

Design Criteria for Span Tables:

Values in the maximum allowable rail span tables provided herein are subject to the following general criteria and additional criteria shown on individual span tables sheets. Values in span tables are based on the same engineering methodology and calculation algorithms used for U-Builder and are provided here for reference.

Building Assumptions

- Building Risk Category: II
- Mean Roof Height: 30 ft
- Roof Pitch: 0°-45°
- Site Elevation: 0 ft

Wind Design Assumptions

- Wind loads used are based on ASCE 7-16 Sec 29.4.4 with Provisions from SEAOC PV2-2017
- Exposure Category B, C, or D
- Basic Wind Speed = 90 – 180 mph
- Level terrain. Topographic factor, $k_{zt} = 1.0$
- $\gamma_E = 1.0$ for 'Interior' spans, $\gamma_E = 1.5$ for 'Exposed' spans (ASCE 7-16, Fig. 29.4-7)

Snow Design Assumptions

- Ground Snow Load = 0-100 psf
- Exposure Factor coefficients of Partially Exposed condition
- Thermal Factor = 1.0
- Results based on uniform snow load

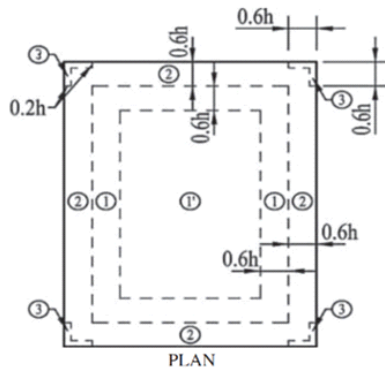
Seismic Design Assumptions

- 0.2-s Spectral Response Acceleration, $S_S \leq 3$
- $S_S = 1.25$ and 3 per criteria shown on individual span tables sheets.
- $S_1 = 0.5$
- Seismic site class D

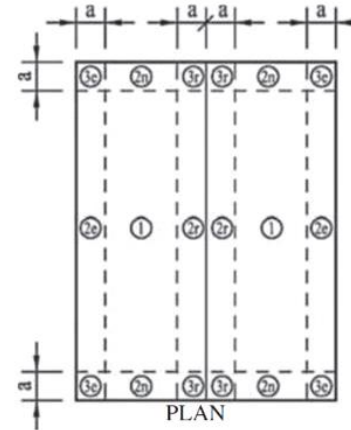
Array Assumptions

- Module orientation and Rail direction per criteria shown on individual span tables sheets.
- Maximum module dimensions of 40.1" x 67" (~19 sq.ft, 47.65 lbs) and 41" x 80" (~23 sq.ft, 58.6 lbs) per criteria shown on individual span tables sheets.
- Minimum distance between modules and roof edge is at least twice the module height above roof surface.
- Modules are parallel to roof surface and maximum height above roof surface is 5" to 10" depending on attachment type.
- Gaps between module rows and columns is 0.25" in to 1" depending on clamp type.
- The most restrictive of all roof zone spans shall be used when any part of the module is attributed to that span.
- 'Exposed' spans as defined in ASCE 7-16 sec. 29.4.4 shall be used when any part of an exposed module or panel as is attributed to that span.

Zone should be considered as per ASCE 7-16, Fig. 30.3-2A to 30.3-2D



Gable Roofs $\theta \leq 7^\circ$

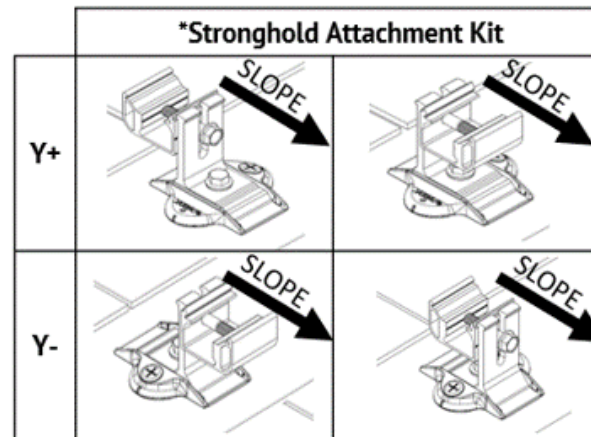


Gable Roofs $7^\circ < \theta \leq 45^\circ$

Grouping of ASCE 7-16 Roof Zones (Gable and Flat)

- **Roof Tilt 0° - 7°**
 - Roof Zone 1 = 1
 - Roof Zone 2 = 2
 - Roof Zone 3 = 3
- **Roof Tilt 7° - 27°**
 - Roof Zone 1 = 1, 2e
 - Roof Zone 2 = 2n, 2r, 3e
 - Roof Zone 3 = 3r
- **Roof Tilt 27° - 45°**
 - Roof Zone 1 = 1, 2e, 2r
 - Roof Zone 2 = 2n, 3r
 - Roof Zone 3 = 3e

Rails can be installed in these possible orientations.



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[illegible]

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[illegible]

10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

[illegible]

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10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

36 Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.



ASCE 7-16
Design Standard

II
Risk Category

30 ft
Roof Height

Ss = 1.25
Seismic

23 sq.ft
Module Area

PORTRAIT
Orientation

CROSS-SLOPE
Rail Direction

NXT
Rail Type

NXT COMBO
Clamp

Stronghold
Attachment

SPAN TABLES

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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[illegible]

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11

30 ft

Roof Height

Ss = 1.25

23 sq.ft

ORIENTATION

CROSS-SLOPE
Rail Direction

Rail Type	Count
NXT	1

NXT COMBO

Stronghold

SPAN TABLES

[illegible]

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Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																							
				90			95			100			105			110			115			120			130			140			150			160			170			180			
				Roof Wind Zone																																							
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	
0	B	0-7	Interior	101	101	101	101	101	101	101	101	101	100	101	101	95	101	101	91	101	101	87	101	97	84	101	89	77	96	83	72	90	78	68	85	74	64	80	70	62	76	67	59
			Exposed	101	101	91	101	99	86	101	95	82	101	90	78	100	86	75	96	83	72	92	80	69	85	74	65	80	70	61	75	66	58	71	63	55	67	60	51	64	57	59	
		7-20	Interior	102	102	102	102	102	102	102	102	102	97	102	102	92	102	96	88	102	92	84	102	88	80	92	81	74	87	75	69	82	70	65	77	66	62	74	63	59	70	61	56
			Exposed	102	96	87	102	91	83	101	86	78	93	82	75	89	78	71	86	75	68	83	72	66	78	66	62	73	63	59	69	60	55	66	57	51	63	53	59	61	60	56	
		20-27	Interior	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	99	102	100	94	102	96	90	102	88	82	99	82	76	92	76	71	87	72	67	83	68	63	79	65	60
			Exposed	102	102	99	102	99	93	102	94	88	102	89	83	102	85	79	98	81	76	94	78	72	88	72	67	82	67	82	67	63	78	64	59	74	61	55	70	58	52	67	55
	27-45	Interior	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	94	103	97	87	98	90	81	91	84	76	85	79	71	80	75	68	75	71	64
		Exposed	103	103	103	103	103	97	103	103	92	103	98	88	103	93	84	98	89	81	93	86	77	85	79	72	79	74	67	74	70	63	69	66	60	65	63	57	63	60	54		
	C	0-7	Interior	101	101	94	101	101	89	101	98	85	101	93	81	101	89	77	99	86	74	95	82	71	88	77	66	82	72	63	77	68	60	73	64	57	69	62	53	66	59	61	
			Exposed	101	89	77	98	85	73	93	81	70	89	77	67	85	74	64	82	71	63	79	69	61	73	64	57	69	61	53	65	58	60	62	54	56	59	61	53	56	59	59	
		7-20	Interior	102	100	91	102	94	86	102	89	81	98	85	77	92	81	74	89	77	71	85	74	68	80	68	63	75	64	60	71	61	57	68	59	53	65	55	60	62	52	58	
			Exposed	92	80	74	88	76	70	84	72	66	81	69	64	78	66	62	75	64	60	72	62	58	68	59	54	64	54	60	61	51	57	59	58	53	55	55	59	62	52	47	
		20-27	Interior	102	102	102	102	102	96	102	97	91	102	92	86	102	88	82	102	84	78	97	81	75	90	75	69	85	69	64	80	65	61	76	62	58	72	60	54	69	57	50	
			Exposed	102	88	82	100	83	77	95	79	73	91	75	70	87	72	67	84	69	64	81	66	62	76	62	58	72	59	63	68	56	49	65	52	57	62	60	53	60	57	49	
	D	0-7	Interior	103	103	103	103	103	101	103	103	96	103	101	91	103	97	87	102	92	83	97	89	80	89	82	74	82	77	69	76	72	65	72	68	62	67	64	59	64	62	56	
			Exposed	103	96	87	100	91	82	95	87	78	90	83	75	85	79	72	81	76	69	78	73	66	72	68	62	74	62	67	64	59	63	61	54	61	58	51	58	55	52	55	
		7-20	Interior	101	100	86	101	95	82	101	90	78	100	86	75	95	83	72	91	79	69	88	76	66	81	71	62	76	67	59	72	63	56	68	61	52	64	58	59	62	55	56	
			Exposed	95	82	71	90	78	68	86	75	65	82	72	63	79	69	61	76	66	59	73	64	57	68	61	52	64	57	59	61	53	55	58	60	52	55	49	52	54	46		
		20-27	Interior	102	91	83	101	86	79	93	82	75	89	78	71	86	74	68	83	71	65	80	68	63	75	64	60	70	61	56	67	57	52	64	54	59	61	50	56	59	58	53	
			Exposed	86	74	68	82	70	65	78	67	62	75	64	60	73	62	58	70	60	56	68	59	53	64	54	60	61	60	56	57	57	52	54	53	49	61	59	46	58	47	44	
	B	0-7	Interior	102	100	93	102	94	88	102	89	83	102	85	79	97	81	75	93	77	72	90	74	69	84	69	64	79	64	60	75	61	56	71	59	52	68	55	49	65	52	57	
			Exposed	97	81	75	92	76	71	88	73	67	85	69	64	81	67	62	79	64	60	76	62	58	74	61	59	63	67	55	48	64	51	55	61	59	51	58	55	47	55	52	44
		7-20	Interior	103	103	98	103	103	92	103	98	88	102	93	84	97	89	80	92	85	77	88	82	74	81	76	69	75	71	64	70	67	61	66	63	58	63	61	54	61	58	51	
			Exposed	97	89	80	91	84	76	86	80	72	82	77	69	78	73	66	75	70	64	72	68	62	66	64	58	63	60	54	60	57	50	56	54	57	53	61	53	50	58	50	
		20-27	Interior	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	87	90	90	84	90	89	77	90	83	72	90	78	68	85	74	64	80	70	62	76	67	59		
			Exposed	90	90	90	90	90	86	90	90	82	90	90	78	90	86	75	90	83	72	90	80	69	85	74	65	80	70	61	75	66	58	71	63	55	67	60	51	64	57	59	
	C	0-7	Interior	91	91	91	91	91	91	91	91	91	91	91	91	91	88	91	91	88	91	88	80	91	81	74	87	75	69	82	70	65	77	66	62	74	63	59	70	61	56		
			Exposed	91	91	87	91	91	83	91	86	78	91	82	75	89	78	71	86	75	68	83	72	66	78	66	62	73	63	59	69	60	55	66	57	51	63	53	59	61	60	56	
		7-20	Interior	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99		
			Exposed	99	99	99	99	99	93	99	94	88	99	83	99	85	79	98	81	76	94	78	72	88	72	67	82	67	63	78	64	59	74	61	55	70	58	52	67	55	48		
		20-27	Interior	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	99	101	101	94	101	97	87	98	90	81	91	84	76	85	79	71	80	75	68	75	71	64	
			Exposed	101	101	101	101	97	101	101	92	101	98	88	101	93	84	98	89	81	93	86	77	85	79	72	79	74	67	74	70	63	69	66	60	6							

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11

30 ft

S_s = 1.25
Seismic

23 sq.ft

LANDSCAPE

CROSS-SLOPE
Rail Direction

Rail Type	Count	Percentage
NXT	1	100%

NXT COMBO
Clamp

Stronghold

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

[illegible]

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Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

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Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				90			95			100			105			110			115			120			130			140			150			160			170			180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
				Roof Wind Zone																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
0	B	0-7	Interior	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79

[illegible]

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Highlighted cell with strikethrough indicate 3-rail system span and module clamp allowable capacity exceeds with 3-rails. 4-Rail system required. Contact Unirac Engineering Services for support.

[illegible]

* Cells with an asterisk indicates that the L-foot must be oriented in the Y- direction as indicated in the image.

Maximum Allowable Rail Spans for Rooftop Solar Panels Parallel to the Roof Surface (inches)

Ground Snow Load (psf)	Wind Exposure Category	Roof Tilt Angle (deg)	Panel Exposure	Basic Wind Speed (mph)																																									
				90			95			100			105			110			115			120			130			140			150			160			170			180					
				Roof Wind Zone																																									
				1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3						
0	B	0-7	Interior	101	101	101	101	101	101	101	101	100	101	101	95	101	101	91	101	101	87	101	97	84	101	89	77	96	83	72	90	78	68	85	74	64	80	70	62	76	67	59			
			Exposed	101	101	91	101	99	86	101	95	82	101	90	78	100	86	75	96	83	72	92	80	69	85	74	65	80	70	61	75	66	58	71	63	55	67	60	51	64	57	59			
		7-20	Interior	102	102	102	102	102	102	102	102	97	102	102	92	102	96	88	102	92	84	102	88	80	92	81	74	87	75	69	82	70	65	77	66	62	74	63	59	70	61	56			
			Exposed	102	96	87	102	91	83	101	86	78	93	82	75	89	78	71	86	75	68	83	72	66	78	66	62	73	63	59	69	60	55	66	57	51	63	53	59	61	60	56			
		20-27	Interior	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	99	102	100	94	102	96	90	102	88	82	99	82	76	92	76	71	87	72	67	83	68	63	79	65	60		
			Exposed	102	102	99	102	99	93	102	94	88	102	89	83	102	85	79	98	81	76	94	78	72	88	72	67	82	67	82	67	63	78	64	59	74	61	55	70	58	52	67	55	48	
	C	0-7	Interior	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	94	103	97	87	98	90	81	91	84	76	85	79	71	80	75	68	75	71	64			
			Exposed	103	103	103	103	103	97	103	103	92	103	98	88	103	93	84	98	89	81	93	86	77	85	79	72	79	74	67	74	70	63	69	66	60	65	63	57	63	60	54			
		7-20	Interior	101	101	94	101	101	89	101	98	85	101	93	81	101	89	77	99	86	74	95	82	71	88	77	66	82	72	63	77	68	60	73	64	57	69	62	53	66	59	61			
			Exposed	101	89	77	98	85	73	93	81	70	89	77	67	85	74	64	82	71	63	79	69	61	73	64	57	69	61	53	65	58	60	62	54	56	59	61	53	56	59	59			
		20-27	Interior	102	100	91	102	94	86	102	89	81	98	85	77	92	81	74	89	77	71	85	74	68	80	68	63	75	64	60	71	61	57	68	59	53	65	55	60	62	52	58			
			Exposed	102	88	82	100	83	77	95	79	73	91	75	70	87	72	67	84	69	64	81	66	62	76	62	58	72	59	63	58	56	49	65	52	57	62	60	54	69	57	49			
	D	0-7	Interior	103	103	103	103	103	101	103	103	96	103	101	91	103	97	87	102	92	83	97	89	80	89	82	74	82	77	69	76	72	65	72	68	62	67	64	59	64	57	50			
			Exposed	103	96	87	100	91	82	95	87	78	90	83	75	85	79	72	81	76	69	78	73	66	72	68	62	67	64	59	63	61	54	61	58	51	58	55	59	55	52	55			
		7-20	Interior	101	100	86	101	95	82	101	90	78	100	86	75	95	83	72	91	79	69	88	76	66	81	71	62	76	67	59	72	63	56	68	61	52	64	58	59	62	55	56			
			Exposed	95	82	71	90	78	68	86	75	65	82	72	63	79	69	61	76	66	59	73	64	57	68	61	52	64	57	59	61	53	55	58	60	52	55	58	49	52	54	46			
		20-27	Interior	102	91	83	101	86	79	93	82	75	89	78	71	86	74	68	83	71	65	80	68	63	75	64	60	70	61	56	67	57	52	64	54	59	61	50	56	59	58	53			
			Exposed	86	74	68	82	70	65	78	67	62	75	64	60	73	62	58	70	60	56	68	59	53	64	54	60	61	60	56	57	57	52	54	53	49	61	60	46	58	47	44			
10	B	0-7	Interior	102	100	93	102	94	88	102	89	83	102	85	79	97	81	75	93	77	72	90	74	69	84	69	64	79	64	60	75	61	56	71	59	52	68	55	49	65	52	57			
			Exposed	97	81	75	92	76	71	88	73	67	85	69	64	81	67	62	79	64	60	76	62	58	74	61	59	53	67	55	48	64	51	55	61	59	51	58	55	47	55	52	44		
		7-20	Interior	103	103	98	103	103	92	103	98	88	102	93	84	97	89	80	92	85	77	88	82	74	81	76	69	75	71	64	70	67	61	66	63	58	63	61	54	61	58	51			
			Exposed	97	89	80	91	84	76	86	80	72	82	77	69	78	73	66	75	70	64	72	68	62	66	64	58	63	60	54	60	57	50	56	54	57	53	61	53	50	58	50			
		20-27	Interior	90	90	90	90	90	86	90	82	90	80	90	78	90	86	75	90	83	72	90	80	87	90	80	84	90	89	77	90	83	72	90	78	68	85	74	64	80	70	62	76	67	59
			Exposed	90	90	90	90	90	86	90	82	90	80	90	78	90	86	75	90	83	72	90	80	87	90	80	84	90	89	77	90	83	72	90	78	68	85	74	64	80	70	62	76	67	59
	C	0-7	Interior	91	91	91	91	91	87	91	91	91	91	91	91	91	88	91	91	88	91	88	80	91	81	74	87	75	69	82	70	65	77	66	62	74	63	59	70	61	56				
			Exposed	91	91	87	91	91	83	91	86	78	91	82	75	89	78	71	86	75	68	83	72	66	78	66	62	73	63	59	69	60	55	66	57	51	63	53	59	61	60	56			
		7-20	Interior	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	94	99	96	90	99	88	82	99	82	76	92	76	71	87	72	67	83	68	63	79	65	60
			Exposed	99	99	99	99	99	93	99	94	88	99	89	83	99	85	79	98	81	76	94	78	72	88	72	67	82	67	83	78	64	59	74	61	55	70	58	52	67	55	48			
		20-27	Interior	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	99	101	101	94	101	97	87	98	90	81	91	84	76	85	79	71	80	75	68	75	71	64	
			Exposed	101	101	101	101	101	97	101	101	92	101	98	88	101	93	84	98	89	81	93	86	77	85	79	72	79	74	67	74	70	63	69	66	60	65	63	57	63	60	54			
	D	0-7	Interior	90	90	90	90	90	89	90	90	85	90	80	90	89	77	90	86	74	90	82	71	88	77	66	82	72	63	77	68	60	73	64	57	69	62	53	66	59	61				
			Exposed	90	89	77	90	85	73	90	81	70	89	77	67	85	74	64	82	71	63	79	69	61	73	64	57	69	61	53	65	58	60	62	54	56	59	61	53	56	59	59			
		7-20	Interior	91	91	91	91	91	86	91	89	81	91	85	77	91	81	74	89	77	71	85	74	68	80	68	63	75	64	60	71	61	57	68	59	53	65	55	60	62	52	58			
			Exposed	91	80	74	88	76	70	84	72	66	81	69	64	78	66	62	75	64	60	72	62	58	68	59	54	64	54	60	61	51	57	59	58	53	55	55	60	62	52	47			
		20-27	Interior	99	99	99	99	99	96	99	97	91	99	92	86	99	88	82	99	84	78	97	81	75	90	75	69	85	69	64	80	65	61	76	62	58	72	60	54	69	57	50			
			Exposed	99	88	82	99	83	77	95	79	73	91	75	70	87	72	67	84	69	64	81	66	62	76	62	58	72	59	63	58	56	49	65	52	57	62	60	53	60	57	49			
20	B	0-7	Interior	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	99	101	101	94	101	97	87	98	90	81	91	84	76	85	79	71	80	75	68	75	71	64		
			Exposed	101	101	101	101	101	97	101	101	92	101	98	88	101	93	84	98	89	81	93	86	77	85	79	72	79	74	67	74	70	63	69	66	60	65	63	57	63	60	54			
		7-20	Interior	90	90	90	90	90	86	90	82	90	80	90	78	90	86	75	90	83	72	90	80	87	90	80	84	90	89	77	90														

[illegible]

Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

10 Highlighted cell indicate 3-rail system span. Contact Unirac Engineering Services for support.

[illegible]

* Cells with an asterisks indicates that the L-foot must be oriented in the Y- direction as indicated in the image.