		40	60	60	60	60	60	60	60	60	60	60	60	59	56	
		50	54	54	54	54	54	54	54	54	54	54	54	54	54	54
		60	50	50	50	50	50	50	50	50	50	50	50	50	50	50
		70	46	46	46	46	46	46	46	46	46	46	46	46	46	46
		80	44	44	44	44	44	44	44	44	44	44	44	44	44	44
		90	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Zone 2		0	87	77	73	69	66	63	58	53	49	46	44	43	41	
		10	87	77	73	69	66	63	58	53	49	46	44	43	41	
		20	69	69	69	69	66	63	58	53	49	46	44	43	41	
		30	68	68	68	68	66	63	58	53	49	46	44	43	41	
		40	60	60	60	60	60	60	58	53	49	46	44	43	41	
		50	54	54	54	54	54	54	54	53	49	46	44	43	41	
		60	50	50	50	50	50	50	50	50	49	46	44	43	41	
		70	46	46	46	46	46	46	46	46	46	46	44	43	41	
		80	44	44	44	44	44	44	44	44	44	44	44	44	43	41
		90	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Zone 3		0	68	60	57	54	51	49	45	41	39	36	35	34	32	
		10	68	60	57	54	51	49	45	41	39	36	35	34	32	
		20	68	60	57	54	51	49	45	41	39	36	35	34	32	
		30	68	60	57	54	51	49	45	41	39	36	35	34	32	
		40	60	60	57	54	51	49	45	41	39	36	35	34	32	
		50	54	54	54	54	51	49	45	41	39	36	35	34	32	
		60	50	50	50	50	50	49	45	41	39	36	35	34	32	
		70	46	46	46	46	46	46	45	41	39	36	35	34	32	
		80	44	44	44	44	44	44	44	41	39	36	35	34	32	
		90	41	41	41	41	41	41	41	41	39	36	35	34	32	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 12</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait					
		Roof Angle: $0 < \theta \leq 7$ degrees												
		Exposure Category: D												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	100	93	89	85	81	77	71	66	61	57	56	54	51
	10	87	87	87	85	81	77	71	66	61	57	56	54	51
	20	69	69	69	69	69	69	69	66	61	57	56	54	51
	30	68	68	68	68	68	68	68	66	61	57	56	54	51
	40	60	60	60	60	60	60	60	60	60	57	56	54	51
	50	54	54	54	54	54	54	54	54	54	54	54	54	51
	60	50	50	50	50	50	50	50	50	50	50	50	50	50
	70	46	46	46	46	46	46	46	46	46	46	46	46	46
	80	44	44	44	44	44	44	44	44	44	44	44	44	44
90	41	41	41	41	41	41	41	41	41	41	41	41	41	
Zone 2	0	78	69	66	63	60	57	52	48	45	42	40	39	37
	10	78	69	66	63	60	57	52	48	45	42	40	39	37
	20	69	69	66	63	60	57	52	48	45	42	40	39	37
	30	68	68	66	63	60	57	52	48	45	42	40	39	37
	40	60	60	60	60	60	57	52	48	45	42	40	39	37
	50	54	54	54	54	54	54	52	48	45	42	40	39	37
	60	50	50	50	50	50	50	50	48	45	42	40	39	37
	70	46	46	46	46	46	46	46	46	45	42	40	39	37
	80	44	44	44	44	44	44	44	44	44	42	40	39	37
90	41	41	41	41	41	41	41	41	41	41	40	39	37	
Zone 3	0	61	54	51	49	46	44	41	38	35	33	32	31	30
	10	61	54	51	49	46	44	41	38	35	33	32	31	30
	20	61	54	51	49	46	44	41	38	35	33	32	31	30
	30	61	54	51	49	46	44	41	38	35	33	32	31	30
	40	60	54	51	49	46	44	41	38	35	33	32	31	30
	50	54	54	51	49	46	44	41	38	35	33	32	31	30
	60	50	50	50	49	46	44	41	38	35	33	32	31	30
	70	46	46	46	46	46	44	41	38	35	33	32	31	30
	80	44	44	44	44	44	44	41	38	35	33	32	31	30
90	41	41	41	41	41	41	41	38	35	33	32	31	30	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"



**Max Rail Spans for SunModo SMR100 System**

<b>Table 13</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $7 < \theta \leq 27$ degrees													
		Exposure Category: B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	101	101	101	101	101	97	92	88	82	79	76	72	
	10	78	78	78	78	77	76	75	74	72	71	70	69	68	
	20	60	60	60	60	60	60	60	60	60	59	58	58	57	
	30	60	60	60	60	60	60	60	60	60	59	58	58	57	
	40	53	53	53	53	53	53	53	53	53	53	53	53	52	
	50	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 2	0	101	94	91	88	83	79	73	67	62	58	56	54	51	
	10	78	78	78	78	77	76	73	67	62	58	56	54	51	
	20	60	60	60	60	60	60	60	60	60	58	56	54	51	
	30	60	60	60	60	60	60	60	60	60	58	56	54	51	
	40	53	53	53	53	53	53	53	53	53	53	53	53	51	
	50	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 3	0	83	74	71	67	64	61	56	52	48	45	44	42	40	
	10	78	74	71	67	64	61	56	52	48	45	44	42	40	
	20	60	60	60	60	60	60	56	52	48	45	44	42	40	
	30	60	60	60	60	60	60	56	52	48	45	44	42	40	
	40	53	53	53	53	53	53	53	52	48	45	44	42	40	
	50	48	48	48	48	48	48	48	48	48	45	44	42	40	
	60	44	44	44	44	44	44	44	44	44	44	44	42	40	
	70	41	41	41	41	41	41	41	41	41	41	41	41	40	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 14</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $7 < \theta \leq 27$ degrees													
		Exposure Category: C													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	101	100	96	93	90	84	78	72	67	65	63	59	
	10	78	76	75	75	74	73	71	70	68	66	65	63	59	
	20	60	60	60	60	60	60	60	59	58	57	56	55	54	
	30	60	60	60	60	60	60	60	59	58	57	56	55	54	
	40	53	53	53	53	53	53	53	53	52	51	51	51	50	
	50	48	48	48	48	48	48	48	48	48	48	48	47	47	46
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 2	0	89	79	75	71	68	65	59	55	51	48	46	45	42	
	10	78	76	75	71	68	65	59	55	51	48	46	45	42	
	20	60	60	60	60	60	60	59	55	51	48	46	45	42	
	30	60	60	60	60	60	60	59	55	51	48	46	45	42	
	40	53	53	53	53	53	53	53	53	51	48	46	45	42	
	50	48	48	48	48	48	48	48	48	48	48	48	46	45	42
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	42
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 3	0	68	61	58	55	53	50	46	43	40	38	37	36	34	
	10	68	61	58	55	53	50	46	43	40	38	37	36	34	
	20	60	60	58	55	53	50	46	43	40	38	37	36	34	
	30	60	60	58	55	53	50	46	43	40	38	37	36	34	
	40	53	53	53	53	53	50	46	43	40	38	37	36	34	
	50	48	48	48	48	48	48	46	43	40	38	37	36	34	
	60	44	44	44	44	44	44	44	43	40	38	37	36	34	
	70	41	41	41	41	41	41	41	41	40	38	37	36	34	
	80	39	39	39	39	39	39	39	39	39	38	37	36	34	
90	37	37	37	37	37	37	37	37	37	37	37	36	34		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 15</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $7 < \theta \leq 27$ degrees							Exposure Category: D						
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	101	96	93	90	87	83	76	70	65	61	59	57	54	
	10	76	75	74	73	72	71	69	67	65	61	59	57	54	
	20	60	60	60	60	59	59	58	57	56	54	54	53	52	
	30	60	60	60	60	59	59	58	57	56	54	54	53	52	
	40	53	53	53	53	53	53	53	52	51	50	50	49	48	
	50	48	48	48	48	48	48	48	48	47	47	46	46	45	
	60	44	44	44	44	44	44	44	44	44	44	44	44	43	43
	70	41	41	41	41	41	41	41	41	41	41	41	41	41	41
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 2	0	80	72	68	64	61	59	54	50	46	43	42	41	38	
	10	76	72	68	64	61	59	54	50	46	43	42	41	38	
	20	60	60	60	60	59	59	54	50	46	43	42	41	38	
	30	60	60	60	60	59	59	54	50	46	43	42	41	38	
	40	53	53	53	53	53	53	53	50	46	43	42	41	38	
	50	48	48	48	48	48	48	48	48	46	43	42	41	38	
	60	44	44	44	44	44	44	44	44	44	43	42	41	38	
	70	41	41	41	41	41	41	41	41	41	41	41	41	38	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	38
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 3	0	62	55	53	50	48	46	42	39	37	35	34	33	31	
	10	62	55	53	50	48	46	42	39	37	35	34	33	31	
	20	60	55	53	50	48	46	42	39	37	35	34	33	31	
	30	60	55	53	50	48	46	42	39	37	35	34	33	31	
	40	53	53	53	50	48	46	42	39	37	35	34	33	31	
	50	48	48	48	48	48	46	42	39	37	35	34	33	31	
	60	44	44	44	44	44	44	42	39	37	35	34	33	31	
	70	41	41	41	41	41	41	41	39	37	35	34	33	31	
	80	39	39	39	39	39	39	39	39	37	35	34	33	31	
90	37	37	37	37	37	37	37	37	37	35	34	33	31		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 16</b>		Mean Roof Height: $15 < h \leq 30$ ft	Panel Orientation: Portrait											
		Roof Angle: $27 < \theta \leq 45$ degrees												
		Exposure Category: B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	95	90	88	86	83	81	77	73	70	67	65	64	61
	10	83	81	80	78	77	76	73	71	68	66	65	64	61
	20	72	70	70	69	68	67	65	63	62	60	59	58	57
	30	64	63	63	62	61	61	59	58	57	55	55	54	53
	40	57	57	57	57	56	56	55	54	53	52	51	50	49
	50	52	52	52	52	52	52	51	50	49	49	48	48	47
	60	48	48	48	48	48	48	48	47	47	46	46	45	44
	70	45	45	45	45	45	45	45	45	44	44	43	43	42
	80	42	42	42	42	42	42	42	42	42	42	42	42	41
90	40	40	40	40	40	40	40	40	40	40	40	40	40	39
Zone 2	0	95	90	88	86	83	81	77	73	70	67	65	64	61
	10	83	81	80	78	77	76	73	71	68	66	65	64	61
	20	72	70	70	69	68	67	65	63	62	60	59	58	57
	30	64	63	63	62	61	61	59	58	57	55	55	54	53
	40	57	57	57	57	56	56	55	54	53	52	51	50	49
	50	52	52	52	52	52	52	51	50	49	49	48	48	47
	60	48	48	48	48	48	48	48	47	47	46	46	45	44
	70	45	45	45	45	45	45	45	45	44	44	43	43	42
	80	42	42	42	42	42	42	42	42	42	42	42	42	41
90	40	40	40	40	40	40	40	40	40	40	40	40	40	39
Zone 3	0	95	90	88	86	83	81	77	73	70	67	65	64	61
	10	83	81	80	78	77	76	73	71	68	66	65	64	61
	20	72	70	70	69	68	67	65	63	62	60	59	58	57
	30	64	63	63	62	61	61	59	58	57	55	55	54	53
	40	57	57	57	57	56	56	55	54	53	52	51	50	49
	50	52	52	52	52	52	52	51	50	49	49	48	48	47
	60	48	48	48	48	48	48	48	47	47	46	46	45	44
	70	45	45	45	45	45	45	45	45	44	44	43	43	42
	80	42	42	42	42	42	42	42	42	42	42	42	42	41
90	40	40	40	40	40	40	40	40	40	40	40	40	40	39

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 17</b>		Mean Roof Height: $15 < h \leq 30$ ft					Panel Orientation: Portrait							
		Roof Angle: $27 < \theta \leq 45$ degrees												
		Exposure Category: C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	86	81	79	76	74	72	68	64	61	58	57	55	53
	10	79	76	74	73	71	70	67	64	61	58	57	55	53
	20	69	67	66	65	64	63	61	59	57	55	54	53	51
	30	62	61	60	59	58	57	56	54	53	51	50	50	48
	40	57	56	55	55	54	53	52	51	49	48	48	47	46
	50	52	52	52	51	51	50	49	48	47	46	45	45	44
	60	48	48	48	48	48	47	46	45	44	44	43	43	42
	70	45	45	45	45	45	45	44	43	42	42	41	41	40
	80	42	42	42	42	42	42	42	41	41	40	40	39	39
90	40	40	40	40	40	40	40	40	39	38	38	38	37	
Zone 2	0	86	81	79	76	74	72	68	64	61	58	56	54	51
	10	79	76	74	73	71	70	67	64	61	58	56	54	51
	20	69	67	66	65	64	63	61	59	57	55	54	53	51
	30	62	61	60	59	58	57	56	54	53	51	50	50	48
	40	57	56	55	55	54	53	52	51	49	48	48	47	46
	50	52	52	52	51	51	50	49	48	47	46	45	45	44
	60	48	48	48	48	48	47	46	45	44	44	43	43	42
	70	45	45	45	45	45	45	44	43	42	42	41	41	40
	80	42	42	42	42	42	42	42	41	41	40	40	39	39
90	40	40	40	40	40	40	40	40	39	38	38	38	37	
Zone 3	0	86	81	79	76	74	72	68	64	61	58	56	54	51
	10	79	76	74	73	71	70	67	64	61	58	56	54	51
	20	69	67	66	65	64	63	61	59	57	55	54	53	51
	30	62	61	60	59	58	57	56	54	53	51	50	50	48
	40	57	56	55	55	54	53	52	51	49	48	48	47	46
	50	52	52	52	51	51	50	49	48	47	46	45	45	44
	60	48	48	48	48	48	47	46	45	44	44	43	43	42
	70	45	45	45	45	45	45	44	43	42	42	41	41	40
	80	42	42	42	42	42	42	42	41	41	40	40	39	39
90	40	40	40	40	40	40	40	40	39	38	38	38	37	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

Roof Wind Zone		Ground Snow Load (psf)	Wind Speed (mph)												
			100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1		0	82	76	74	72	70	67	64	60	57	54	53	51	49
		10	76	73	71	70	68	67	64	60	57	54	53	51	49
		20	67	65	64	63	61	60	58	56	54	52	51	50	49
		30	61	59	58	57	57	56	54	52	51	49	48	48	46
		40	56	55	54	53	53	52	50	49	48	46	46	45	44
		50	52	51	51	50	49	49	48	46	45	44	44	43	42
		60	48	48	48	47	47	46	45	44	43	42	42	41	40
		70	45	45	45	45	44	44	43	42	41	40	40	40	39
		80	42	42	42	42	42	42	41	40	40	39	38	38	37
		90	40	40	40	40	40	40	40	39	38	38	37	37	36
Zone 2		0	82	76	74	72	70	67	64	60	57	53	51	50	47
		10	76	73	71	70	68	67	64	60	57	53	51	50	47
		20	67	65	64	63	61	60	58	56	54	52	51	50	47
		30	61	59	58	57	57	56	54	52	51	49	48	48	46
		40	56	55	54	53	53	52	50	49	48	46	46	45	44
		50	52	51	51	50	49	49	48	46	45	44	44	43	42
		60	48	48	48	47	47	46	45	44	43	42	42	41	40
		70	45	45	45	45	44	44	43	42	41	40	40	40	39
		80	42	42	42	42	42	42	41	40	40	39	38	38	37
		90	40	40	40	40	40	40	40	39	38	38	37	37	36
Zone 3		0	82	76	74	72	70	67	64	60	57	53	51	50	47
		10	76	73	71	70	68	67	64	60	57	53	51	50	47
		20	67	65	64	63	61	60	58	56	54	52	51	50	47
		30	61	59	58	57	57	56	54	52	51	49	48	48	46
		40	56	55	54	53	53	52	50	49	48	46	46	45	44
		50	52	51	51	50	49	49	48	46	45	44	44	43	42
		60	48	48	48	47	47	46	45	44	43	42	42	41	40
		70	45	45	45	45	44	44	43	42	41	40	40	40	39
		80	42	42	42	42	42	42	41	40	40	39	38	38	37
		90	40	40	40	40	40	40	40	39	38	38	37	37	36

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 67.5"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 19</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Landscape	
		Roof Angle:	$0 < \theta \leq 7$ degrees													
		Exposure Category:	B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)														
		100	110	115	120	125	130	140	150	160	170	175	180	190		
Zone 1	0	118	118	118	118	118	116	109	104	99	94	92	90	85		
	10	108	108	108	108	108	108	108	104	99	94	92	90	85		
	20	88	88	88	88	88	88	88	88	88	88	87	87	85		
	30	86	86	86	86	86	86	86	86	86	86	86	86	84		
	40	76	76	76	76	76	76	76	76	76	76	76	76	76		
	50	69	69	69	69	69	69	69	69	69	69	69	69	69		
	60	63	63	63	63	63	63	63	63	63	63	63	63	63		
	70	59	59	59	59	59	59	59	59	59	59	59	59	59		
	80	55	55	55	55	55	55	55	55	55	55	55	55	55		
90	52	52	52	52	52	52	52	52	52	52	52	52	52			
Zone 2	0	116	107	103	100	97	94	87	80	74	69	67	65	61		
	10	108	107	103	100	97	94	87	80	74	69	67	65	61		
	20	88	88	88	88	88	88	87	80	74	69	67	65	61		
	30	86	86	86	86	86	86	86	80	74	69	67	65	61		
	40	76	76	76	76	76	76	76	76	74	69	67	65	61		
	50	69	69	69	69	69	69	69	69	69	69	67	65	61		
	60	63	63	63	63	63	63	63	63	63	63	63	63	61		
	70	59	59	59	59	59	59	59	59	59	59	59	59	59		
	80	55	55	55	55	55	55	55	55	55	55	55	55	55		
90	52	52	52	52	52	52	52	52	52	52	52	52	52			
Zone 3	0	98	91	86	81	77	74	67	62	58	55	53	52	49		
	10	98	91	86	81	77	74	67	62	58	55	53	52	49		
	20	88	88	86	81	77	74	67	62	58	55	53	52	49		
	30	86	86	86	81	77	74	67	62	58	55	53	52	49		
	40	76	76	76	76	76	74	67	62	58	55	53	52	49		
	50	69	69	69	69	69	69	67	62	58	55	53	52	49		
	60	63	63	63	63	63	63	63	62	58	55	53	52	49		
	70	59	59	59	59	59	59	59	59	58	55	53	52	49		
	80	55	55	55	55	55	55	55	55	55	55	53	52	49		
90	52	52	52	52	52	52	52	52	52	52	52	52	49			

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 20</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$0 < \theta \leq 7$ degrees												
		Exposure Category:	C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	118	118	114	111	107	101	96	92	86	83	81	76	
	10	108	108	108	108	108	107	101	96	92	86	83	81	76	
	20	88	88	88	88	88	88	88	88	87	86	83	81	76	
	30	86	86	86	86	86	86	86	86	86	85	83	81	76	
	40	76	76	76	76	76	76	76	76	76	76	76	76	75	
	50	69	69	69	69	69	69	69	69	69	69	69	69	69	
	60	63	63	63	63	63	63	63	63	63	63	63	63	63	
	70	59	59	59	59	59	59	59	59	59	59	59	59	59	
	80	55	55	55	55	55	55	55	55	55	55	55	55	55	
90	52	52	52	52	52	52	52	52	52	52	52	52	52		
Zone 2	0	107	99	96	93	89	85	78	72	67	62	61	59	56	
	10	107	99	96	93	89	85	78	72	67	62	61	59	56	
	20	88	88	88	88	88	85	78	72	67	62	61	59	56	
	30	86	86	86	86	86	85	78	72	67	62	61	59	56	
	40	76	76	76	76	76	76	76	72	67	62	61	59	56	
	50	69	69	69	69	69	69	69	69	67	62	61	59	56	
	60	63	63	63	63	63	63	63	63	63	62	61	59	56	
	70	59	59	59	59	59	59	59	59	59	59	59	59	56	
	80	55	55	55	55	55	55	55	55	55	55	55	55	55	
90	52	52	52	52	52	52	52	52	52	52	52	52	52		
Zone 3	0	91	80	76	72	68	66	61	56	53	50	48	47	44	
	10	91	80	76	72	68	66	61	56	53	50	48	47	44	
	20	88	80	76	72	68	66	61	56	53	50	48	47	44	
	30	86	80	76	72	68	66	61	56	53	50	48	47	44	
	40	76	76	76	72	68	66	61	56	53	50	48	47	44	
	50	69	69	69	69	68	66	61	56	53	50	48	47	44	
	60	63	63	63	63	63	63	61	56	53	50	48	47	44	
	70	59	59	59	59	59	59	59	56	53	50	48	47	44	
	80	55	55	55	55	55	55	55	55	53	50	48	47	44	
90	52	52	52	52	52	52	52	52	52	50	48	47	44		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"



**Max Rail Spans for SunModo SMR100 System**

<b>Table 21</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$0 < \theta \leq 7$ degrees												
		Exposure Category:	D												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	113	110	106	103	100	94	89	83	77	75	73	68	
	10	108	108	108	106	103	100	94	89	83	77	75	73	68	
	20	88	88	88	88	88	88	88	87	83	77	75	73	68	
	30	86	86	86	86	86	86	86	85	83	77	75	73	68	
	40	76	76	76	76	76	76	76	76	76	76	75	73	68	
	50	69	69	69	69	69	69	69	69	69	69	69	69	68	
	60	63	63	63	63	63	63	63	63	63	63	63	63	63	
	70	59	59	59	59	59	59	59	59	59	59	59	59	59	
	80	55	55	55	55	55	55	55	55	55	55	55	55	55	
90	52	52	52	52	52	52	52	52	52	52	52	52	52		
Zone 2	0	99	92	88	83	79	76	69	64	60	56	55	53	50	
	10	99	92	88	83	79	76	69	64	60	56	55	53	50	
	20	88	88	88	83	79	76	69	64	60	56	55	53	50	
	30	86	86	86	83	79	76	69	64	60	56	55	53	50	
	40	76	76	76	76	76	76	69	64	60	56	55	53	50	
	50	69	69	69	69	69	69	69	64	60	56	55	53	50	
	60	63	63	63	63	63	63	63	63	60	56	55	53	50	
	70	59	59	59	59	59	59	59	59	59	56	55	53	50	
	80	55	55	55	55	55	55	55	55	55	55	55	53	50	
90	52	52	52	52	52	52	52	52	52	52	52	52	50		
Zone 3	0	80	71	67	64	62	59	55	51	48	45	44	42	40	
	10	80	71	67	64	62	59	55	51	48	45	44	42	40	
	20	80	71	67	64	62	59	55	51	48	45	44	42	40	
	30	80	71	67	64	62	59	55	51	48	45	44	42	40	
	40	76	71	67	64	62	59	55	51	48	45	44	42	40	
	50	69	69	67	64	62	59	55	51	48	45	44	42	40	
	60	63	63	63	63	62	59	55	51	48	45	44	42	40	
	70	59	59	59	59	59	59	55	51	48	45	44	42	40	
	80	55	55	55	55	55	55	55	51	48	45	44	42	40	
90	52	52	52	52	52	52	52	51	48	45	44	42	40		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 22</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$7 < \theta \leq 27$ degrees												
		Exposure Category:	B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	118	118	118	118	118	113	107	102	98	96	94	90	
	10	97	97	97	97	97	96	95	93	91	89	88	87	85	
	20	76	76	76	76	76	76	76	76	75	74	74	73	72	
	30	76	76	76	76	76	76	76	76	75	74	74	73	72	
	40	67	67	67	67	67	67	67	67	67	67	67	67	66	
	50	61	61	61	61	61	61	61	61	61	61	61	61	61	
	60	56	56	56	56	56	56	56	56	56	56	56	56	56	
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
	90	46	46	46	46	46	46	46	46	46	46	46	46	46	
Zone 2	0	117	108	105	101	98	95	90	83	77	72	70	67	64	
	10	97	97	97	97	97	95	90	83	77	72	70	67	64	
	20	76	76	76	76	76	76	76	76	75	72	70	67	64	
	30	76	76	76	76	76	76	76	76	75	72	70	67	64	
	40	67	67	67	67	67	67	67	67	67	67	67	67	64	
	50	61	61	61	61	61	61	61	61	61	61	61	61	61	
	60	56	56	56	56	56	56	56	56	56	56	56	56	56	
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
	90	46	46	46	46	46	46	46	46	46	46	46	46	46	
Zone 3	0	98	91	88	84	80	77	70	65	61	57	55	54	51	
	10	97	91	88	84	80	77	70	65	61	57	55	54	51	
	20	76	76	76	76	76	76	70	65	61	57	55	54	51	
	30	76	76	76	76	76	76	70	65	61	57	55	54	51	
	40	67	67	67	67	67	67	67	65	61	57	55	54	51	
	50	61	61	61	61	61	61	61	61	61	57	55	54	51	
	60	56	56	56	56	56	56	56	56	56	56	55	54	51	
	70	52	52	52	52	52	52	52	52	52	52	52	52	51	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
	90	46	46	46	46	46	46	46	46	46	46	46	46	46	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 23</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$7 < \theta \leq 27$ degrees												
		Exposure Category:	C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	118	118	118	115	111	105	100	95	91	89	86	81	
	10	97	97	97	96	95	94	92	90	88	86	85	84	81	
	20	76	76	76	76	76	76	76	75	73	72	72	71	70	
	30	76	76	76	76	76	76	76	75	73	72	72	71	70	
	40	67	67	67	67	67	67	67	67	67	66	66	65	64	
	50	61	61	61	61	61	61	61	61	61	61	61	61	60	
	60	56	56	56	56	56	56	56	56	56	56	56	56	56	
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
90	46	46	46	46	46	46	46	46	46	46	46	46	46		
Zone 2	0	108	100	97	94	91	88	80	74	69	65	63	61	57	
	10	97	97	97	94	91	88	80	74	69	65	63	61	57	
	20	76	76	76	76	76	76	76	74	69	65	63	61	57	
	30	76	76	76	76	76	76	76	74	69	65	63	61	57	
	40	67	67	67	67	67	67	67	67	67	65	63	61	57	
	50	61	61	61	61	61	61	61	61	61	61	61	61	57	
	60	56	56	56	56	56	56	56	56	56	56	56	56	56	
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
90	46	46	46	46	46	46	46	46	46	46	46	46	46		
Zone 3	0	91	83	79	75	72	69	63	59	55	52	50	49	46	
	10	91	83	79	75	72	69	63	59	55	52	50	49	46	
	20	76	76	76	75	72	69	63	59	55	52	50	49	46	
	30	76	76	76	75	72	69	63	59	55	52	50	49	46	
	40	67	67	67	67	67	67	63	59	55	52	50	49	46	
	50	61	61	61	61	61	61	61	59	55	52	50	49	46	
	60	56	56	56	56	56	56	56	56	55	52	50	49	46	
	70	52	52	52	52	52	52	52	52	52	52	50	49	46	
	80	49	49	49	49	49	49	49	49	49	49	49	49	46	
90	46	46	46	46	46	46	46	46	46	46	46	46	46		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 24</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$7 < \theta \leq 27$ degrees												
		Exposure Category:	D												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	118	114	110	106	103	98	93	88	82	80	77	73	
	10	97	96	95	94	92	91	89	87	84	82	80	77	73	
	20	76	76	76	76	76	75	74	73	71	70	69	69	67	
	30	76	76	76	76	76	75	74	73	71	70	69	69	67	
	40	67	67	67	67	67	67	67	67	66	64	64	63	62	
	50	61	61	61	61	61	61	61	61	61	60	60	59	58	
	60	56	56	56	56	56	56	56	56	56	56	56	56	55	
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
90	46	46	46	46	46	46	46	46	46	46	46	46	46		
Zone 2	0	100	93	90	86	82	78	72	67	62	58	57	55	52	
	10	97	93	90	86	82	78	72	67	62	58	57	55	52	
	20	76	76	76	76	76	75	72	67	62	58	57	55	52	
	30	76	76	76	76	76	75	72	67	62	58	57	55	52	
	40	67	67	67	67	67	67	67	67	62	58	57	55	52	
	50	61	61	61	61	61	61	61	61	61	58	57	55	52	
	60	56	56	56	56	56	56	56	56	56	56	56	55	52	
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
90	46	46	46	46	46	46	46	46	46	46	46	46	46		
Zone 3	0	83	74	71	67	64	62	57	53	50	47	45	44	42	
	10	83	74	71	67	64	62	57	53	50	47	45	44	42	
	20	76	74	71	67	64	62	57	53	50	47	45	44	42	
	30	76	74	71	67	64	62	57	53	50	47	45	44	42	
	40	67	67	67	67	64	62	57	53	50	47	45	44	42	
	50	61	61	61	61	61	61	57	53	50	47	45	44	42	
	60	56	56	56	56	56	56	56	53	50	47	45	44	42	
	70	52	52	52	52	52	52	52	52	50	47	45	44	42	
	80	49	49	49	49	49	49	49	49	49	47	45	44	42	
90	46	46	46	46	46	46	46	46	46	46	45	44	42		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 25</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$27 < \theta \leq 45$ degrees												
		Exposure Category:	B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	114	111	108	105	103	97	93	88	84	82	80	77	
	10	106	102	101	99	97	96	93	89	86	84	82	80	77	
	20	92	89	88	87	86	85	83	80	78	76	75	74	72	
	30	81	80	79	79	78	77	75	73	72	70	69	68	67	
	40	72	72	72	72	72	71	70	68	67	65	65	64	63	
	50	66	66	66	66	66	66	65	64	63	62	61	60	59	
	60	61	61	61	61	61	61	61	60	59	58	58	57	56	
	70	57	57	57	57	57	57	57	57	56	56	55	55	54	
	80	53	53	53	53	53	53	53	53	53	53	53	53	52	52
	90	51	51	51	51	51	51	51	51	51	51	51	51	50	50
Zone 2	0	118	114	111	108	105	103	97	93	88	84	82	80	77	
	10	106	102	101	99	97	96	93	89	86	84	82	80	77	
	20	92	89	88	87	86	85	83	80	78	76	75	74	72	
	30	81	80	79	79	78	77	75	73	72	70	69	68	67	
	40	72	72	72	72	72	71	70	68	67	65	65	64	63	
	50	66	66	66	66	66	66	65	64	63	62	61	60	59	
	60	61	61	61	61	61	61	61	60	59	58	58	57	56	
	70	57	57	57	57	57	57	57	57	56	56	55	55	54	
	80	53	53	53	53	53	53	53	53	53	53	53	53	52	52
	90	51	51	51	51	51	51	51	51	51	51	51	51	50	50
Zone 3	0	118	114	111	108	105	103	97	93	88	84	82	80	77	
	10	106	102	101	99	97	96	93	89	86	84	82	80	77	
	20	92	89	88	87	86	85	83	80	78	76	75	74	72	
	30	81	80	79	79	78	77	75	73	72	70	69	68	67	
	40	72	72	72	72	72	71	70	68	67	65	65	64	63	
	50	66	66	66	66	66	66	65	64	63	62	61	60	59	
	60	61	61	61	61	61	61	61	60	59	58	58	57	56	
	70	57	57	57	57	57	57	57	57	56	56	55	55	54	
	80	53	53	53	53	53	53	53	53	53	53	53	53	52	52
	90	51	51	51	51	51	51	51	51	51	51	51	51	50	50

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 26</b>		Mean Roof Height: $h \leq 15$ ft					Panel Orientation: Landscape								
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: C													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	114	107	104	101	99	96	91	86	82	78	76	74	71	
	10	102	99	97	95	93	92	88	85	82	78	76	74	71	
	20	89	87	86	84	83	82	79	77	75	72	71	70	68	
	30	80	78	77	77	76	75	73	71	69	67	66	65	64	
	40	72	72	71	71	70	69	68	66	65	63	62	62	60	
	50	66	66	66	66	65	65	63	62	61	60	59	58	57	
	60	61	61	61	61	61	61	60	59	58	57	56	55	54	
	70	57	57	57	57	57	57	57	56	55	54	54	53	52	
	80	53	53	53	53	53	53	53	53	53	52	51	51	50	
	90	51	51	51	51	51	51	51	51	51	50	49	49	48	
Zone 2	0	114	107	104	101	99	96	91	86	82	78	76	74	70	
	10	102	99	97	95	93	92	88	85	82	78	76	74	70	
	20	89	87	86	84	83	82	79	77	75	72	71	70	68	
	30	80	78	77	77	76	75	73	71	69	67	66	65	64	
	40	72	72	71	71	70	69	68	66	65	63	62	62	60	
	50	66	66	66	66	65	65	63	62	61	60	59	58	57	
	60	61	61	61	61	61	61	60	59	58	57	56	55	54	
	70	57	57	57	57	57	57	57	56	55	54	54	53	52	
	80	53	53	53	53	53	53	53	53	53	52	51	51	50	
	90	51	51	51	51	51	51	51	51	51	50	49	49	48	
Zone 3	0	114	107	104	101	99	96	91	86	82	78	76	74	70	
	10	102	99	97	95	93	92	88	85	82	78	76	74	70	
	20	89	87	86	84	83	82	79	77	75	72	71	70	68	
	30	80	78	77	77	76	75	73	71	69	67	66	65	64	
	40	72	72	71	71	70	69	68	66	65	63	62	62	60	
	50	66	66	66	66	65	65	63	62	61	60	59	58	57	
	60	61	61	61	61	61	61	60	59	58	57	56	55	54	
	70	57	57	57	57	57	57	57	56	55	54	54	53	52	
	80	53	53	53	53	53	53	53	53	53	52	51	51	50	
	90	51	51	51	51	51	51	51	51	51	50	49	49	48	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 27</b>		Mean Roof Height: $h \leq 15$ ft					Panel Orientation: Landscape								
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	107	101	98	95	92	89	84	80	76	72	70	68	65	
	10	99	95	93	91	89	87	84	80	76	72	70	68	65	
	20	87	84	83	81	80	79	76	73	71	68	67	66	64	
	30	78	76	75	74	73	72	70	68	66	64	63	62	60	
	40	72	70	70	69	68	67	65	64	62	60	60	59	57	
	50	66	66	65	64	64	63	62	60	59	57	57	56	55	
	60	61	61	61	61	60	60	58	57	56	55	54	53	52	
	70	57	57	57	57	57	57	56	54	53	52	52	51	50	
	80	53	53	53	53	53	53	53	52	51	50	50	49	48	
	90	51	51	51	51	51	51	51	50	49	48	48	48	47	
Zone 2	0	107	101	98	95	92	89	84	80	76	71	69	67	63	
	10	99	95	93	91	89	87	84	80	76	71	69	67	63	
	20	87	84	83	81	80	79	76	73	71	68	67	66	63	
	30	78	76	75	74	73	72	70	68	66	64	63	62	60	
	40	72	70	70	69	68	67	65	64	62	60	60	59	57	
	50	66	66	65	64	64	63	62	60	59	57	57	56	55	
	60	61	61	61	61	60	60	58	57	56	55	54	53	52	
	70	57	57	57	57	57	57	56	54	53	52	52	51	50	
	80	53	53	53	53	53	53	53	52	51	50	50	49	48	
	90	51	51	51	51	51	51	51	50	49	48	48	48	47	
Zone 3	0	107	101	98	95	92	89	84	80	76	71	69	67	63	
	10	99	95	93	91	89	87	84	80	76	71	69	67	63	
	20	87	84	83	81	80	79	76	73	71	68	67	66	63	
	30	78	76	75	74	73	72	70	68	66	64	63	62	60	
	40	72	70	70	69	68	67	65	64	62	60	60	59	57	
	50	66	66	65	64	64	63	62	60	59	57	57	56	55	
	60	61	61	61	61	60	60	58	57	56	55	54	53	52	
	70	57	57	57	57	57	57	56	54	53	52	52	51	50	
	80	53	53	53	53	53	53	53	52	51	50	50	49	48	
	90	51	51	51	51	51	51	51	50	49	48	48	48	47	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 28</b>		Mean Roof Height: $15 < h \leq 30$ ft					Panel Orientation: Landscape							
		Roof Angle: $0 < \theta \leq 7$ degrees												
		Exposure Category: B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	118	118	118	118	118	116	109	104	99	94	92	90	85
	10	108	108	108	108	108	108	108	104	99	94	92	90	85
	20	88	88	88	88	88	88	88	88	88	88	87	87	85
	30	86	86	86	86	86	86	86	86	86	86	86	86	84
	40	76	76	76	76	76	76	76	76	76	76	76	76	76
	50	69	69	69	69	69	69	69	69	69	69	69	69	69
	60	63	63	63	63	63	63	63	63	63	63	63	63	63
	70	59	59	59	59	59	59	59	59	59	59	59	59	59
	80	55	55	55	55	55	55	55	55	55	55	55	55	55
90	52	52	52	52	52	52	52	52	52	52	52	52	52	
Zone 2	0	116	107	103	100	97	94	87	80	74	69	67	65	61
	10	108	107	103	100	97	94	87	80	74	69	67	65	61
	20	88	88	88	88	88	88	87	80	74	69	67	65	61
	30	86	86	86	86	86	86	86	80	74	69	67	65	61
	40	76	76	76	76	76	76	76	76	74	69	67	65	61
	50	69	69	69	69	69	69	69	69	69	69	67	65	61
	60	63	63	63	63	63	63	63	63	63	63	63	63	61
	70	59	59	59	59	59	59	59	59	59	59	59	59	59
	80	55	55	55	55	55	55	55	55	55	55	55	55	55
90	52	52	52	52	52	52	52	52	52	52	52	52	52	
Zone 3	0	98	91	86	81	77	74	67	62	58	55	53	52	49
	10	98	91	86	81	77	74	67	62	58	55	53	52	49
	20	88	88	86	81	77	74	67	62	58	55	53	52	49
	30	86	86	86	81	77	74	67	62	58	55	53	52	49
	40	76	76	76	76	76	74	67	62	58	55	53	52	49
	50	69	69	69	69	69	69	67	62	58	55	53	52	49
	60	63	63	63	63	63	63	63	62	58	55	53	52	49
	70	59	59	59	59	59	59	59	59	58	55	53	52	49
	80	55	55	55	55	55	55	55	55	55	55	53	52	49
90	52	52	52	52	52	52	52	52	52	52	52	52	49	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"



**Max Rail Spans for SunModo SMR100 System**

<b>Table 29</b>		Mean Roof Height:	$15 < h \leq 30$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$0 < \theta \leq 7$ degrees												
		Exposure Category:	C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	116	112	108	105	102	96	91	85	79	77	75	70	
	10	108	108	108	108	105	102	96	91	85	79	77	75	70	
	20	88	88	88	88	88	88	88	87	85	79	77	75	70	
	30	86	86	86	86	86	86	86	86	85	79	77	75	70	
	40	76	76	76	76	76	76	76	76	76	76	75	75	70	
	50	69	69	69	69	69	69	69	69	69	69	69	69	69	
	60	63	63	63	63	63	63	63	63	63	63	63	63	63	
	70	59	59	59	59	59	59	59	59	59	59	59	59	59	
	80	55	55	55	55	55	55	55	55	55	55	55	55	55	
90	52	52	52	52	52	52	52	52	52	52	52	52	52		
Zone 2	0	101	94	90	86	82	78	71	66	62	58	56	55	52	
	10	101	94	90	86	82	78	71	66	62	58	56	55	52	
	20	88	88	88	86	82	78	71	66	62	58	56	55	52	
	30	86	86	86	86	82	78	71	66	62	58	56	55	52	
	40	76	76	76	76	76	76	71	66	62	58	56	55	52	
	50	69	69	69	69	69	69	69	66	62	58	56	55	52	
	60	63	63	63	63	63	63	63	63	62	58	56	55	52	
	70	59	59	59	59	59	59	59	59	59	58	56	55	52	
	80	55	55	55	55	55	55	55	55	55	55	55	55	52	
90	52	52	52	52	52	52	52	52	52	52	52	52	52		
Zone 3	0	83	73	69	66	63	61	56	52	49	46	45	43	41	
	10	83	73	69	66	63	61	56	52	49	46	45	43	41	
	20	83	73	69	66	63	61	56	52	49	46	45	43	41	
	30	83	73	69	66	63	61	56	52	49	46	45	43	41	
	40	76	73	69	66	63	61	56	52	49	46	45	43	41	
	50	69	69	69	66	63	61	56	52	49	46	45	43	41	
	60	63	63	63	63	63	61	56	52	49	46	45	43	41	
	70	59	59	59	59	59	59	56	52	49	46	45	43	41	
	80	55	55	55	55	55	55	55	52	49	46	45	43	41	
90	52	52	52	52	52	52	52	52	49	46	45	43	41		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 30</b>		Mean Roof Height:	$15 < h \leq 30$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$0 < \theta \leq 7$ degrees												
		Exposure Category:	D												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	117	108	105	101	98	95	90	83	77	72	70	68	64	
	10	108	108	105	101	98	95	90	83	77	72	70	68	64	
	20	88	88	88	88	88	88	87	83	77	72	70	68	64	
	30	86	86	86	86	86	86	86	83	77	72	70	68	64	
	40	76	76	76	76	76	76	76	76	76	72	70	68	64	
	50	69	69	69	69	69	69	69	69	69	69	69	69	68	64
	60	63	63	63	63	63	63	63	63	63	63	63	63	63	63
	70	59	59	59	59	59	59	59	59	59	59	59	59	59	59
	80	55	55	55	55	55	55	55	55	55	55	55	55	55	55
90	52	52	52	52	52	52	52	52	52	52	52	52	52	52	
Zone 2	0	94	86	81	77	74	71	65	60	56	53	51	50	47	
	10	94	86	81	77	74	71	65	60	56	53	51	50	47	
	20	88	86	81	77	74	71	65	60	56	53	51	50	47	
	30	86	86	81	77	74	71	65	60	56	53	51	50	47	
	40	76	76	76	76	74	71	65	60	56	53	51	50	47	
	50	69	69	69	69	69	69	65	60	56	53	51	50	47	
	60	63	63	63	63	63	63	63	60	56	53	51	50	47	
	70	59	59	59	59	59	59	59	59	56	53	51	50	47	
	80	55	55	55	55	55	55	55	55	55	53	51	50	47	
90	52	52	52	52	52	52	52	52	52	52	51	50	47		
Zone 3	0	74	66	63	61	58	56	52	48	45	42	41	40	38	
	10	74	66	63	61	58	56	52	48	45	42	41	40	38	
	20	74	66	63	61	58	56	52	48	45	42	41	40	38	
	30	74	66	63	61	58	56	52	48	45	42	41	40	38	
	40	74	66	63	61	58	56	52	48	45	42	41	40	38	
	50	69	66	63	61	58	56	52	48	45	42	41	40	38	
	60	63	63	63	61	58	56	52	48	45	42	41	40	38	
	70	59	59	59	59	58	56	52	48	45	42	41	40	38	
	80	55	55	55	55	55	55	52	48	45	42	41	40	38	
90	52	52	52	52	52	52	52	48	45	42	41	40	38		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 31</b>		Mean Roof Height: $15 < h \leq 30$ ft						Panel Orientation: Landscape						
		Roof Angle: $7 < \theta \leq 27$ degrees												
		Exposure Category: B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	118	118	118	118	118	118	113	107	102	98	96	94	90
	10	97	97	97	97	97	96	95	93	91	89	88	87	85
	20	76	76	76	76	76	76	76	76	75	74	74	73	72
	30	76	76	76	76	76	76	76	76	75	74	74	73	72
	40	67	67	67	67	67	67	67	67	67	67	67	67	66
	50	61	61	61	61	61	61	61	61	61	61	61	61	61
	60	56	56	56	56	56	56	56	56	56	56	56	56	56
	70	52	52	52	52	52	52	52	52	52	52	52	52	52
	80	49	49	49	49	49	49	49	49	49	49	49	49	49
90	46	46	46	46	46	46	46	46	46	46	46	46	46	
Zone 2	0	117	108	105	101	98	95	90	83	77	72	70	67	64
	10	97	97	97	97	97	95	90	83	77	72	70	67	64
	20	76	76	76	76	76	76	76	76	75	72	70	67	64
	30	76	76	76	76	76	76	76	76	75	72	70	67	64
	40	67	67	67	67	67	67	67	67	67	67	67	67	64
	50	61	61	61	61	61	61	61	61	61	61	61	61	61
	60	56	56	56	56	56	56	56	56	56	56	56	56	56
	70	52	52	52	52	52	52	52	52	52	52	52	52	52
	80	49	49	49	49	49	49	49	49	49	49	49	49	49
90	46	46	46	46	46	46	46	46	46	46	46	46	46	
Zone 3	0	98	91	88	84	80	77	70	65	61	57	55	54	51
	10	97	91	88	84	80	77	70	65	61	57	55	54	51
	20	76	76	76	76	76	76	70	65	61	57	55	54	51
	30	76	76	76	76	76	76	70	65	61	57	55	54	51
	40	67	67	67	67	67	67	67	65	61	57	55	54	51
	50	61	61	61	61	61	61	61	61	61	57	55	54	51
	60	56	56	56	56	56	56	56	56	56	56	55	54	51
	70	52	52	52	52	52	52	52	52	52	52	52	52	51
	80	49	49	49	49	49	49	49	49	49	49	49	49	49
90	46	46	46	46	46	46	46	46	46	46	46	46	46	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 32</b>		Mean Roof Height: $15 < h \leq 30$ ft					Panel Orientation: Landscape								
		Roof Angle: $7 < \theta \leq 27$ degrees													
		Exposure Category: C													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	118	116	112	109	105	100	95	90	85	82	79	75	
	10	97	96	95	94	93	92	90	88	85	83	82	79	75	
	20	76	76	76	76	76	76	76	75	73	72	71	70	69	68
	30	76	76	76	76	76	76	76	75	73	72	71	70	69	68
	40	67	67	67	67	67	67	67	67	67	66	65	64	64	63
	50	61	61	61	61	61	61	61	61	61	61	60	60	60	59
	60	56	56	56	56	56	56	56	56	56	56	56	56	56	55
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	52
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	49
90	46	46	46	46	46	46	46	46	46	46	46	46	46	46	
Zone 2	0	102	95	92	89	85	81	74	68	64	60	58	56	53	
	10	97	95	92	89	85	81	74	68	64	60	58	56	53	
	20	76	76	76	76	76	76	74	68	64	60	58	56	53	
	30	76	76	76	76	76	76	74	68	64	60	58	56	53	
	40	67	67	67	67	67	67	67	67	64	60	58	56	53	
	50	61	61	61	61	61	61	61	61	61	61	60	58	56	53
	60	56	56	56	56	56	56	56	56	56	56	56	56	56	53
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	52
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	49
90	46	46	46	46	46	46	46	46	46	46	46	46	46	46	
Zone 3	0	85	76	73	69	66	64	59	55	51	48	47	45	43	
	10	85	76	73	69	66	64	59	55	51	48	47	45	43	
	20	76	76	73	69	66	64	59	55	51	48	47	45	43	
	30	76	76	73	69	66	64	59	55	51	48	47	45	43	
	40	67	67	67	67	66	64	59	55	51	48	47	45	43	
	50	61	61	61	61	61	61	59	55	51	48	47	45	43	
	60	56	56	56	56	56	56	56	55	51	48	47	45	43	
	70	52	52	52	52	52	52	52	52	51	48	47	45	43	
	80	49	49	49	49	49	49	49	49	49	48	47	45	43	
90	46	46	46	46	46	46	46	46	46	46	46	45	43		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 33</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Landscape						
		Roof Angle: $7 < \theta \leq 27$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	112	108	105	102	99	93	89	83	77	75	72	68	
	10	97	94	93	92	91	90	87	85	82	77	75	72	68	
	20	76	76	76	76	75	74	73	72	70	69	68	67	66	
	30	76	76	76	76	75	74	73	72	70	69	68	67	66	
	40	67	67	67	67	67	67	67	66	65	63	63	62	61	
	50	61	61	61	61	61	61	61	61	60	59	59	58	57	
	60	56	56	56	56	56	56	56	56	56	56	55	55	54	
	70	52	52	52	52	52	52	52	52	52	52	52	52	52	51
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	90	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Zone 2	0	96	89	84	80	77	73	67	63	58	55	53	52	49	
	10	96	89	84	80	77	73	67	63	58	55	53	52	49	
	20	76	76	76	76	75	73	67	63	58	55	53	52	49	
	30	76	76	76	76	75	73	67	63	58	55	53	52	49	
	40	67	67	67	67	67	67	67	63	58	55	53	52	49	
	50	61	61	61	61	61	61	61	61	58	55	53	52	49	
	60	56	56	56	56	56	56	56	56	56	55	53	52	49	
	70	52	52	52	52	52	52	52	52	52	52	52	52	49	
	80	49	49	49	49	49	49	49	49	49	49	49	49	49	
	90	46	46	46	46	46	46	46	46	46	46	46	46	46	
Zone 3	0	77	69	66	63	61	58	54	50	47	44	43	41	39	
	10	77	69	66	63	61	58	54	50	47	44	43	41	39	
	20	76	69	66	63	61	58	54	50	47	44	43	41	39	
	30	76	69	66	63	61	58	54	50	47	44	43	41	39	
	40	67	67	66	63	61	58	54	50	47	44	43	41	39	
	50	61	61	61	61	61	58	54	50	47	44	43	41	39	
	60	56	56	56	56	56	56	54	50	47	44	43	41	39	
	70	52	52	52	52	52	52	52	50	47	44	43	41	39	
	80	49	49	49	49	49	49	49	49	47	44	43	41	39	
	90	46	46	46	46	46	46	46	46	46	44	43	41	39	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 34</b>		Mean Roof Height:	$15 < h \leq 30$ ft										Panel Orientation:	Landscape	
		Roof Angle:	$27 < \theta \leq 45$ degrees												
		Exposure Category:	B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	118	114	111	108	105	103	97	93	88	84	82	80	77	
	10	106	102	101	99	97	96	93	89	86	84	82	80	77	
	20	92	89	88	87	86	85	83	80	78	76	75	74	72	
	30	81	80	79	79	78	77	75	73	72	70	69	68	67	
	40	72	72	72	72	72	71	70	68	67	65	65	64	63	
	50	66	66	66	66	66	66	65	64	63	62	61	60	59	
	60	61	61	61	61	61	61	61	60	59	58	58	57	56	
	70	57	57	57	57	57	57	57	57	56	56	55	55	54	
	80	53	53	53	53	53	53	53	53	53	53	53	52	52	
	90	51	51	51	51	51	51	51	51	51	51	51	50	50	
Zone 2	0	118	114	111	108	105	103	97	93	88	84	82	80	77	
	10	106	102	101	99	97	96	93	89	86	84	82	80	77	
	20	92	89	88	87	86	85	83	80	78	76	75	74	72	
	30	81	80	79	79	78	77	75	73	72	70	69	68	67	
	40	72	72	72	72	72	71	70	68	67	65	65	64	63	
	50	66	66	66	66	66	66	65	64	63	62	61	60	59	
	60	61	61	61	61	61	61	61	60	59	58	58	57	56	
	70	57	57	57	57	57	57	57	57	56	56	55	55	54	
	80	53	53	53	53	53	53	53	53	53	53	53	52	52	
	90	51	51	51	51	51	51	51	51	51	51	51	50	50	
Zone 3	0	118	114	111	108	105	103	97	93	88	84	82	80	77	
	10	106	102	101	99	97	96	93	89	86	84	82	80	77	
	20	92	89	88	87	86	85	83	80	78	76	75	74	72	
	30	81	80	79	79	78	77	75	73	72	70	69	68	67	
	40	72	72	72	72	72	71	70	68	67	65	65	64	63	
	50	66	66	66	66	66	66	65	64	63	62	61	60	59	
	60	61	61	61	61	61	61	61	60	59	58	58	57	56	
	70	57	57	57	57	57	57	57	57	56	56	55	55	54	
	80	53	53	53	53	53	53	53	53	53	53	53	52	52	
	90	51	51	51	51	51	51	51	51	51	51	51	50	50	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 35</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Landscape					
		Roof Angle: $27 < \theta \leq 45$ degrees												
		Exposure Category: C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	109	103	99	96	94	91	86	81	77	73	72	70	67
	10	100	96	94	92	90	88	85	81	77	73	72	70	67
	20	87	85	83	82	81	79	77	74	72	69	68	67	65
	30	79	77	76	75	74	73	71	69	67	65	64	63	61
	40	72	71	70	69	68	68	66	64	63	61	60	60	58
	50	66	66	65	65	64	63	62	61	59	58	57	57	55
	60	61	61	61	61	60	60	59	58	56	55	55	54	53
	70	57	57	57	57	57	57	56	55	54	53	52	52	51
	80	53	53	53	53	53	53	53	53	52	51	50	50	49
	90	51	51	51	51	51	51	51	51	50	50	49	48	48
Zone 2	0	109	103	99	96	94	91	86	81	77	73	71	68	65
	10	100	96	94	92	90	88	85	81	77	73	71	68	65
	20	87	85	83	82	81	79	77	74	72	69	68	67	65
	30	79	77	76	75	74	73	71	69	67	65	64	63	61
	40	72	71	70	69	68	68	66	64	63	61	60	60	58
	50	66	66	65	65	64	63	62	61	59	58	57	57	55
	60	61	61	61	61	60	60	59	58	56	55	55	54	53
	70	57	57	57	57	57	57	56	55	54	53	52	52	51
	80	53	53	53	53	53	53	53	53	52	51	50	50	49
	90	51	51	51	51	51	51	51	51	50	50	49	48	48
Zone 3	0	109	103	99	96	94	91	86	81	77	73	71	68	65
	10	100	96	94	92	90	88	85	81	77	73	71	68	65
	20	87	85	83	82	81	79	77	74	72	69	68	67	65
	30	79	77	76	75	74	73	71	69	67	65	64	63	61
	40	72	71	70	69	68	68	66	64	63	61	60	60	58
	50	66	66	65	65	64	63	62	61	59	58	57	57	55
	60	61	61	61	61	60	60	59	58	56	55	55	54	53
	70	57	57	57	57	57	57	56	55	54	53	52	52	51
	80	53	53	53	53	53	53	53	53	52	51	50	50	49
	90	51	51	51	51	51	51	51	51	50	50	49	48	48

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 36</b>		Mean Roof Height: $15 < h \leq 30$ ft						Panel Orientation: Landscape						
		Roof Angle: $27 < \theta \leq 45$ degrees												
		Exposure Category: D												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	103	97	94	91	88	85	80	76	72	68	67	65	62
	10	96	92	90	88	86	84	80	76	72	68	67	65	62
	20	85	82	81	79	78	76	74	71	69	66	65	64	62
	30	77	75	74	73	72	71	68	66	64	62	61	60	58
	40	71	69	68	68	67	66	64	62	60	59	58	57	55
	50	66	65	64	63	63	62	60	59	57	56	55	54	53
	60	61	61	60	60	59	59	57	56	55	53	53	52	51
	70	57	57	57	57	56	56	55	54	52	51	51	50	49
	80	53	53	53	53	53	53	52	51	50	49	49	48	47
	90	51	51	51	51	51	51	50	49	49	48	47	47	46
Zone 2	0	103	97	94	91	88	85	80	76	71	66	64	63	59
	10	96	92	90	88	86	84	80	76	71	66	64	63	59
	20	85	82	81	79	78	76	74	71	69	66	64	63	59
	30	77	75	74	73	72	71	68	66	64	62	61	60	58
	40	71	69	68	68	67	66	64	62	60	59	58	57	55
	50	66	65	64	63	63	62	60	59	57	56	55	54	53
	60	61	61	60	60	59	59	57	56	55	53	53	52	51
	70	57	57	57	57	56	56	55	54	52	51	51	50	49
	80	53	53	53	53	53	53	52	51	50	49	49	48	47
	90	51	51	51	51	51	51	50	49	49	48	47	47	46
Zone 3	0	103	97	94	91	88	85	80	76	71	66	64	63	59
	10	96	92	90	88	86	84	80	76	71	66	64	63	59
	20	85	82	81	79	78	76	74	71	69	66	64	63	59
	30	77	75	74	73	72	71	68	66	64	62	61	60	58
	40	71	69	68	68	67	66	64	62	60	59	58	57	55
	50	66	65	64	63	63	62	60	59	57	56	55	54	53
	60	61	61	60	60	59	59	57	56	55	53	53	52	51
	70	57	57	57	57	56	56	55	54	52	51	51	50	49
	80	53	53	53	53	53	53	52	51	50	49	49	48	47
	90	51	51	51	51	51	51	50	49	49	48	47	47	46

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in landscape orientation with a maximum width of 42"



**Max Rail Spans for SunModo SMR100 System**

<b>Table 37</b>		Mean Roof Height:	$h \leq 15$ ft										Panel Orientation:	Landscape		
		Roof Angle:	$0 < \theta \leq 7$ degrees													
		Exposure Category:	B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)														
		100	110	115	120	125	130	140	150	160	170	175	180	190		
Zone 1	0	94	94	94	94	94	93	87	80	74	69	67	65	61		
	10	79	79	79	79	79	79	79	79	74	69	67	65	61		
	20	63	63	63	63	63	63	63	63	63	63	63	62	61		
	30	61	61	61	61	61	61	61	61	61	61	61	61	61		
	40	54	54	54	54	54	54	54	54	54	54	54	54	54		
	50	49	49	49	49	49	49	49	49	49	49	49	49	49		
	60	45	45	45	45	45	45	45	45	45	45	45	45	45		
	70	42	42	42	42	42	42	42	42	42	42	42	42	42		
	80	39	39	39	39	39	39	39	39	39	39	39	39	39		
90	37	37	37	37	37	37	37	37	37	37	37	37	37			
Zone 2	0	94	88	83	78	74	71	65	59	55	51	49	48	45		
	10	79	79	79	78	74	71	65	59	55	51	49	48	45		
	20	63	63	63	63	63	63	63	59	55	51	49	48	45		
	30	61	61	61	61	61	61	61	59	55	51	49	48	45		
	40	54	54	54	54	54	54	54	54	54	51	49	48	45		
	50	49	49	49	49	49	49	49	49	49	49	49	48	45		
	60	45	45	45	45	45	45	45	45	45	45	45	45	45		
	70	42	42	42	42	42	42	42	42	42	42	42	42	42		
	80	39	39	39	39	39	39	39	39	39	39	39	39	39		
90	37	37	37	37	37	37	37	37	37	37	37	37	37			
Zone 3	0	79	69	65	62	59	56	51	47	43	40	38	37	35		
	10	79	69	65	62	59	56	51	47	43	40	38	37	35		
	20	63	63	63	62	59	56	51	47	43	40	38	37	35		
	30	61	61	61	61	59	56	51	47	43	40	38	37	35		
	40	54	54	54	54	54	54	51	47	43	40	38	37	35		
	50	49	49	49	49	49	49	49	47	43	40	38	37	35		
	60	45	45	45	45	45	45	45	45	43	40	38	37	35		
	70	42	42	42	42	42	42	42	42	42	40	38	37	35		
	80	39	39	39	39	39	39	39	39	39	39	38	37	35		
90	37	37	37	37	37	37	37	37	37	37	37	37	35			

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 38</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Portrait
		Roof Angle:	$0 < \theta \leq 7$ degrees												
		Exposure Category:	C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	94	94	92	88	84	77	71	66	62	60	58	55	
	10	79	79	79	79	79	79	77	71	66	62	60	58	55	
	20	63	63	63	63	63	63	63	63	63	62	60	58	55	
	30	61	61	61	61	61	61	61	61	61	61	60	58	55	
	40	54	54	54	54	54	54	54	54	54	54	54	54	54	
	50	49	49	49	49	49	49	49	49	49	49	49	49	49	
	60	45	45	45	45	45	45	45	45	45	45	45	45	45	
	70	42	42	42	42	42	42	42	42	42	42	42	42	42	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 2	0	88	77	73	69	66	63	57	53	49	46	44	43	40	
	10	79	77	73	69	66	63	57	53	49	46	44	43	40	
	20	63	63	63	63	63	63	57	53	49	46	44	43	40	
	30	61	61	61	61	61	61	57	53	49	46	44	43	40	
	40	54	54	54	54	54	54	54	53	49	46	44	43	40	
	50	49	49	49	49	49	49	49	49	49	46	44	43	40	
	60	45	45	45	45	45	45	45	45	45	45	44	43	40	
	70	42	42	42	42	42	42	42	42	42	42	42	42	40	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 3	0	69	61	58	55	52	49	45	41	38	35	34	33	31	
	10	69	61	58	55	52	49	45	41	38	35	34	33	31	
	20	63	61	58	55	52	49	45	41	38	35	34	33	31	
	30	61	61	58	55	52	49	45	41	38	35	34	33	31	
	40	54	54	54	54	52	49	45	41	38	35	34	33	31	
	50	49	49	49	49	49	49	45	41	38	35	34	33	31	
	60	45	45	45	45	45	45	45	41	38	35	34	33	31	
	70	42	42	42	42	42	42	42	41	38	35	34	33	31	
	80	39	39	39	39	39	39	39	39	38	35	34	33	31	
90	37	37	37	37	37	37	37	37	37	35	34	33	31		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 39</b>		Mean Roof Height: $h \leq 15$ ft					Panel Orientation: Portrait								
		Roof Angle: $0 < \theta \leq 7$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	91	87	83	79	75	69	64	59	56	54	52	49	
	10	79	79	79	79	79	75	69	64	59	56	54	52	49	
	20	63	63	63	63	63	63	63	63	62	59	56	54	52	49
	30	61	61	61	61	61	61	61	61	61	59	56	54	52	49
	40	54	54	54	54	54	54	54	54	54	54	54	54	52	49
	50	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	60	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	70	42	42	42	42	42	42	42	42	42	42	42	42	42	42
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 2	0	77	69	65	62	59	56	51	47	44	41	39	38	36	
	10	77	69	65	62	59	56	51	47	44	41	39	38	36	
	20	63	63	63	62	59	56	51	47	44	41	39	38	36	
	30	61	61	61	61	59	56	51	47	44	41	39	38	36	
	40	54	54	54	54	54	54	51	47	44	41	39	38	36	
	50	49	49	49	49	49	49	49	47	44	41	39	38	36	
	60	45	45	45	45	45	45	45	45	44	41	39	38	36	
	70	42	42	42	42	42	42	42	42	42	41	39	38	36	
	80	39	39	39	39	39	39	39	39	39	39	39	38	36	
90	37	37	37	37	37	37	37	37	37	37	37	37	37	36	
Zone 3	0	61	54	51	48	46	44	40	37	34	32	31	30	28	
	10	61	54	51	48	46	44	40	37	34	32	31	30	28	
	20	61	54	51	48	46	44	40	37	34	32	31	30	28	
	30	61	54	51	48	46	44	40	37	34	32	31	30	28	
	40	54	54	51	48	46	44	40	37	34	32	31	30	28	
	50	49	49	49	48	46	44	40	37	34	32	31	30	28	
	60	45	45	45	45	45	44	40	37	34	32	31	30	28	
	70	42	42	42	42	42	42	40	37	34	32	31	30	28	
	80	39	39	39	39	39	39	39	37	34	32	31	30	28	
90	37	37	37	37	37	37	37	37	34	32	31	30	28		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 40</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Portrait
		Roof Angle:	$7 < \theta \leq 27$ degrees												
		Exposure Category:	B												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	94	94	94	94	94	94	90	86	80	74	72	69	65
	10	71	71	71	71	70	69	68	67	66	64	64	63	62	
	20	54	54	54	54	54	54	54	54	54	54	53	53	53	52
	30	54	54	54	54	54	54	54	54	54	54	53	53	53	52
	40	48	48	48	48	48	48	48	48	48	48	48	48	48	47
	50	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	60	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 2	0	94	89	85	80	76	73	66	61	57	53	51	49	46	
	10	71	71	71	71	70	69	66	61	57	53	51	49	46	
	20	54	54	54	54	54	54	54	54	54	53	51	49	46	
	30	54	54	54	54	54	54	54	54	54	53	51	49	46	
	40	48	48	48	48	48	48	48	48	48	48	48	48	46	
	50	43	43	43	43	43	43	43	43	43	43	43	43	43	
	60	40	40	40	40	40	40	40	40	40	40	40	40	40	
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	
90	33	33	33	33	33	33	33	33	33	33	33	33	33		
Zone 3	0	76	68	64	61	58	56	51	47	44	41	40	39	36	
	10	71	68	64	61	58	56	51	47	44	41	40	39	36	
	20	54	54	54	54	54	54	51	47	44	41	40	39	36	
	30	54	54	54	54	54	54	51	47	44	41	40	39	36	
	40	48	48	48	48	48	48	48	47	44	41	40	39	36	
	50	43	43	43	43	43	43	43	43	43	41	40	39	36	
	60	40	40	40	40	40	40	40	40	40	40	40	39	36	
	70	37	37	37	37	37	37	37	37	37	37	37	37	36	
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	
90	33	33	33	33	33	33	33	33	33	33	33	33	33		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 41</b>		Mean Roof Height: $h \leq 15$ ft		Panel Orientation: Portrait										
		Roof Angle: $7 < \theta \leq 27$ degrees												
		Exposure Category: C												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)												
		100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1	0	94	94	94	93	91	89	83	77	71	66	64	62	58
	10	71	70	70	69	68	68	66	65	63	62	61	61	58
	20	54	54	54	54	54	54	54	54	53	52	52	51	50
	30	54	54	54	54	54	54	54	54	53	52	52	51	50
	40	48	48	48	48	48	48	48	48	48	48	48	47	46
	50	43	43	43	43	43	43	43	43	43	43	43	43	43
	60	40	40	40	40	40	40	40	40	40	40	40	40	40
	70	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 2	0	89	79	75	71	68	64	59	54	50	47	46	44	41
	10	71	70	70	69	68	64	59	54	50	47	46	44	41
	20	54	54	54	54	54	54	54	54	50	47	46	44	41
	30	54	54	54	54	54	54	54	54	50	47	46	44	41
	40	48	48	48	48	48	48	48	48	48	47	46	44	41
	50	43	43	43	43	43	43	43	43	43	43	43	43	41
	60	40	40	40	40	40	40	40	40	40	40	40	40	40
	70	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 3	0	68	60	57	55	52	50	46	42	39	37	36	35	33
	10	68	60	57	55	52	50	46	42	39	37	36	35	33
	20	54	54	54	54	52	50	46	42	39	37	36	35	33
	30	54	54	54	54	52	50	46	42	39	37	36	35	33
	40	48	48	48	48	48	48	46	42	39	37	36	35	33
	50	43	43	43	43	43	43	43	42	39	37	36	35	33
	60	40	40	40	40	40	40	40	40	39	37	36	35	33
	70	37	37	37	37	37	37	37	37	37	37	36	35	33
	80	35	35	35	35	35	35	35	35	35	35	35	35	33
90	33	33	33	33	33	33	33	33	33	33	33	33	33	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 42</b>		Mean Roof Height:	$h \leq 15$ ft											Panel Orientation:	Portrait
		Roof Angle:	$7 < \theta \leq 27$ degrees												
		Exposure Category:	D												
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	92	90	88	85	81	74	69	64	59	57	56	52	
	10	70	69	68	67	67	66	64	63	61	59	57	56	52	
	20	54	54	54	54	54	54	54	53	52	51	50	50	49	49
	30	54	54	54	54	54	54	54	53	52	51	50	50	49	49
	40	48	48	48	48	48	48	48	48	48	47	46	46	46	45
	50	43	43	43	43	43	43	43	43	43	43	43	43	42	42
	60	40	40	40	40	40	40	40	40	40	40	40	40	40	39
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 2	0	79	70	67	63	60	57	53	49	45	42	41	40	37	
	10	70	69	67	63	60	57	53	49	45	42	41	40	37	
	20	54	54	54	54	54	54	53	49	45	42	41	40	37	
	30	54	54	54	54	54	54	53	49	45	42	41	40	37	
	40	48	48	48	48	48	48	48	48	48	45	42	41	40	37
	50	43	43	43	43	43	43	43	43	43	43	42	41	40	37
	60	40	40	40	40	40	40	40	40	40	40	40	40	40	37
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 3	0	60	54	51	49	47	45	41	38	36	33	32	31	30	
	10	60	54	51	49	47	45	41	38	36	33	32	31	30	
	20	54	54	51	49	47	45	41	38	36	33	32	31	30	
	30	54	54	51	49	47	45	41	38	36	33	32	31	30	
	40	48	48	48	48	47	45	41	38	36	33	32	31	30	
	50	43	43	43	43	43	43	41	38	36	33	32	31	30	
	60	40	40	40	40	40	40	40	38	36	33	32	31	30	
	70	37	37	37	37	37	37	37	37	36	33	32	31	30	
	80	35	35	35	35	35	35	35	35	35	33	32	31	30	
90	33	33	33	33	33	33	33	33	33	33	32	31	30		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

Roof Wind Zone		Ground Snow Load (psf)	Wind Speed (mph)												
			100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1		0	86	82	80	78	76	74	70	67	63	61	59	58	55
		10	76	73	72	71	70	69	66	64	62	60	59	58	55
		20	65	64	63	62	62	61	59	58	56	54	54	53	51
		30	58	57	57	56	56	55	54	53	51	50	50	49	48
		40	52	52	52	52	51	51	50	49	48	47	46	46	45
		50	47	47	47	47	47	47	46	46	45	44	44	43	42
		60	43	43	43	43	43	43	43	43	42	42	41	41	40
		70	41	41	41	41	41	41	41	41	40	40	39	39	38
		80	38	38	38	38	38	38	38	38	38	38	38	37	37
		90	36	36	36	36	36	36	36	36	36	36	36	36	35
Zone 2		0	86	82	80	78	76	74	70	67	63	61	59	58	55
		10	76	73	72	71	70	69	66	64	62	60	59	58	55
		20	65	64	63	62	62	61	59	58	56	54	54	53	51
		30	58	57	57	56	56	55	54	53	51	50	50	49	48
		40	52	52	52	52	51	51	50	49	48	47	46	46	45
		50	47	47	47	47	47	47	46	46	45	44	44	43	42
		60	43	43	43	43	43	43	43	43	42	42	41	41	40
		70	41	41	41	41	41	41	41	41	40	40	39	39	38
		80	38	38	38	38	38	38	38	38	38	38	38	37	37
		90	36	36	36	36	36	36	36	36	36	36	36	36	35
Zone 3		0	86	82	80	78	76	74	70	67	63	61	59	58	55
		10	76	73	72	71	70	69	66	64	62	60	59	58	55
		20	65	64	63	62	62	61	59	58	56	54	54	53	51
		30	58	57	57	56	56	55	54	53	51	50	50	49	48
		40	52	52	52	52	51	51	50	49	48	47	46	46	45
		50	47	47	47	47	47	47	46	46	45	44	44	43	42
		60	43	43	43	43	43	43	43	43	42	42	41	41	40
		70	41	41	41	41	41	41	41	41	40	40	39	39	38
		80	38	38	38	38	38	38	38	38	38	38	38	37	37
		90	36	36	36	36	36	36	36	36	36	36	36	36	35

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

Roof Wind Zone		Ground Snow Load (psf)	Wind Speed (mph)												
			100	110	115	120	125	130	140	150	160	170	175	180	190
Zone 1		0	82	77	75	73	71	69	65	62	59	56	55	53	51
		10	73	71	69	68	67	66	63	61	59	56	55	53	51
		20	64	62	61	60	59	59	57	55	53	52	51	50	49
		30	57	56	55	55	54	53	52	51	49	48	47	47	46
		40	52	52	51	50	50	49	48	47	46	45	45	44	43
		50	47	47	47	47	47	46	45	44	43	43	42	42	41
		60	43	43	43	43	43	43	43	42	41	40	40	40	39
		70	41	41	41	41	41	41	41	40	39	39	38	38	37
		80	38	38	38	38	38	38	38	38	38	37	37	36	36
		90	36	36	36	36	36	36	36	36	36	36	35	35	34
Zone 2		0	82	77	75	73	71	69	65	62	59	56	55	53	51
		10	73	71	69	68	67	66	63	61	59	56	55	53	51
		20	64	62	61	60	59	59	57	55	53	52	51	50	49
		30	57	56	55	55	54	53	52	51	49	48	47	47	46
		40	52	52	51	50	50	49	48	47	46	45	45	44	43
		50	47	47	47	47	47	46	45	44	43	43	42	42	41
		60	43	43	43	43	43	43	43	42	41	40	40	40	39
		70	41	41	41	41	41	41	41	40	39	39	38	38	37
		80	38	38	38	38	38	38	38	38	38	37	37	36	36
		90	36	36	36	36	36	36	36	36	36	36	35	35	34
Zone 3		0	82	77	75	73	71	69	65	62	59	56	55	53	51
		10	73	71	69	68	67	66	63	61	59	56	55	53	51
		20	64	62	61	60	59	59	57	55	53	52	51	50	49
		30	57	56	55	55	54	53	52	51	49	48	47	47	46
		40	52	52	51	50	50	49	48	47	46	45	45	44	43
		50	47	47	47	47	47	46	45	44	43	43	42	42	41
		60	43	43	43	43	43	43	43	42	41	40	40	40	39
		70	41	41	41	41	41	41	41	40	39	39	38	38	37
		80	38	38	38	38	38	38	38	38	38	37	37	36	36
		90	36	36	36	36	36	36	36	36	36	36	35	35	34

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"



**Max Rail Spans for SunModo SMR100 System**

<b>Table 45</b>		Mean Roof Height: $h \leq 15$ ft					Panel Orientation: Portrait								
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	77	72	70	68	66	64	61	57	54	52	50	49	47	
	10	71	68	66	65	64	62	60	57	54	52	50	49	47	
	20	62	60	59	58	57	56	54	53	51	49	48	47	46	
	30	56	55	54	53	52	52	50	49	47	46	45	45	43	
	40	51	50	50	49	49	48	47	46	44	43	43	42	41	
	50	47	47	46	46	46	45	44	43	42	41	41	40	39	
	60	43	43	43	43	43	43	42	41	40	39	39	38	37	
	70	41	41	41	41	41	40	40	39	38	37	37	37	36	
	80	38	38	38	38	38	38	38	37	37	36	36	35	35	
	90	36	36	36	36	36	36	36	36	35	35	34	34	33	
Zone 2	0	77	72	70	68	66	64	61	57	54	51	50	48	45	
	10	71	68	66	65	64	62	60	57	54	51	50	48	45	
	20	62	60	59	58	57	56	54	53	51	49	48	47	45	
	30	56	55	54	53	52	52	50	49	47	46	45	45	43	
	40	51	50	50	49	49	48	47	46	44	43	43	42	41	
	50	47	47	46	46	46	45	44	43	42	41	41	40	39	
	60	43	43	43	43	43	43	42	41	40	39	39	38	37	
	70	41	41	41	41	41	40	40	39	38	37	37	37	36	
	80	38	38	38	38	38	38	38	37	37	36	36	35	35	
	90	36	36	36	36	36	36	36	36	35	35	34	34	33	
Zone 3	0	77	72	70	68	66	64	61	57	54	51	50	48	45	
	10	71	68	66	65	64	62	60	57	54	51	50	48	45	
	20	62	60	59	58	57	56	54	53	51	49	48	47	45	
	30	56	55	54	53	52	52	50	49	47	46	45	45	43	
	40	51	50	50	49	49	48	47	46	44	43	43	42	41	
	50	47	47	46	46	46	45	44	43	42	41	41	40	39	
	60	43	43	43	43	43	43	42	41	40	39	39	38	37	
	70	41	41	41	41	41	40	40	39	38	37	37	37	36	
	80	38	38	38	38	38	38	38	37	37	36	36	35	35	
	90	36	36	36	36	36	36	36	36	35	35	34	34	33	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 46</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $0 < \theta \leq 7$ degrees													
		Exposure Category: B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	94	94	94	94	93	87	80	74	69	67	65	61	
	10	79	79	79	79	79	79	79	79	74	69	67	65	61	
	20	63	63	63	63	63	63	63	63	63	63	63	62	61	
	30	61	61	61	61	61	61	61	61	61	61	61	61	61	
	40	54	54	54	54	54	54	54	54	54	54	54	54	54	
	50	49	49	49	49	49	49	49	49	49	49	49	49	49	49
	60	45	45	45	45	45	45	45	45	45	45	45	45	45	45
	70	42	42	42	42	42	42	42	42	42	42	42	42	42	42
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 2	0	94	88	83	78	74	71	65	59	55	51	49	48	45	
	10	79	79	79	78	74	71	65	59	55	51	49	48	45	
	20	63	63	63	63	63	63	63	59	55	51	49	48	45	
	30	61	61	61	61	61	61	61	59	55	51	49	48	45	
	40	54	54	54	54	54	54	54	54	54	51	49	48	45	
	50	49	49	49	49	49	49	49	49	49	49	49	48	45	
	60	45	45	45	45	45	45	45	45	45	45	45	45	45	
	70	42	42	42	42	42	42	42	42	42	42	42	42	42	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 3	0	79	69	65	62	59	56	51	47	43	40	38	37	35	
	10	79	69	65	62	59	56	51	47	43	40	38	37	35	
	20	63	63	63	62	59	56	51	47	43	40	38	37	35	
	30	61	61	61	61	59	56	51	47	43	40	38	37	35	
	40	54	54	54	54	54	54	51	47	43	40	38	37	35	
	50	49	49	49	49	49	49	49	47	43	40	38	37	35	
	60	45	45	45	45	45	45	45	45	43	40	38	37	35	
	70	42	42	42	42	42	42	42	42	42	40	38	37	35	
	80	39	39	39	39	39	39	39	39	39	39	38	37	35	
90	37	37	37	37	37	37	37	37	37	37	37	37	35		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

Roof Wind Zone		Ground Snow Load (psf)	Wind Speed (mph)													
			100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1		0	94	93	90	85	81	77	71	66	61	57	55	54	51	
		10	79	79	79	79	79	77	71	66	61	57	55	54	51	
		20	63	63	63	63	63	63	63	63	61	57	55	54	51	
		30	61	61	61	61	61	61	61	61	61	57	55	54	51	
		40	54	54	54	54	54	54	54	54	54	54	54	54	51	
		50	49	49	49	49	49	49	49	49	49	49	49	49	49	49
		60	45	45	45	45	45	45	45	45	45	45	45	45	45	45
		70	42	42	42	42	42	42	42	42	42	42	42	42	42	42
		80	39	39	39	39	39	39	39	39	39	39	39	39	39	39
		90	37	37	37	37	37	37	37	37	37	37	37	37	37	37
Zone 2		0	80	71	67	63	60	58	53	49	45	42	41	39	37	
		10	79	71	67	63	60	58	53	49	45	42	41	39	37	
		20	63	63	63	63	60	58	53	49	45	42	41	39	37	
		30	61	61	61	61	60	58	53	49	45	42	41	39	37	
		40	54	54	54	54	54	54	53	49	45	42	41	39	37	
		50	49	49	49	49	49	49	49	49	45	42	41	39	37	
		60	45	45	45	45	45	45	45	45	45	42	41	39	37	
		70	42	42	42	42	42	42	42	42	42	42	41	39	37	
		80	39	39	39	39	39	39	39	39	39	39	39	39	37	
		90	37	37	37	37	37	37	37	37	37	37	37	37	37	
Zone 3		0	63	56	53	50	47	45	41	38	35	33	32	31	29	
		10	63	56	53	50	47	45	41	38	35	33	32	31	29	
		20	63	56	53	50	47	45	41	38	35	33	32	31	29	
		30	61	56	53	50	47	45	41	38	35	33	32	31	29	
		40	54	54	53	50	47	45	41	38	35	33	32	31	29	
		50	49	49	49	49	47	45	41	38	35	33	32	31	29	
		60	45	45	45	45	45	45	41	38	35	33	32	31	29	
		70	42	42	42	42	42	42	41	38	35	33	32	31	29	
		80	39	39	39	39	39	39	39	38	35	33	32	31	29	
		90	37	37	37	37	37	37	37	37	35	33	32	31	29	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 48</b>		Mean Roof Height: $15 < h \leq 30$ ft					Panel Orientation: Portrait								
		Roof Angle: $0 < \theta \leq 7$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	85	81	77	73	70	65	60	56	52	50	49	46	
	10	79	79	79	77	73	70	65	60	56	52	50	49	46	
	20	63	63	63	63	63	63	62	60	56	52	50	49	46	
	30	61	61	61	61	61	61	61	60	56	52	50	49	46	
	40	54	54	54	54	54	54	54	54	54	52	50	49	46	
	50	49	49	49	49	49	49	49	49	49	49	49	49	46	
	60	45	45	45	45	45	45	45	45	45	45	45	45	45	
	70	42	42	42	42	42	42	42	42	42	42	42	42	42	
	80	39	39	39	39	39	39	39	39	39	39	39	39	39	
90	37	37	37	37	37	37	37	37	37	37	37	37	37		
Zone 2	0	72	64	60	57	55	52	48	44	41	38	37	36	34	
	10	72	64	60	57	55	52	48	44	41	38	37	36	34	
	20	63	63	60	57	55	52	48	44	41	38	37	36	34	
	30	61	61	60	57	55	52	48	44	41	38	37	36	34	
	40	54	54	54	54	54	52	48	44	41	38	37	36	34	
	50	49	49	49	49	49	49	48	44	41	38	37	36	34	
	60	45	45	45	45	45	45	45	44	41	38	37	36	34	
	70	42	42	42	42	42	42	42	42	41	38	37	36	34	
	80	39	39	39	39	39	39	39	39	39	38	37	36	34	
90	37	37	37	37	37	37	37	37	37	37	37	36	34		
Zone 3	0	56	50	47	45	43	41	37	34	32	30	29	28	27	
	10	56	50	47	45	43	41	37	34	32	30	29	28	27	
	20	56	50	47	45	43	41	37	34	32	30	29	28	27	
	30	56	50	47	45	43	41	37	34	32	30	29	28	27	
	40	54	50	47	45	43	41	37	34	32	30	29	28	27	
	50	49	49	47	45	43	41	37	34	32	30	29	28	27	
	60	45	45	45	45	43	41	37	34	32	30	29	28	27	
	70	42	42	42	42	42	41	37	34	32	30	29	28	27	
	80	39	39	39	39	39	39	37	34	32	30	29	28	27	
90	37	37	37	37	37	37	37	34	32	30	29	28	27		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 49</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $7 < \theta \leq 27$ degrees													
		Exposure Category: B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	94	94	94	94	94	94	90	86	80	74	72	69	65
	10	71	71	71	71	70	69	68	67	66	64	64	63	62	
	20	54	54	54	54	54	54	54	54	54	54	53	53	53	52
	30	54	54	54	54	54	54	54	54	54	54	53	53	53	52
	40	48	48	48	48	48	48	48	48	48	48	48	48	48	47
	50	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	60	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 2	0	94	89	85	80	76	73	66	61	57	53	51	49	46	
	10	71	71	71	71	70	69	66	61	57	53	51	49	46	
	20	54	54	54	54	54	54	54	54	54	53	51	49	46	
	30	54	54	54	54	54	54	54	54	54	53	51	49	46	
	40	48	48	48	48	48	48	48	48	48	48	48	48	46	
	50	43	43	43	43	43	43	43	43	43	43	43	43	43	
	60	40	40	40	40	40	40	40	40	40	40	40	40	40	
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	
90	33	33	33	33	33	33	33	33	33	33	33	33	33		
Zone 3	0	76	68	64	61	58	56	51	47	44	41	40	39	36	
	10	71	68	64	61	58	56	51	47	44	41	40	39	36	
	20	54	54	54	54	54	54	51	47	44	41	40	39	36	
	30	54	54	54	54	54	54	51	47	44	41	40	39	36	
	40	48	48	48	48	48	48	48	47	44	41	40	39	36	
	50	43	43	43	43	43	43	43	43	43	41	40	39	36	
	60	40	40	40	40	40	40	40	40	40	40	40	39	36	
	70	37	37	37	37	37	37	37	37	37	37	37	37	36	
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	
90	33	33	33	33	33	33	33	33	33	33	33	33	33		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 50</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $7 < \theta \leq 27$ degrees													
		Exposure Category: C													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	94	91	89	87	84	77	71	65	61	59	57	54	
	10	71	69	69	68	67	66	65	63	62	60	59	57	54	
	20	54	54	54	54	54	54	54	53	52	51	50	50	49	
	30	54	54	54	54	54	54	54	53	52	51	50	50	49	
	40	48	48	48	48	48	48	48	48	47	47	46	46	45	
	50	43	43	43	43	43	43	43	43	43	43	43	43	42	
	60	40	40	40	40	40	40	40	40	40	40	40	40	40	
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	
90	33	33	33	33	33	33	33	33	33	33	33	33	33		
Zone 2	0	82	72	69	65	62	59	54	50	46	43	42	41	38	
	10	71	69	69	65	62	59	54	50	46	43	42	41	38	
	20	54	54	54	54	54	54	54	50	46	43	42	41	38	
	30	54	54	54	54	54	54	54	50	46	43	42	41	38	
	40	48	48	48	48	48	48	48	48	46	43	42	41	38	
	50	43	43	43	43	43	43	43	43	43	43	42	41	38	
	60	40	40	40	40	40	40	40	40	40	40	40	40	38	
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	
90	33	33	33	33	33	33	33	33	33	33	33	33	33		
Zone 3	0	62	56	53	50	48	46	42	39	37	34	33	32	30	
	10	62	56	53	50	48	46	42	39	37	34	33	32	30	
	20	54	54	53	50	48	46	42	39	37	34	33	32	30	
	30	54	54	53	50	48	46	42	39	37	34	33	32	30	
	40	48	48	48	48	48	46	42	39	37	34	33	32	30	
	50	43	43	43	43	43	43	42	39	37	34	33	32	30	
	60	40	40	40	40	40	40	40	39	37	34	33	32	30	
	70	37	37	37	37	37	37	37	37	37	34	33	32	30	
	80	35	35	35	35	35	35	35	35	35	34	33	32	30	
90	33	33	33	33	33	33	33	33	33	33	33	32	30		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 51</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $7 < \theta \leq 27$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	94	89	87	83	79	76	69	64	59	56	54	52	49	
	10	70	68	67	66	65	65	63	61	59	56	54	52	49	
	20	54	54	54	54	54	54	54	53	52	50	49	49	48	47
	30	54	54	54	54	54	54	54	53	52	50	49	49	48	47
	40	48	48	48	48	48	48	48	48	47	46	46	45	45	44
	50	43	43	43	43	43	43	43	43	43	43	42	42	42	41
	60	40	40	40	40	40	40	40	40	40	40	40	40	39	39
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 2	0	73	65	62	59	56	54	49	45	42	39	38	37	35	
	10	70	65	62	59	56	54	49	45	42	39	38	37	35	
	20	54	54	54	54	54	54	49	45	42	39	38	37	35	
	30	54	54	54	54	54	54	49	45	42	39	38	37	35	
	40	48	48	48	48	48	48	48	45	42	39	38	37	35	
	50	43	43	43	43	43	43	43	43	42	39	38	37	35	
	60	40	40	40	40	40	40	40	40	40	39	38	37	35	
	70	37	37	37	37	37	37	37	37	37	37	37	37	37	35
	80	35	35	35	35	35	35	35	35	35	35	35	35	35	35
90	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
Zone 3	0	56	51	48	46	44	42	39	36	33	31	30	29	28	
	10	56	51	48	46	44	42	39	36	33	31	30	29	28	
	20	54	51	48	46	44	42	39	36	33	31	30	29	28	
	30	54	51	48	46	44	42	39	36	33	31	30	29	28	
	40	48	48	48	46	44	42	39	36	33	31	30	29	28	
	50	43	43	43	43	43	42	39	36	33	31	30	29	28	
	60	40	40	40	40	40	40	39	36	33	31	30	29	28	
	70	37	37	37	37	37	37	37	36	33	31	30	29	28	
	80	35	35	35	35	35	35	35	35	33	31	30	29	28	
90	33	33	33	33	33	33	33	33	33	31	30	29	28		

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 52</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: B													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	86	82	80	78	76	74	70	67	63	61	59	58	55	
	10	76	73	72	71	70	69	66	64	62	60	59	58	55	
	20	65	64	63	62	62	61	59	58	56	54	54	53	51	
	30	58	57	57	56	56	55	54	53	51	50	50	49	48	
	40	52	52	52	52	51	51	50	49	48	47	46	46	45	
	50	47	47	47	47	47	47	46	46	45	44	44	43	42	
	60	43	43	43	43	43	43	43	43	42	42	41	41	40	
	70	41	41	41	41	41	41	41	41	40	40	39	39	38	
	80	38	38	38	38	38	38	38	38	38	38	38	38	37	37
90	36	36	36	36	36	36	36	36	36	36	36	36	36	35	
Zone 2	0	86	82	80	78	76	74	70	67	63	61	59	58	55	
	10	76	73	72	71	70	69	66	64	62	60	59	58	55	
	20	65	64	63	62	62	61	59	58	56	54	54	53	51	
	30	58	57	57	56	56	55	54	53	51	50	50	49	48	
	40	52	52	52	52	51	51	50	49	48	47	46	46	45	
	50	47	47	47	47	47	47	46	46	45	44	44	43	42	
	60	43	43	43	43	43	43	43	43	42	42	41	41	40	
	70	41	41	41	41	41	41	41	41	40	40	39	39	38	
	80	38	38	38	38	38	38	38	38	38	38	38	38	37	37
90	36	36	36	36	36	36	36	36	36	36	36	36	36	35	
Zone 3	0	86	82	80	78	76	74	70	67	63	61	59	58	55	
	10	76	73	72	71	70	69	66	64	62	60	59	58	55	
	20	65	64	63	62	62	61	59	58	56	54	54	53	51	
	30	58	57	57	56	56	55	54	53	51	50	50	49	48	
	40	52	52	52	52	51	51	50	49	48	47	46	46	45	
	50	47	47	47	47	47	47	46	46	45	44	44	43	42	
	60	43	43	43	43	43	43	43	43	42	42	41	41	40	
	70	41	41	41	41	41	41	41	41	40	40	39	39	38	
	80	38	38	38	38	38	38	38	38	38	38	38	38	37	37
90	36	36	36	36	36	36	36	36	36	36	36	36	36	35	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"



**Max Rail Spans for SunModo SMR100 System**

<b>Table 53</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: C													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	78	74	71	69	67	65	62	58	55	53	51	50	48	
	10	71	69	67	66	65	63	61	58	55	53	51	50	48	
	20	63	61	60	59	58	57	55	53	52	50	49	48	47	
	30	56	55	54	54	53	52	51	49	48	46	46	45	44	
	40	52	51	50	50	49	48	47	46	45	44	43	43	42	
	50	47	47	47	46	46	45	44	43	42	41	41	40	40	
	60	43	43	43	43	43	43	42	41	40	39	39	39	38	
	70	41	41	41	41	41	41	40	39	38	38	37	37	36	
	80	38	38	38	38	38	38	38	38	37	36	36	36	35	
	90	36	36	36	36	36	36	36	36	35	35	35	34	34	
Zone 2	0	78	74	71	69	67	65	62	58	55	53	51	50	47	
	10	71	69	67	66	65	63	61	58	55	53	51	50	47	
	20	63	61	60	59	58	57	55	53	52	50	49	48	47	
	30	56	55	54	54	53	52	51	49	48	46	46	45	44	
	40	52	51	50	50	49	48	47	46	45	44	43	43	42	
	50	47	47	47	46	46	45	44	43	42	41	41	40	40	
	60	43	43	43	43	43	43	42	41	40	39	39	39	38	
	70	41	41	41	41	41	41	40	39	38	38	37	37	36	
	80	38	38	38	38	38	38	38	38	37	36	36	36	35	
	90	36	36	36	36	36	36	36	36	35	35	35	34	34	
Zone 3	0	78	74	71	69	67	65	62	58	55	53	51	50	47	
	10	71	69	67	66	65	63	61	58	55	53	51	50	47	
	20	63	61	60	59	58	57	55	53	52	50	49	48	47	
	30	56	55	54	54	53	52	51	49	48	46	46	45	44	
	40	52	51	50	50	49	48	47	46	45	44	43	43	42	
	50	47	47	47	46	46	45	44	43	42	41	41	40	40	
	60	43	43	43	43	43	43	42	41	40	39	39	39	38	
	70	41	41	41	41	41	41	40	39	38	38	37	37	36	
	80	38	38	38	38	38	38	38	38	37	36	36	36	35	
	90	36	36	36	36	36	36	36	36	35	35	35	34	34	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"

**Max Rail Spans for SunModo SMR100 System**

<b>Table 54</b>		Mean Roof Height: $15 < h \leq 30$ ft							Panel Orientation: Portrait						
		Roof Angle: $27 < \theta \leq 45$ degrees													
		Exposure Category: D													
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)													
		100	110	115	120	125	130	140	150	160	170	175	180	190	
Zone 1	0	74	69	67	65	63	61	58	55	52	49	48	47	44	
	10	69	66	65	63	62	60	58	55	52	49	48	47	44	
	20	61	59	58	57	56	55	53	51	49	47	47	46	44	
	30	55	54	53	52	51	50	49	47	46	45	44	43	42	
	40	51	50	49	48	48	47	46	45	43	42	41	41	40	
	50	47	46	46	45	45	44	43	42	41	40	40	39	38	
	60	43	43	43	43	42	42	41	40	39	38	38	37	36	
	70	41	41	41	41	40	40	39	38	37	37	36	36	35	
	80	38	38	38	38	38	38	37	37	36	35	35	35	34	
	90	36	36	36	36	36	36	36	35	35	34	34	33	33	
Zone 2	0	74	69	67	65	63	61	58	55	51	48	47	45	42	
	10	69	66	65	63	62	60	58	55	51	48	47	45	42	
	20	61	59	58	57	56	55	53	51	49	47	47	45	42	
	30	55	54	53	52	51	50	49	47	46	45	44	43	42	
	40	51	50	49	48	48	47	46	45	43	42	41	41	40	
	50	47	46	46	45	45	44	43	42	41	40	40	39	38	
	60	43	43	43	43	42	42	41	40	39	38	38	37	36	
	70	41	41	41	41	40	40	39	38	37	37	36	36	35	
	80	38	38	38	38	38	38	37	37	36	35	35	35	34	
	90	36	36	36	36	36	36	36	35	35	34	34	33	33	
Zone 3	0	74	69	67	65	63	61	58	55	51	48	47	45	42	
	10	69	66	65	63	62	60	58	55	51	48	47	45	42	
	20	61	59	58	57	56	55	53	51	49	47	47	45	42	
	30	55	54	53	52	51	50	49	47	46	45	44	43	42	
	40	51	50	49	48	48	47	46	45	43	42	41	41	40	
	50	47	46	46	45	45	44	43	42	41	40	40	39	38	
	60	43	43	43	43	42	42	41	40	39	38	38	37	36	
	70	41	41	41	41	40	40	39	38	37	37	36	36	35	
	80	38	38	38	38	38	38	37	37	36	35	35	35	34	
	90	36	36	36	36	36	36	36	35	35	34	34	33	33	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable design loads per the 2015 Aluminum Design Manual.
2. Panels are assumed to be in portrait orientation with a maximum length of 82"