

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 7-22 Sec. 29.4.4
- 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 7-22, 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

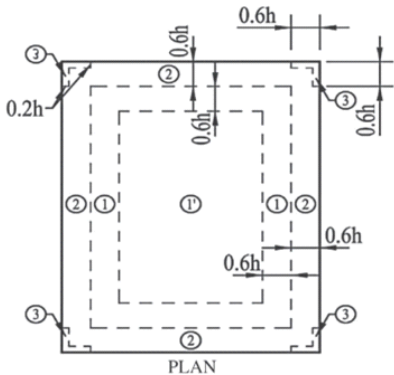
- 0.2-s Spectral Response Acceleration
- $S_s = 1.25$ and 3 with $S_{ds} = 1, 2.4$ respectively per criteria shown on individual span tables sheets.
- $S_1 = 0.5$ & $S_{d1} = 0.6$
- Seismic site class D

Array Assumptions

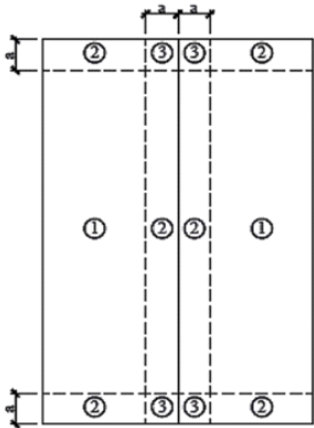
- Module orientation and Rail direction per criteria shown on individual span tables sheets.
- Maximum module dimensions of 40.1" x 67" (~19 sq.ft, 47.65 lbs) and 41" x 80" (~23 sq.ft, 58.6 lbs) per criteria shown on individual span tables sheets.
- Minimum distance between modules and roof edge is at 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 7-22 sec. 29.4.4 shall be used when any part of an exposed module or panel as is attributed to that span.

Span Tables

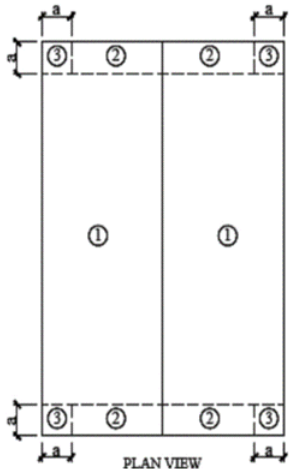
Zone should be considered as per ASCE 7-22, Fig. 30.3-2A to 30.3-2D



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

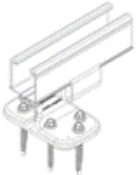


Gable Roofs $7^\circ < \theta \leq 27^\circ$



Gable Roofs $27^\circ < \theta \leq 45^\circ$

Rails can be installed in these possible orientations.

*Flashloc DUO for Plywood	
Y+	
Y-	Alternate orientation not allowed

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

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

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30 ft

$$S_s = 1.25$$

19 sq.ft

LANDSCAPE

CROSS-SLOPE

NXT

NXT COMBO

Flashloc DUO Plywood

SPAN TABLES

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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	76	76	65	76	76	57	76	76	51	76	69	46	76	60	42	76	54	38	76	49	34	58	41	29	49	35	25	42	30	21	37	26	19	32	23	16	28	21	15									
			Exposed	76	60	41	76	53	37	68	47	33	59	42	30	53	38	27	48	35	24	44	32	22	37	27	19	32	23	16	27	20	14	24	17	12	21	15	18	13	14										
		7-20	Interior	77	77	57	77	77	50	77	62	45	77	55	40	77	50	36	63	45	33	57	41	30	48	35	26	41	30	22	35	26	19	31	22	16	27	20	14	24	17	13									
			Exposed	77	50	36	61	44	32	55	39	29	49	36	26	44	32	24	40	29	22	37	27	20	31	23	17	26	19	14	23	17	12	20	14	11	18	13	14	16	11	13									
			Interior	78	78	78	78	78	61	78	78	55	78	60	49	78	54	44	78	49	40	78	45	37	67	38	31	56	32	26	48	28	23	42	24	20	37	21	17	32	19	15									
			Exposed	78	54	44	78	48	39	78	43	35	75	38	32	61	35	29	55	32	26	50	29	24	42	24	20	36	21	17	31	18	15	27	16	13	24	14	11	21	12	15									
	C	0-7	Interior	79	79	79	79	79	79	79	65	79	79	59	79	59	79	77	53	79	61	48	63	56	44	53	47	37	45	40	32	39	35	27	34	30	24	30	27	21	26	24	19								
			Exposed	79	75	53	79	60	47	60	53	42	54	48	38	49	44	34	44	40	31	41	36	29	34	31	24	29	26	21	25	23	18	22	20	16	19	17	14	17	15	12									
		7-20	Interior	76	63	44	76	56	39	76	50	35	63	45	31	57	41	28	51	37	26	47	34	24	39	28	20	33	24	17	29	21	15	25	18	13	22	16	11	20	14	15									
			Exposed	56	40	28	50	36	25	45	32	23	40	29	20	36	26	18	33	24	17	30	22	15	25	18	13	22	16	11	19	14	15	16	12	13	14	16	11	13	14	10									
			Interior	77	53	38	65	47	34	58	42	31	52	38	28	47	34	25	43	31	23	39	28	21	33	24	18	28	20	15	24	18	13	21	15	11	19	13	15	16	12	13									
			Exposed	47	34	25	42	30	22	37	27	20	34	24	18	30	22	16	28	20	15	25	18	14	21	15	11	18	13	15	16	11	13	14	15	11	19	13	15	16	12	13									
10	B	0-7	Interior	78	57	47	78	51	42	78	45	37	78	41	33	64																																			

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