

Rail Spans for Quick Mount PV QRail Standard System

Table 1		Roof Height: 0-60 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	120	130	140	150	160	170	180	190	
Zone 1	0	114	114	103	94	87	80	75	70	66	62	
	10	96	96	96	94	87	80	75	70	66	62	
	20	79	79	79	79	79	78	75	70	66	62	
	30	67	67	67	67	67	67	67	67	66	62	
	40	59	59	59	59	59	59	59	59	59	59	
	50	53	53	53	53	53	53	53	53	53	53	
	60	49	49	49	49	49	49	49	49	49	49	
	70	45	45	45	45	45	45	45	45	45	45	
	80	43	43	43	43	43	43	43	43	43	43	
90	40	40	40	40	40	40	40	40	40	40		
Zone 2	0	91	82	74	68	63	59	55	51	48	46	
	10	91	82	74	68	63	59	55	51	48	46	
	20	79	79	74	68	63	59	55	51	48	46	
	30	67	67	67	67	63	59	55	51	48	46	
	40	59	59	59	59	59	59	55	51	48	46	
	50	53	53	53	53	53	53	53	51	48	46	
	60	49	49	49	49	49	49	49	49	48	46	
	70	45	45	45	45	45	45	45	45	45	45	
	80	43	43	43	43	43	43	43	43	43	43	
90	40	40	40	40	40	40	40	40	40	40		
Zone 3	0	71	64	59	54	50	46	43	41	38	36	
	10	71	64	59	54	50	46	43	41	38	36	
	20	71	64	59	54	50	46	43	41	38	36	
	30	67	64	59	54	50	46	43	41	38	36	
	40	59	59	59	54	50	46	43	41	38	36	
	50	53	53	53	53	50	46	43	41	38	36	
	60	49	49	49	49	49	46	43	41	38	36	
	70	45	45	45	45	45	45	43	41	38	36	
	80	43	43	43	43	43	43	43	41	38	36	
90	40	40	40	40	40	40	40	40	38	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 82"

Rail Spans for Quick Mount PV QRail Standard System

Table 2		Roof Height: 0-60 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	120	130	140	150	160	170	180	190
Zone 1	0	108	97	88	80	74	69	64	60	57	54
	10	96	96	88	80	74	69	64	60	57	54
	20	79	79	79	78	74	69	64	60	57	54
	30	67	67	67	67	67	66	64	60	57	54
	40	59	59	59	59	59	59	59	59	57	54
	50	53	53	53	53	53	53	53	53	53	53
	60	49	49	49	49	49	49	49	49	49	49
	70	45	45	45	45	45	45	45	45	45	45
	80	43	43	43	43	43	43	43	43	43	43
90	40	40	40	40	40	40	40	40	40	40	
Zone 2	0	78	70	64	59	54	50	47	44	42	39
	10	78	70	64	59	54	50	47	44	42	39
	20	78	70	64	59	54	50	47	44	42	39
	30	67	67	64	59	54	50	47	44	42	39
	40	59	59	59	59	54	50	47	44	42	39
	50	53	53	53	53	53	50	47	44	42	39
	60	49	49	49	49	49	49	47	44	42	39
	70	45	45	45	45	45	45	45	44	42	39
	80	43	43	43	43	43	43	43	43	42	39
90	40	40	40	40	40	40	40	40	40	39	
Zone 3	0	61	55	51	46	43	40	37	35	33	31
	10	61	55	51	46	43	40	37	35	33	31
	20	61	55	51	46	43	40	37	35	33	31
	30	61	55	51	46	43	40	37	35	33	31
	40	59	55	51	46	43	40	37	35	33	31
	50	53	53	51	46	43	40	37	35	33	31
	60	49	49	49	46	43	40	37	35	33	31
	70	45	45	45	45	43	40	37	35	33	31
	80	43	43	43	43	43	40	37	35	33	31
90	40	40	40	40	40	40	37	35	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"

Rail Spans for Quick Mount PV QRail Standard System

Table 3		Roof Height: 0-60 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	120	130	140	150	160	170	180	190
Zone 1	0	99	89	81	74	68	64	59	56	52	50
	10	96	89	81	74	68	64	59	56	52	50
	20	79	79	78	74	68	64	59	56	52	50
	30	67	67	67	67	66	64	59	56	52	50
	40	59	59	59	59	59	59	59	56	52	50
	50	53	53	53	53	53	53	53	53	52	50
	60	49	49	49	49	49	49	49	49	49	49
	70	45	45	45	45	45	45	45	45	45	45
	80	43	43	43	43	43	43	43	43	43	43
	90	40	40	40	40	40	40	40	40	40	40
Zone 2	0	72	65	59	54	50	47	44	41	39	37
	10	72	65	59	54	50	47	44	41	39	37
	20	72	65	59	54	50	47	44	41	39	37
	30	67	65	59	54	50	47	44	41	39	37
	40	59	59	59	54	50	47	44	41	39	37
	50	53	53	53	53	50	47	44	41	39	37
	60	49	49	49	49	49	47	44	41	39	37
	70	45	45	45	45	45	45	44	41	39	37
	80	43	43	43	43	43	43	43	41	39	37
	90	40	40	40	40	40	40	40	40	39	37
Zone 3	0	57	51	47	43	40	37	35	33	31	29
	10	57	51	47	43	40	37	35	33	31	29
	20	57	51	47	43	40	37	35	33	31	29
	30	57	51	47	43	40	37	35	33	31	29
	40	57	51	47	43	40	37	35	33	31	29
	50	53	51	47	43	40	37	35	33	31	29
	60	49	49	47	43	40	37	35	33	31	29
	70	45	45	45	43	40	37	35	33	31	29
	80	43	43	43	43	40	37	35	33	31	29
	90	40	40	40	40	40	37	35	33	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"

Rail Spans for Quick Mount PV QRail Standard System

Table 4		Roof Height:	0-60 ft		Panel Orientation: Portrait						
		Roof Angle:	7 < θ ≤ 27		degrees						
		Exposure Category:	B								
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)									
		100	110	120	130	140	150	160	170	180	190
Zone 1	0	112	108	104	96	89	83	77	73	68	65
	10	90	88	86	84	81	79	77	73	68	65
	20	72	72	72	71	69	68	67	65	64	63
	30	61	61	61	61	61	60	59	58	57	57
	40	54	54	54	54	54	54	54	54	53	53
	50	49	49	49	49	49	49	49	49	49	49
	60	45	45	45	45	45	45	45	45	45	45
	70	42	42	42	42	42	42	42	42	42	42
	80	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	
Zone 2	0	91	82	75	69	64	59	56	52	49	47
	10	90	82	75	69	64	59	56	52	49	47
	20	72	72	72	69	64	59	56	52	49	47
	30	61	61	61	61	61	59	56	52	49	47
	40	54	54	54	54	54	54	54	52	49	47
	50	49	49	49	49	49	49	49	49	49	47
	60	45	45	45	45	45	45	45	45	45	45
	70	42	42	42	42	42	42	42	42	42	42
	80	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37	
Zone 3	0	73	66	60	55	51	48	45	42	40	38
	10	73	66	60	55	51	48	45	42	40	38
	20	72	66	60	55	51	48	45	42	40	38
	30	61	61	60	55	51	48	45	42	40	38
	40	54	54	54	54	51	48	45	42	40	38
	50	49	49	49	49	49	48	45	42	40	38
	60	45	45	45	45	45	45	45	42	40	38
	70	42	42	42	42	42	42	42	42	40	38
	80	39	39	39	39	39	39	39	39	39	38
90	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 82"

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Table 5		Roof Height:	0-60 ft		Panel Orientation: Portrait							
		Roof Angle:	7 < θ ≤ 27		degrees							
		Exposure Category:	C									
Roof Wind Zone	Ground Snow Load (psf)	Wind Speed (mph)										
		100	110	120	130	140	150	160	170	180	190	
Zone 1	0	106	99	90	83	77	71	67	63	59	56	
	10	87	84	82	79	77	71	67	63	59	56	
	20	72	71	70	68	66	65	63	62	59	56	
	30	61	61	61	60	59	58	57	56	55	54	
	40	54	54	54	54	54	53	52	51	51	50	
	50	49	49	49	49	49	49	49	49	48	47	46
	60	45	45	45	45	45	45	45	45	45	44	44
	70	42	42	42	42	42	42	42	42	42	42	42
	80	39	39	39	39	39	39	39	39	39	39	39
	90	37	37	37	37	37	37	37	37	37	37	
Zone 2	0	78	71	65	60	55	51	48	45	43	40	
	10	78	71	65	60	55	51	48	45	43	40	
	20	72	71	65	60	55	51	48	45	43	40	
	30	61	61	61	60	55	51	48	45	43	40	
	40	54	54	54	54	54	51	48	45	43	40	
	50	49	49	49	49	49	49	48	45	43	40	
	60	45	45	45	45	45	45	45	45	43	40	
	70	42	42	42	42	42	42	42	42	42	40	
	80	39	39	39	39	39	39	39	39	39	39	
	90	37	37	37	37	37	37	37	37	37	37	
Zone 3	0	63	57	52	48	44	41	39	36	34	32	
	10	63	57	52	48	44	41	39	36	34	32	
	20	63	57	52	48	44	41	39	36	34	32	
	30	61	57	52	48	44	41	39	36	34	32	
	40	54	54	52	48	44	41	39	36	34	32	
	50	49	49	49	48	44	41	39	36	34	32	
	60	45	45	45	45	44	41	39	36	34	32	
	70	42	42	42	42	42	41	39	36	34	32	
	80	39	39	39	39	39	39	39	36	34	32	
	90	37	37	37	37	37	37	37	36	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 82"

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Roof Wind Zone		Ground Snow Load (psf)	Wind Speed (mph)									
			100	110	120	130	140	150	160	170	180	190
Zone 1		0	101	91	83	77	71	66	62	58	55	52
		10	85	82	80	77	71	66	62	58	55	52
		20	71	70	68	66	65	63	61	58	55	52
		30	61	61	60	59	58	57	56	54	53	52
		40	54	54	54	54	53	52	51	50	49	48
		50	49	49	49	49	49	48	48	47	46	45
		60	45	45	45	45	45	45	45	44	44	43
		70	42	42	42	42	42	42	42	42	41	41
		80	39	39	39	39	39	39	39	39	39	39
90	37	37	37	37	37	37	37	37	37	37		
Zone 2		0	72	66	60	55	51	48	45	42	40	37
		10	72	66	60	55	51	48	45	42	40	37
		20	71	66	60	55	51	48	45	42	40	37
		30	61	61	60	55	51	48	45	42	40	37
		40	54	54	54	54	51	48	45	42	40	37
		50	49	49	49	49	49	48	45	42	40	37
		60	45	45	45	45	45	45	45	42	40	37
		70	42	42	42	42	42	42	42	42	40	37
		80	39	39	39	39	39	39	39	39	39	37
90	37	37	37	37	37	37	37	37	37	37		
Zone 3		0	58	53	48	44	41	38	36	34	32	30
		10	58	53	48	44	41	38	36	34	32	30
		20	58	53	48	44	41	38	36	34	32	30
		30	58	53	48	44	41	38	36	34	32	30
		40	54	53	48	44	41	38	36	34	32	30
		50	49	49	48	44	41	38	36	34	32	30
		60	45	45	45	44	41	38	36	34	32	30
		70	42	42	42	42	41	38	36	34	32	30
		80	39	39	39	39	39	38	36	34	32	30
90	37	37	37	37	37	37	36	34	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"

Rail Spans for Quick Mount PV QRail Standard System

Table 7		Roof Height: 0-60 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	120	130	140	150	160	170	180	190
Zone 1	0	97	91	86	81	76	72	69	65	62	59
	10	87	84	81	78	75	72	69	65	62	59
	20	76	74	71	69	67	65	63	61	59	57
	30	68	66	65	63	61	60	58	57	55	53
	40	62	61	60	58	57	56	54	53	52	50
	50	56	56	56	54	53	52	51	50	49	48
	60	51	51	51	51	50	49	49	48	47	46
	70	48	48	48	48	48	47	46	45	45	44
	80	45	45	45	45	45	45	44	44	43	42
	90	43	43	43	43	43	43	43	42	41	41
Zone 2	0	97	91	86	81	76	71	67	63	59	56
	10	87	84	81	78	75	71	67	63	59	56
	20	76	74	71	69	67	65	63	61	59	56
	30	68	66	65	63	61	60	58	57	55	53
	40	62	61	60	58	57	56	54	53	52	50
	50	56	56	56	54	53	52	51	50	49	48
	60	51	51	51	51	50	49	49	48	47	46
	70	48	48	48	48	48	47	46	45	45	44
	80	45	45	45	45	45	45	44	44	43	42
	90	43	43	43	43	43	43	43	42	41	41
Zone 3	0	97	91	86	81	76	71	67	63	59	56
	10	87	84	81	78	75	71	67	63	59	56
	20	76	74	71	69	67	65	63	61	59	56
	30	68	66	65	63	61	60	58	57	55	53
	40	62	61	60	58	57	56	54	53	52	50
	50	56	56	56	54	53	52	51	50	49	48
	60	51	51	51	51	50	49	49	48	47	46
	70	48	48	48	48	48	47	46	45	45	44
	80	45	45	45	45	45	45	44	44	43	42
	90	43	43	43	43	43	43	43	42	41	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 portrait orientation with a maximum length of 82"

Rail Spans for Quick Mount PV QRail Standard System

Table 8		Roof Height: 0-60 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	120	130	140	150	160	170	180	190
Zone 1	0	88	82	77	72	68	64	61	58	55	52
	10	82	79	75	72	68	64	61	58	55	52
	20	73	70	67	65	63	60	58	56	54	52
	30	66	64	62	60	58	56	54	53	51	49
	40	60	59	57	56	54	53	51	50	48	47
	50	56	55	54	52	51	50	49	47	46	45
	60	51	51	51	49	48	47	46	45	44	43
	70	48	48	48	47	46	45	44	43	42	41
	80	45	45	45	45	44	43	42	42	41	40
90	43	43	43	43	42	42	41	40	39	39	
Zone 2	0	88	82	77	71	66	61	58	54	51	48
	10	82	79	75	71	66	61	58	54	51	48
	20	73	70	67	65	63	60	58	54	51	48
	30	66	64	62	60	58	56	54	53	51	48
	40	60	59	57	56	54	53	51	50	48	47
	50	56	55	54	52	51	50	49	47	46	45
	60	51	51	51	49	48	47	46	45	44	43
	70	48	48	48	47	46	45	44	43	42	41
	80	45	45	45	45	44	43	42	42	41	40
90	43	43	43	43	42	42	41	40	39	39	
Zone 3	0	88	82	77	71	66	61	58	54	51	48
	10	82	79	75	71	66	61	58	54	51	48
	20	73	70	67	65	63	60	58	54	51	48
	30	66	64	62	60	58	56	54	53	51	48
	40	60	59	57	56	54	53	51	50	48	47
	50	56	55	54	52	51	50	49	47	46	45
	60	51	51	51	49	48	47	46	45	44	43
	70	48	48	48	47	46	45	44	43	42	41
	80	45	45	45	45	44	43	42	42	41	40
90	43	43	43	43	42	42	41	40	39	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 82"

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Roof Wind Zone		Ground Snow Load (psf)	Wind Speed (mph)									
			100	110	120	130	140	150	160	170	180	190
Zone 1		0	84	78	73	68	64	60	57	54	51	49
		10	79	76	72	68	64	60	57	54	51	49
		20	71	68	65	63	60	58	56	53	51	49
		30	64	62	60	58	56	54	52	50	49	47
		40	59	57	56	54	53	51	49	48	46	45
		50	55	54	52	51	50	48	47	46	44	43
		60	51	51	50	48	47	46	45	44	43	42
		70	48	48	47	46	45	44	43	42	41	40
		80	45	45	45	44	43	42	41	41	40	39
90	43	43	43	42	42	41	40	39	38	38		
Zone 2		0	84	78	72	66	61	57	53	50	47	45
		10	79	76	72	66	61	57	53	50	47	45
		20	71	68	65	63	60	57	53	50	47	45
		30	64	62	60	58	56	54	52	50	47	45
		40	59	57	56	54	53	51	49	48	46	45
		50	55	54	52	51	50	48	47	46	44	43
		60	51	51	50	48	47	46	45	44	43	42
		70	48	48	47	46	45	44	43	42	41	40
		80	45	45	45	44	43	42	41	41	40	39
90	43	43	43	42	42	41	40	39	38	38		
Zone 3		0	84	78	72	66	61	57	53	50	47	45
		10	79	76	72	66	61	57	53	50	47	45
		20	71	68	65	63	60	57	53	50	47	45
		30	64	62	60	58	56	54	52	50	47	45
		40	59	57	56	54	53	51	49	48	46	45
		50	55	54	52	51	50	48	47	46	44	43
		60	51	51	50	48	47	46	45	44	43	42
		70	48	48	47	46	45	44	43	42	41	40
		80	45	45	45	44	43	42	41	41	40	39
90	43	43	43	42	42	41	40	39	38	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 82"