



12/29/2017

Attn: Mr. Marshall Green
Quick Mount PV
2700 Mitchell Dr.
Walnut Creek, CA, 94598

RE: Quick Mount PV QBase Mount System for use with
SnapNrack Series 100 Roof Mount System

SEI Project No.: 17054.00

Dear Mr. Green

Structural Enginuity Inc. (SEI) has completed its review of the Quickmount PV QBase Mount System for use in conjunction with the SnapNrack Series 100 Roof Mount System 6063 Alloy Rails. The QBase product line includes the Composition Mount (QMNC), Metal, Shake, & Slate Mount (QMNS), Standard Flat Tile Mount (QMSFT), Universal Tile Mount (QMUTM), and the Low Slope Mount (QMLSH).

The review was based on the following reference data:

- SnapNrack, Series 100 Residential Roof Mount System Installation Manual
- Norman Scheel, Structural Report and Calculations for Series 100 Roof Mount, July 6, 2013
- Applied Materials & Engineering, New Construction Composition Mount (QMNC 3-3/4" Finished Height) Load Testing, Project Number 111114C, March 23, 2011
- Applied Materials & Engineering, Quick Mount QBase with 6.5" Post as Used in Low Slope Mount (QMLSH-7) & Universal Tile Mount (QMUTM) Load Testing, Project Number 111316C, July 5, 2011
- Applied Materials & Engineering, Low Slope Mount QMLSH-9 Hardware Load Testing, Project Number 111203C, May 5, 2011
- Applied Materials & Engineering, Low Slope Mount QMLSH-12 Hardware Load Testing, Project Number 111204C, May 9, 2011
- Eclipse Engineering, Allowable Load Capacities for the Quick Mount PV QBase Mount system, June 19, 2014

SEI has determined that the QMNC, QMNS, QMSFT, QMUTM, and QMLSH mounts are suitable for use with the SnapNrack Series 100 Roof Mount System, 6063 Alloy Rails. The approved installation and allowable loads for the Quick Mount PV QBase products is outlined in the Eclipse Engineering report referenced above. The allowable load values are shown below, no additional load duration factors may be applied to these values.

Table 1: QBase Roof Mounts					
Load Direction	Specific Gravity of Lumber Rafter	QMNC, QMNS, QMSFT	QMUTM, QMLSH-7	QMLSH-9	QMLSH-12
Tension	0.5	1179 lb.			
Shear - Parallel to Rafter	0.5	686 lb.	257 lb.	257 lb.	168 lb.
Shear - Perpendicular to Rafter	0.5	464 lb.	171 lb.	216 lb.	122 lb.

SEI has prepared allowable rail span charts for the Series 100 Roof Mount System used in conjunction with the Quick Mount PV QBase products. These span tables serve as a quick reference for looking up maximum rail spans based on building and site conditions and follow the 2016 CBC, 2015 IBC/IRC and applicable ASCE 7-10 load cases. The tables take into account the strength of the rail system as well as the allowable tension and shear forces of the QBase mounts. A site specific analysis is required if the site conditions or building characteristics do not meet the requirements listed in the attached tables. In all cases, the tables are meant to be used in conjunction with SnapNrack Series 100 Structural Report and Calculations and all requirements listed are still applicable for these tables including edge zones and edge distances.

Please contact our office if you have any further questions relating to this matter.

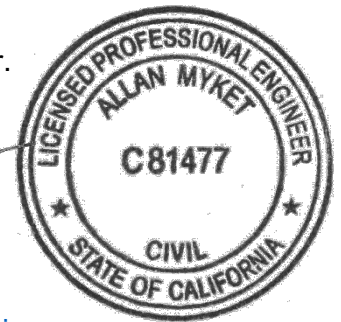
Sincerely,



Peter Martin
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Allan T. Myket, P.E.
President/Founder
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12/29/2017

Structural Engenuity Inc.

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMNC, QMNS, & QMSFT Products

Table 1A		Roof Height:	0-30 ft										Panel Orientation: Portrait				
		Roof Angle:	7 < θ ≤ 27 degrees										Rafter Species: Douglas Fir				
		Specific Gravity: 0.50															
Wind Load (Exposure Category B)																	
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190		
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0		
	pg	ps	-7.63	-8.34	-9.08	-9.85	-10.7	-11.5	-12.4	-13.3	-14.2	-15.2	-16.1	-18.2	-20.4	-22.8	
	0	0.0	125	125	125	125	125	122	116	111	107	102	99	92	86	81	
	10	7.3	124	124	124	124	124	122	116	111	107	102	99	92	86	81	
	20	14.6	97	97	97	97	97	97	97	97	97	97	97	92	86	81	
	30	21.9	82	82	82	82	82	82	82	82	82	82	82	82	82	81	
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	73	73	73	
	50	36.6	66	66	66	66	66	66	66	66	66	66	66	66	66	66	
	60	43.9	61	61	61	61	61	61	61	61	61	61	61	61	61	61	
	70	51.2	57	57	57	57	57	57	57	57	57	57	57	57	57	57	
	80	58.5	53	53	53	53	53	53	53	53	53	53	53	53	53	53	
	100	73.2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	
120	87.8	44	44	44	44	44	44	44	44	44	44	44	44	44	44		

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMUTM & QMLSH-7 Products

Table 1B		Roof Height:	0-30 ft										Panel Orientation: Portrait				
		Roof Angle:	7 < θ ≤ 27 degrees										Rafter Species: Douglas Fir				
		Specific Gravity: 0.50															
Wind Load (Exposure Category B)																	
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190		
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0		
	pg	ps	-7.6	-8.3	-9.1	-9.9	-10.7	-11.5	-12.4	-13.3	-14.2	-15.2	-16.1	-18.2	-20.4	-22.8	
	0	0.0	125	125	125	125	125	122	116	111	107	102	99	92	86	81	
	10	7.3	124	124	124	124	124	122	116	111	107	102	99	92	86	81	
	20	14.6	97	97	97	97	97	97	97	97	97	97	97	92	86	81	
	30	21.9	82	82	82	82	82	82	82	82	82	82	82	82	82	81	
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	73	73	73	
	50	36.6	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
	60	43.9	51	51	51	51	51	51	51	51	51	51	51	51	51	51	
	70	51.2	44	44	44	44	44	44	44	44	44	44	44	44	44	44	
	80	58.5	39	39	39	39	39	39	39	39	39	39	39	39	39	39	
	100	73.2	32	32	32	32	32	32	32	32	32	32	32	32	32	32	
120	87.8	27	27	27	27	27	27	27	27	27	27	27	27	27	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 uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 29 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-9 Products

Table 1C		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category B)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0	
	pg	ps	-7.6	-8.3	-9.1	-9.9	-10.7	-11.5	-12.4	-13.3	-14.2	-15.2	-16.1	-18.2	-20.4	-22.8
	0	0.0	125	125	125	125	125	122	116	111	107	102	99	92	86	81
	10	7.3	124	124	124	124	124	122	116	111	107	102	99	92	86	81
	20	14.6	97	97	97	97	97	97	97	97	97	97	97	92	86	81
	30	21.9	82	82	82	82	82	82	82	82	82	82	82	82	82	81
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	73	73	73
	50	36.6	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	60	43.9	51	51	51	51	51	51	51	51	51	51	51	51	51	51
	70	51.2	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	80	58.5	39	39	39	39	39	39	39	39	39	39	39	39	39	39
	100	73.2	32	32	32	32	32	32	32	32	32	32	32	32	32	32
120	87.8	27	27	27	27	27	27	27	27	27	27	27	27	27	27	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-12 Products

Table 1D		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category B)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0	
	pg	ps	-7.6	-8.3	-9.1	-9.9	-10.7	-11.5	-12.4	-13.3	-14.2	-15.2	-16.1	-18.2	-20.4	-22.8
	0	0.0	125	125	125	125	125	122	116	111	107	102	99	92	86	81
	10	7.3	124	124	124	124	124	122	116	111	107	102	99	92	86	81
	20	14.6	85	85	85	85	85	85	85	85	85	85	85	85	85	81
	30	21.9	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	40	29.3	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	50	36.6	39	39	39	39	39	39	39	39	39	39	39	39	39	39
	60	43.9	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	70	51.2	29	29	29	29	29	29	29	29	29	29	29	29	29	29
	80	58.5	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	100	73.2	21	21	21	21	21	21	21	21	21	21	21	21	21	21
120	87.8	17	17	17	17	17	17	17	17	17	17	17	17	17	17	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 29 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMNC, QMNS, & QMSFT Products

Table 2A		Roof Height:	0-30 ft										Panel Orientation: Portrait										
		Roof Angle:	7 < θ ≤ 27 degrees										Rafter Species: Douglas Fir										
		Specific Gravity: 0.50																					
																			Wind Load (Exposure Category C)				
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190								
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2								
	pg	ps	-10.7	-11.7	-12.7	-13.8	-14.9	-16.1	-17.3	-18.6	-19.9	-21.2	-22.6	-25.5	-28.6	-31.9							
	0	0.0	125	120	114	108	103	99	95	91	87	84	81	76	71	67							
	10	7.3	124	120	114	108	103	99	95	91	87	84	81	76	71	67							
	20	14.6	97	97	97	97	97	97	95	91	87	84	81	76	71	67							
	30	21.9	82	82	82	82	82	82	82	82	82	82	81	76	71	67							
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	73	71	67							
	50	36.6	66	66	66	66	66	66	66	66	66	66	66	66	66	66							
	60	43.9	61	61	61	61	61	61	61	61	61	61	61	61	61	61							
	70	51.2	57	57	57	57	57	57	57	57	57	57	57	57	57	57							
	80	58.5	53	53	53	53	53	53	53	53	53	53	53	53	53	53							
	100	73.2	48	48	48	48	48	48	48	48	48	48	48	48	48	48							
	120	87.8	44	44	44	44	44	44	44	44	44	44	44	44	44	44							

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMUTM & QMLSH-7 Products

Table 2B		Roof Height:	0-30 ft										Panel Orientation: Portrait										
		Roof Angle:	7 < θ ≤ 27 degrees										Rafter Species: Douglas Fir										
		Specific Gravity: 0.50																					
																			Wind Load (Exposure Category C)				
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190								
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2								
	pg	ps	-10.7	-11.7	-12.7	-13.8	-14.9	-16.1	-17.3	-18.6	-19.9	-21.2	-22.6	-25.5	-28.6	-31.9							
	0	0.0	125	120	114	108	103	99	95	91	87	84	81	76	71	67							
	10	7.3	124	120	114	108	103	99	95	91	87	84	81	76	71	67							
	20	14.6	97	97	97	97	97	97	95	91	87	84	81	76	71	67							
	30	21.9	82	82	82	82	82	82	82	82	82	82	81	76	71	67							
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	73	71	67							
	50	36.6	60	60	60	60	60	60	60	60	60	60	60	60	60	60							
	60	43.9	51	51	51	51	51	51	51	51	51	51	51	51	51	51							
	70	51.2	44	44	44	44	44	44	44	44	44	44	44	44	44	44							
	80	58.5	39	39	39	39	39	39	39	39	39	39	39	39	39	39							
	100	73.2	32	32	32	32	32	32	32	32	32	32	32	32	32	32							
	120	87.8	27	27	27	27	27	27	27	27	27	27	27	27	27	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 uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 28 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-9 Products

Table 2C		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category C)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2	
	pg	ps	-10.7	-11.7	-12.7	-13.8	-14.9	-16.1	-17.3	-18.6	-19.9	-21.2	-22.6	-25.5	-28.6	-31.9
	0	0.0	125	120	114	108	103	99	95	91	87	84	81	76	71	67
	10	7.3	124	120	114	108	103	99	95	91	87	84	81	76	71	67
	20	14.6	97	97	97	97	97	97	95	91	87	84	81	76	71	67
	30	21.9	82	82	82	82	82	82	82	82	82	82	81	76	71	67
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	73	71	67
	50	36.6	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	60	43.9	51	51	51	51	51	51	51	51	51	51	51	51	51	51
	70	51.2	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	80	58.5	39	39	39	39	39	39	39	39	39	39	39	39	39	39
	100	73.2	32	32	32	32	32	32	32	32	32	32	32	32	32	32
120	87.8	27	27	27	27	27	27	27	27	27	27	27	27	27	27	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-12 Products

Table 2D		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category C)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2	
	pg	ps	-10.7	-11.7	-12.7	-13.8	-14.9	-16.1	-17.3	-18.6	-19.9	-21.2	-22.6	-25.5	-28.6	-31.9
	0	0.0	125	120	114	108	103	99	95	91	87	84	81	76	71	67
	10	7.3	124	120	114	108	103	99	95	91	87	84	81	76	71	67
	20	14.6	85	85	85	85	85	85	85	85	85	84	81	76	71	67
	30	21.9	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	40	29.3	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	50	36.6	39	39	39	39	39	39	39	39	39	39	39	39	39	39
	60	43.9	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	70	51.2	29	29	29	29	29	29	29	29	29	29	29	29	29	29
	80	58.5	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	100	73.2	21	21	21	21	21	21	21	21	21	21	21	21	21	21
120	87.8	17	17	17	17	17	17	17	17	17	17	17	17	17	17	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 28 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMNC, QMNS, & QMSFT Products

Table 3A		Roof Height:	0-30 ft										Panel Orientation: Portrait										
		Roof Angle:	7 < θ ≤ 27 degrees										Rafter Species: Douglas Fir										
		Specific Gravity: 0.50																					
																			Wind Load (Exposure Category D)				
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190								
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7								
	pg	ps	-12.6	-13.8	-15	-16.3	-17.7	-19	-20.5	-22	-23.5	-25.1	-26.8	-30.2	-33.9	-37.7							
	0	0.0	114	108	103	98	94	90	86	82	79	77	74	69	65	61							
	10	7.3	114	108	103	98	94	90	86	82	79	77	74	69	65	61							
	20	14.6	97	97	97	97	94	90	86	82	79	77	74	69	65	61							
	30	21.9	82	82	82	82	82	82	82	82	79	77	74	69	65	61							
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	69	65	61							
	50	36.6	66	66	66	66	66	66	66	66	66	66	66	66	65	61							
	60	43.9	61	61	61	61	61	61	61	61	61	61	61	61	61	61							
	70	51.2	57	57	57	57	57	57	57	57	57	57	57	57	57	57							
	80	58.5	53	53	53	53	53	53	53	53	53	53	53	53	53	53							
	100	73.2	48	48	48	48	48	48	48	48	48	48	48	48	48	48							
120	87.8	44	44	44	44	44	44	44	44	44	44	44	44	44	44								

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMUTM & QMLSH-7 Products

Table 3B		Roof Height:	0-30 ft										Panel Orientation: Portrait										
		Roof Angle:	7 < θ ≤ 27 degrees										Rafter Species: Douglas Fir										
		Specific Gravity: 0.50																					
																			Wind Load (Exposure Category D)				
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190								
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7								
	pg	ps	-12.6	-13.8	-15.0	-16.3	-17.7	-19.0	-20.5	-22.0	-23.5	-25.1	-26.8	-30.2	-33.9	-37.7							
	0	0.0	114	108	103	98	94	90	86	82	79	77	74	69	65	61							
	10	7.3	114	108	103	98	94	90	86	82	79	77	74	69	65	61							
	20	14.6	97	97	97	97	94	90	86	82	79	77	74	69	65	61							
	30	21.9	82	82	82	82	82	82	82	82	79	77	74	69	65	61							
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	69	65	61							
	50	36.6	60	60	60	60	60	60	60	60	60	60	60	60	60	60							
	60	43.9	51	51	51	51	51	51	51	51	51	51	51	51	51	51							
	70	51.2	44	44	44	44	44	44	44	44	44	44	44	44	44	44							
	80	58.5	39	39	39	39	39	39	39	39	39	39	39	39	39	39							
	100	73.2	32	32	32	32	32	32	32	32	32	32	32	32	32	32							
120	87.8	27	27	27	27	27	27	27	27	27	27	27	27	27	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 uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 26 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-9 Products

Table 3C		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category D)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7	
	pg	ps	-12.6	-13.8	-15.0	-16.3	-17.7	-19.0	-20.5	-22.0	-23.5	-25.1	-26.8	-30.2	-33.9	-37.7
	0	0.0	114	108	103	98	94	90	86	82	79	77	74	69	65	61
	10	7.3	114	108	103	98	94	90	86	82	79	77	74	69	65	61
	20	14.6	97	97	97	97	94	90	86	82	79	77	74	69	65	61
	30	21.9	82	82	82	82	82	82	82	82	79	77	74	69	65	61
	40	29.3	73	73	73	73	73	73	73	73	73	73	73	69	65	61
	50	36.6	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	60	43.9	51	51	51	51	51	51	51	51	51	51	51	51	51	51
	70	51.2	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	80	58.5	39	39	39	39	39	39	39	39	39	39	39	39	39	39
	100	73.2	32	32	32	32	32	32	32	32	32	32	32	32	32	32
	120	87.8	27	27	27	27	27	27	27	27	27	27	27	27	27	27

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-12 Products

Table 3D		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $7 < \theta \leq 27$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category D)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7	
	pg	ps	-12.6	-13.8	-15.0	-16.3	-17.7	-19.0	-20.5	-22.0	-23.5	-25.1	-26.8	-30.2	-33.9	-37.7
	0	0.0	114	108	103	98	94	90	86	82	79	77	74	69	65	61
	10	7.3	114	108	103	98	94	90	86	82	79	77	74	69	65	61
	20	14.6	85	85	85	85	85	85	85	82	79	77	74	69	65	61
	30	21.9	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	40	29.3	48	48	48	48	48	48	48	48	48	48	48	48	48	48
	50	36.6	39	39	39	39	39	39	39	39	39	39	39	39	39	39
	60	43.9	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	70	51.2	29	29	29	29	29	29	29	29	29	29	29	29	29	29
	80	58.5	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	100	73.2	21	21	21	21	21	21	21	21	21	21	21	21	21	21
	120	87.8	17	17	17	17	17	17	17	17	17	17	17	17	17	17

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 26 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMNC, QMNS, & QMSFT Products

Table 4A		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category B)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0	
	pg	ps	-4.76	-5.2	-5.66	-6.14	-6.64	-7.16	-7.7	-8.26	-8.84	-9.44	-10.1	-11.4	-12.7	-14.2
	0	0.0	125	125	125	125	125	125	125	125	125	125	125	123	114	107
	10	5.4	125	125	125	125	125	125	125	125	124	123	122	119	114	107
	20	10.8	109	109	109	109	109	109	108	108	107	106	105	104	102	101
	30	16.2	93	93	93	93	93	93	93	93	93	93	93	93	92	91
	40	21.6	83	83	83	83	83	83	83	83	83	83	83	83	83	83
	50	27.0	75	75	75	75	75	75	75	75	75	75	75	75	75	75
	60	32.3	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	70	37.7	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	80	43.1	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	100	53.9	55	55	55	55	55	55	55	55	55	55	55	55	55	55
120	64.7	51	51	51	51	51	51	51	51	51	51	51	51	51	51	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMUTM & QMLSH-7 Products

Table 4B		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category B)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0	
	pg	ps	-4.8	-5.2	-5.7	-6.1	-6.6	-7.2	-7.7	-8.3	-8.8	-9.4	-10.1	-11.4	-12.7	-14.2
	0	0.0	125	125	125	125	125	125	125	125	125	125	125	123	114	107
	10	5.4	125	125	125	125	125	125	125	125	124	123	122	119	114	107
	20	10.8	106	106	106	106	106	106	106	106	106	106	105	104	102	101
	30	16.2	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	40	21.6	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	50	27.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	60	32.3	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	70	37.7	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	43.1	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	100	53.9	27	27	27	27	27	27	27	27	27	27	27	27	27	27
120	64.7	23	23	23	23	23	23	23	23	23	23	23	23	23	23	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 15 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-9 Products

Table 4C		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category B)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0	
	pg	ps	-4.8	-5.2	-5.7	-6.1	-6.6	-7.2	-7.7	-8.3	-8.8	-9.4	-10.1	-11.4	-12.7	-14.2
	0	0.0	125	125	125	125	125	125	125	125	125	125	125	123	114	107
	10	5.4	125	125	125	125	125	125	125	125	124	123	122	119	114	107
	20	10.8	106	106	106	106	106	106	106	106	106	106	105	104	102	101
	30	16.2	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	40	21.6	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	50	27.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	60	32.3	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	70	37.7	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	43.1	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	100	53.9	27	27	27	27	27	27	27	27	27	27	27	27	27	27
120	64.7	23	23	23	23	23	23	23	23	23	23	23	23	23	23	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-12 Products

Table 4D		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category B)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	11.1	12.1	13.2	14.3	15.4	16.7	17.9	19.2	20.6	22.0	23.4	26.4	29.6	33.0	
	pg	ps	-4.8	-5.2	-5.7	-6.1	-6.6	-7.2	-7.7	-8.3	-8.8	-9.4	-10.1	-11.4	-12.7	-14.2
	0	0.0	125	125	125	125	125	125	125	125	125	125	125	123	114	107
	10	5.4	109	109	109	109	109	109	109	109	109	109	109	109	109	107
	20	10.8	69	69	69	69	69	69	69	69	69	69	69	69	69	69
	30	16.2	51	51	51	51	51	51	51	51	51	51	51	51	51	51
	40	21.6	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	50	27.0	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	60	32.3	28	28	28	28	28	28	28	28	28	28	28	28	28	28
	70	37.7	24	24	24	24	24	24	24	24	24	24	24	24	24	24
	80	43.1	22	22	22	22	22	22	22	22	22	22	22	22	22	22
	100	53.9	18	18	18	18	18	18	18	18	18	18	18	18	18	18
120	64.7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 15 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMNC, QMNS, & QMSFT Products

Table 5A		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category C)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2	
	pg	ps	-6.66	-7.28	-7.92	-8.6	-9.3	-10	-10.8	-11.6	-12.4	-13.2	-14.1	-15.9	-17.8	-19.9
	0	0.0	125	125	125	125	125	125	125	121	116	111	107	99	93	87
	10	5.4	125	125	125	125	123	122	120	119	116	111	107	99	93	87
	20	10.8	109	109	108	107	106	105	104	104	103	102	101	99	93	87
	30	16.2	93	93	93	93	93	93	93	93	92	91	91	89	88	87
	40	21.6	83	83	83	83	83	83	83	83	83	83	83	82	81	80
	50	27.0	75	75	75	75	75	75	75	75	75	75	75	75	75	75
	60	32.3	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	70	37.7	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	80	43.1	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	100	53.9	55	55	55	55	55	55	55	55	55	55	55	55	55	55
120	64.7	51	51	51	51	51	51	51	51	51	51	51	51	51	51	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMUTM & QMLSH-7 Products

Table 5B		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category C)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2	
	pg	ps	-6.7	-7.3	-7.9	-8.6	-9.3	-10.0	-10.8	-11.6	-12.4	-13.2	-14.1	-15.9	-17.8	-19.9
	0	0.0	125	125	125	125	125	125	125	121	116	111	107	99	93	87
	10	5.4	125	125	125	125	123	122	120	119	116	111	107	99	93	87
	20	10.8	106	106	106	106	106	105	104	104	103	102	101	99	93	87
	30	16.2	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	40	21.6	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	50	27.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	60	32.3	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	70	37.7	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	43.1	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	100	53.9	27	27	27	27	27	27	27	27	27	27	27	27	27	27
120	64.7	23	23	23	23	23	23	23	23	23	23	23	23	23	23	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 15 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-9 Products

Table 5C		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category C)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2	
	pg	ps	-6.7	-7.3	-7.9	-8.6	-9.3	-10.0	-10.8	-11.6	-12.4	-13.2	-14.1	-15.9	-17.8	-19.9
	0	0.0	125	125	125	125	125	125	125	121	116	111	107	99	93	87
	10	5.4	125	125	125	125	123	122	120	119	116	111	107	99	93	87
	20	10.8	106	106	106	106	106	105	104	104	103	102	101	99	93	87
	30	16.2	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	40	21.6	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	50	27.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	60	32.3	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	70	37.7	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	43.1	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	100	53.9	27	27	27	27	27	27	27	27	27	27	27	27	27	27
120	64.7	23	23	23	23	23	23	23	23	23	23	23	23	23	23	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-12 Products

Table 5D		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category C)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	15.5	16.9	18.4	20.0	21.6	23.3	25.1	26.9	28.8	30.7	32.8	37.0	41.5	46.2	
	pg	ps	-6.7	-7.3	-7.9	-8.6	-9.3	-10.0	-10.8	-11.6	-12.4	-13.2	-14.1	-15.9	-17.8	-19.9
	0	0.0	125	125	125	125	125	125	125	121	116	111	107	99	93	87
	10	5.4	109	109	109	109	109	109	109	109	109	109	107	99	93	87
	20	10.8	69	69	69	69	69	69	69	69	69	69	69	69	69	69
	30	16.2	51	51	51	51	51	51	51	51	51	51	51	51	51	51
	40	21.6	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	50	27.0	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	60	32.3	28	28	28	28	28	28	28	28	28	28	28	28	28	28
	70	37.7	24	24	24	24	24	24	24	24	24	24	24	24	24	24
	80	43.1	22	22	22	22	22	22	22	22	22	22	22	22	22	22
	100	53.9	18	18	18	18	18	18	18	18	18	18	18	18	18	18
120	64.7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 15 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMNC, QMNS, & QMSFT Products

Table 6A		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category D)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7	
	pg	ps	-7.88	-8.61	-9.38	-10.2	-11	-11.9	-12.8	-13.7	-14.7	-15.6	-16.7	-18.8	-21.1	-23.5
	0	0.0	125	125	125	125	125	119	114	109	105	100	97	90	84	79
	10	5.4	125	125	123	122	120	119	114	109	105	100	97	90	84	79
	20	10.8	108	107	106	105	104	103	102	101	100	99	97	90	84	79
	30	16.2	93	93	93	93	93	93	92	91	90	90	89	87	84	79
	40	21.6	83	83	83	83	83	83	83	83	83	82	82	81	79	78
	50	27.0	75	75	75	75	75	75	75	75	75	75	75	75	74	73
	60	32.3	70	70	70	70	70	70	70	70	70	70	70	70	70	69
	70	37.7	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	80	43.1	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	100	53.9	55	55	55	55	55	55	55	55	55	55	55	55	55	55
120	64.7	51	51	51	51	51	51	51	51	51	51	51	51	51	51	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMUTM & QMLSH-7 Products

Table 6B		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category D)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7	
	pg	ps	-7.9	-8.6	-9.4	-10.2	-11.0	-11.9	-12.8	-13.7	-14.7	-15.6	-16.7	-18.8	-21.1	-23.5
	0	0.0	125	125	125	125	125	119	114	109	105	100	97	90	84	79
	10	5.4	125	125	123	122	120	119	114	109	105	100	97	90	84	79
	20	10.8	106	106	106	105	104	103	102	101	100	99	97	90	84	79
	30	16.2	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	40	21.6	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	50	27.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	60	32.3	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	70	37.7	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	43.1	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	100	53.9	27	27	27	27	27	27	27	27	27	27	27	27	27	27
120	64.7	23	23	23	23	23	23	23	23	23	23	23	23	23	23	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 16 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-9 Products

Table 6C		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category D)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7	
	pg	ps	-7.9	-8.6	-9.4	-10.2	-11.0	-11.9	-12.8	-13.7	-14.7	-15.6	-16.7	-18.8	-21.1	-23.5
	0	0.0	125	125	125	125	125	119	114	109	105	100	97	90	84	79
	10	5.4	125	125	123	122	120	119	114	109	105	100	97	90	84	79
	20	10.8	106	106	106	105	104	103	102	101	100	99	97	90	84	79
	30	16.2	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	40	21.6	61	61	61	61	61	61	61	61	61	61	61	61	61	61
	50	27.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50
	60	32.3	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	70	37.7	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	80	43.1	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	100	53.9	27	27	27	27	27	27	27	27	27	27	27	27	27	27
120	64.7	23	23	23	23	23	23	23	23	23	23	23	23	23	23	

Rail Spans for SnapNrack Series 100 Roof Mount for use with QMLSH-12 Products

Table 6D		Roof Height: 0-30 ft		Panel Orientation: Portrait												
		Roof Angle: $27 < \theta \leq 45$ degrees		Rafter Species: Douglas Fir		Specific Gravity: 0.50										
Wind Load (Exposure Category D)																
Ground Snow Load (psf)	vult	110	115	120	125	130	135	140	145	150	155	160	170	180	190	
	qh	18.3	20.0	21.8	23.7	25.6	27.6	29.7	31.8	34.1	36.4	38.8	43.8	49.1	54.7	
	pg	ps	-7.9	-8.6	-9.4	-10.2	-11.0	-11.9	-12.8	-13.7	-14.7	-15.6	-16.7	-18.8	-21.1	-23.5
	0	0.0	125	125	125	125	125	119	114	109	105	100	97	90	84	79
	10	5.4	109	109	109	109	109	109	109	109	105	100	97	90	84	79
	20	10.8	69	69	69	69	69	69	69	69	69	69	69	69	69	69
	30	16.2	51	51	51	51	51	51	51	51	51	51	51	51	51	51
	40	21.6	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	50	27.0	33	33	33	33	33	33	33	33	33	33	33	33	33	33
	60	32.3	28	28	28	28	28	28	28	28	28	28	28	28	28	28
	70	37.7	24	24	24	24	24	24	24	24	24	24	24	24	24	24
	80	43.1	22	22	22	22	22	22	22	22	22	22	22	22	22	22
	100	53.9	18	18	18	18	18	18	18	18	18	18	18	18	18	18
120	64.7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	

Notes:

1. Tables are based on critical rail span for load combinations as specified in chapter 2 of the ASCE 7-10 and allowable uplift and lateral values of Quick Mount products per test reports.
2. Edge zone reductions are only required at shaded spans where reduction is 16 inches to a minimum of 32 inches.
3. Panels are assumed to be in portrait orientation with a maximum length of 67"