



4/26/2017

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

RE: Quick Mount PV QHook Mount System for use with  
Everest CrossRail 48 PV Panel Mounting System SEI Project No.: 17054.00

Dear Mr. Green

Structural Enginuity Inc. (SEI) has completed its review of the Quickmount PV QHook Mount System for use in conjunction with the Everest CrossRail 48 PV Panel Mounting System. The QHook product line includes the Quick Hook for Side Mount Rails (QMHS & QMHL) mounts.

The review was based on the following reference data:

- Moment Engineering+Design, CrossRail PV Panel Mounting System Evaluation, January 13, 2017
- Applied Materials & Engineering, Laboratory Load Test of the QMHS with 6061 Base Plate, Project Number 114490C, March 18, 2015
- Applied Materials & Engineering, Laboratory Load Test of the QMHL with 6061 Base Plate, Project Number 114490C, March 10, 2015

SEI has determined that the QHook Mount is suitable for use with the Everest CrossRail 48 System. The approved installation and allowable loads for the Quick Mount PV QHook products is outlined in the Structural Enginuity, Inc. letters referenced above. The allowable load values are shown below, no additional load duration factors may be applied to these values.

**Table 1: QHook Allowable Loads**

Load Direction	Mount Type	Allowable Load
Uplift	QMSS	506 lb.
	QMHS	418 lb.
Lateral	QMSS	367 lb.
	QMHS	323 lb.
Compression	QMSS	378 lb.
	QMHS	338 lb.

SEI has prepared allowable rail span charts for the Everest CrossRail 48 System used in conjunction with the Quick Mount PV QHook 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, compression, and lateral forces of the QHook Mount. 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 Everest CrossRail System 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.

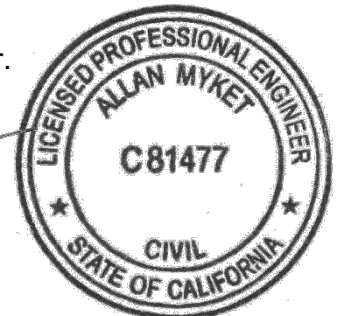
Sincerely,



Peter Martin  
Engineer II  
[pmartin@structuralengenuityinc.com](mailto:pmartin@structuralengenuityinc.com)



Allan T. Myket, P.E.  
President/Founder  
[amyket@structuralengenuityinc.com](mailto:amyket@structuralengenuityinc.com)



4/26/17

**Structural Engenuity Inc.**

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHSS Products**

<b>Table 1A</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 7 - 27 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>B</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	96	89	73	55	44	37	90	89	73	55	44	37	78	78	73	55	44	37
	115	96	89	72	54	44	37	87	87	72	54	44	37	75	75	72	54	44	37
	120	96	89	70	54	43	36	85	85	70	54	43	36	69	69	69	54	43	36
	130	95	88	68	52	43	36	80	80	68	52	43	36	58	58	58	52	43	36
	140	92	87	65	51	42	35	69	69	65	51	42	35	50	50	50	50	42	35
	150	88	85	63	49	41	34	68	68	63	49	41	34	43	43	43	43	41	34
	160	84	82	60	48	39	34	59	59	59	48	39	34	38	38	38	38	38	34
	170	80	78	58	46	38	33	52	52	52	46	38	33	33	33	33	33	33	33
	180	76	74	56	45	37	32	46	46	46	45	37	32	30	30	30	30	30	30
	200	69	66	51	42	35	31	37	37	37	37	35	31	24	24	24	24	24	24

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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHLS Products**

<b>Table 1B</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 7 - 27 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>B</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
<b>Roofs &gt;7° to 27°</b>	110	96	89	65	49	40	33	90	89	65	49	40	33	69	69	65	49	40	33
	115	96	89	64	49	39	33	87	87	64	49	39	33	63	63	63	49	39	33
	120	96	89	63	48	39	33	85	85	63	48	39	33	57	57	57	48	39	33
	130	95	87	61	47	38	32	76	76	61	47	38	32	48	48	48	47	38	32
	140	92	82	59	45	37	31	65	65	59	45	37	31	41	41	41	41	37	31
	150	88	78	56	44	36	31	56	56	56	44	36	31	36	36	36	36	36	31
	160	84	74	54	43	35	30	49	49	49	43	35	30	31	31	31	31	31	30
	170	80	70	52	41	34	29	43	43	43	41	34	29	28	28	28	28	28	28
	180	75	66	50	40	33	29	38	38	38	38	33	29	24	24	24	24	24	24
	200	60	59	46	37	32	27	31	31	31	31	31	27	20	20	20	20	20	20

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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHSS Products**

<b>Table 2A</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 7 - 27 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>C</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	95	88	68	52	42	36	80	80	68	52	42	36	58	58	58	52	42	36
	115	93	87	66	51	42	35	77	77	66	51	42	35	53	53	53	51	42	35
	120	91	87	65	51	41	35	73	73	65	51	41	35	49	49	49	49	41	35
	130	86	85	62	49	40	34	64	64	62	49	40	34	41	41	41	41	40	34
	140	82	80	59	47	39	33	55	55	55	47	39	33	35	35	35	35	35	33
	150	78	75	56	45	38	32	47	47	47	45	38	32	30	30	30	30	30	30
	160	73	70	54	43	36	31	41	41	41	41	36	31	27	27	27	27	27	27
	170	68	66	51	42	35	30	37	37	37	37	35	30	24	24	24	24	24	24
	180	63	62	48	40	34	30	32	32	32	32	32	30	21	21	21	21	21	21
	200	51	51	44	37	32	28	26	26	26	26	26	26	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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHLS Products**

<b>Table 2B</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 7 - 27 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>C</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >7° to 27°	110	95	87	61	47	38	32	76	76	61	47	38	32	48	48	48	47	38	32
	115	93	84	59	46	37	32	69	69	59	46	37	32	44	44	44	44	37	32
	120	91	81	58	45	37	31	63	63	58	45	37	31	40	40	40	40	37	31
	130	86	76	55	44	36	30	53	53	53	44	36	30	34	34	34	34	34	30
	140	82	71	53	42	35	30	45	45	45	42	35	30	29	29	29	29	29	29
	150	78	67	50	40	34	29	39	39	39	39	34	29	25	25	25	25	25	25
	160	67	63	48	39	33	28	34	34	34	34	33	28	22	22	22	22	22	22
	170	59	59	46	37	31	27	30	30	30	30	30	27	19	19	19	19	19	19
	180	52	52	43	36	30	26	27	27	27	27	27	26	17	17	17	17	17	17
	200	42	42	39	33	28	25	22	22	22	22	22	22	14	14	14	14	14	14

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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHSS Products**

<b>Table 3A</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 7 - 27 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>D</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
<b>Roofs &gt;7° to 27°</b>	110	92	87	65	51	41	35	73	73	65	51	41	35	49	49	49	49	41	35
	115	89	86	63	50	41	35	70	70	63	50	41	35	44	44	44	44	41	35
	120	86	85	62	49	40	34	64	64	62	49	40	34	41	41	41	41	40	34
	130	81	79	59	47	39	33	54	54	54	47	39	33	34	34	34	34	34	33
	140	76	74	56	45	37	32	46	46	46	45	37	32	30	30	30	30	30	30
	150	71	69	53	43	36	31	40	40	40	40	36	31	26	26	26	26	26	26
	160	67	64	50	41	35	30	35	35	35	35	35	30	22	22	22	22	22	22
	170	60	60	47	39	33	29	31	31	31	31	31	29	20	20	20	20	20	20
	180	53	53	45	37	32	28	27	27	27	27	27	27	27	18	18	18	18	18
	200	42	42	40	34	30	26	22	22	22	22	22	22	22	14	14	14	14	14

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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHLS Products**

<b>Table 3B</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 7 - 27 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>D</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
<b>Roofs &gt;7° to 27°</b>	110	92	81	58	45	37	31	63	63	58	45	37	31	40	40	40	40	37	31
	115	89	79	57	44	36	31	58	58	57	44	36	31	37	37	37	37	36	31
	120	86	76	55	43	36	30	53	53	53	43	36	30	34	34	34	34	34	30
	130	81	71	53	42	35	30	44	44	44	42	35	30	28	28	28	28	28	28
	140	75	66	50	40	33	29	38	38	38	38	33	29	24	24	24	24	24	24
	150	64	61	47	38	32	28	33	33	33	33	32	28	21	21	21	21	21	21
	160	56	56	45	37	31	27	29	29	29	29	29	27	19	19	19	19	19	19
	170	49	49	42	35	30	26	25	25	25	25	25	25	16	16	16	16	16	16
	180	44	44	40	33	29	25	23	23	23	23	23	23	15	15	15	15	15	15
	200	35	35	35	30	26	23	18	18	18	18	18	18	12	12	12	12	12	12

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. Panels are assumed to be in portrait orientation with a maximum length of 66"



**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHSS Products**

<b>Table 4A</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 27 - 45 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>B</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)						Roof Snow Load (psf)						Roof Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
<b>Roofs &gt;27° to 45°</b>	110	93	88	75	65	55	47	93	88	75	65	55	47	93	88	75	65	55	47
	115	91	87	74	63	53	46	91	87	74	63	53	46	91	87	74	63	53	46
	120	89	86	73	61	52	45	86	86	73	61	52	45	89	86	73	61	52	45
	130	86	84	70	58	50	43	86	84	70	58	50	43	86	84	70	58	50	43
	140	83	81	65	55	47	42	83	81	65	55	47	42	83	81	65	55	47	42
	150	75	74	61	52	45	40	75	74	61	52	45	40	75	74	61	52	45	40
	160	67	67	57	49	43	38	67	67	57	49	43	38	67	67	57	49	43	38
	170	60	60	53	46	41	36	60	60	53	46	41	36	60	60	53	46	41	36
	180	55	55	50	43	39	35	55	55	50	43	39	35	55	55	50	43	39	35
	200	45	45	44	39	35	32	45	45	44	39	35	32	45	45	44	39	35	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 uplift and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHLS Products**

<b>Table 4B</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 27 - 45 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>B</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	93	88	71	58	49	42	93	88	71	58	49	42	93	88	71	58	49	42
	115	91	87	69	56	48	41	91	87	69	56	48	41	91	87	69	56	48	41
	120	89	86	67	55	47	40	86	86	67	55	47	40	89	86	67	55	47	40
	130	84	78	63	52	44	39	84	78	63	52	44	39	84	78	63	52	44	39
	140	75	72	58	49	42	37	75	72	58	49	42	37	75	72	58	49	42	37
	150	67	66	55	46	40	36	67	66	55	46	40	36	67	66	55	46	40	36
	160	60	60	51	44	38	34	60	60	51	44	38	34	60	60	51	44	38	34
	170	54	54	48	41	36	32	54	54	48	41	36	32	54	54	48	41	36	32
	180	49	49	44	39	34	31	49	49	44	39	34	31	49	49	44	39	34	31
	200	40	40	39	35	31	28	40	40	39	35	31	28	40	40	39	35	31	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 uplift and lateral values of Quick Mount products per test reports.
2. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHSS Products**

<b>Table 5A</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 27 - 45 degrees		Roof Wind Pressure Zone 1				Roof Wind Pressure Zone 2				Roof Wind Pressure Zone 3							
Exposure <b>C</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)						Roof Snow Load (psf)						Roof Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	86	84	70	58	50	43	86	84	70	58	50	43	86	84	70	58	50	43
	115	85	82	67	56	48	42	85	82	67	56	48	42	85	82	67	56	48	42
	120	82	79	64	54	47	41	82	79	64	54	47	41	82	79	64	54	47	41
	130	72	72	59	51	44	39	72	72	59	51	44	39	72	72	59	51	44	39
	140	63	63	55	47	42	37	63	63	55	47	42	37	63	63	55	47	42	37
	150	56	56	51	44	39	35	56	56	51	44	39	35	56	56	51	44	39	35
	160	50	50	47	41	37	33	50	50	47	41	37	33	50	50	47	41	37	33
	170	45	45	43	38	35	31	45	45	43	38	35	31	45	45	43	38	35	31
	180	40	40	40	36	32	30	40	40	40	36	32	30	40	40	40	36	32	30
	200	33	33	33	31	29	27	33	33	33	31	29	27	33	33	33	31	29	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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHLS Products**

<b>Table 5B</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 27 - 45 degrees		Roof Wind Pressure Zone 1				Roof Wind Pressure Zone 2				Roof Wind Pressure Zone 3							
Exposure <b>C</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)						Roof Snow Load (psf)						Roof Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	84	78	62	52	44	39	84	78	62	52	44	39	84	78	62	52	44	39
	115	78	75	60	50	43	38	78	75	60	50	43	38	78	75	60	50	43	38
	120	73	71	58	49	42	37	73	71	58	49	42	37	73	71	58	49	42	37
	130	64	64	53	45	39	35	64	64	53	45	39	35	64	64	53	45	39	35
	140	56	56	49	42	37	33	56	56	49	42	37	33	56	56	49	42	37	33
	150	50	50	45	39	35	31	50	50	45	39	35	31	50	50	45	39	35	31
	160	45	45	42	37	33	30	45	45	42	37	33	30	45	45	42	37	33	30
	170	40	40	39	34	31	28	40	40	39	34	31	28	40	40	39	34	31	28
	180	36	36	36	32	29	27	36	36	36	32	29	27	36	36	36	32	29	27
	200	30	30	30	28	26	24	30	30	30	28	26	24	30	30	30	28	26	24

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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHSS Products**

<b>Table 6A</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 27 - 45 degrees		Roof Wind Pressure Zone 1				Roof Wind Pressure Zone 2				Roof Wind Pressure Zone 3							
Exposure <b>D</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)						Roof Snow Load (psf)						Roof Snow Load (psf)					
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	82	80	65	54	47	41	82	80	65	54	47	41	82	80	65	54	47	41
	115	76	75	62	52	45	40	76	75	62	52	45	40	76	75	62	52	45	40
	120	71	71	59	50	44	39	71	71	59	50	44	39	71	71	59	50	44	39
	130	62	62	54	47	41	37	62	62	54	47	41	37	62	62	54	47	41	37
	140	54	54	50	43	39	35	54	54	50	43	39	35	54	54	50	43	39	35
	150	48	48	46	40	36	33	48	48	46	40	36	33	48	48	46	40	36	33
	160	43	43	42	37	34	31	43	43	42	37	34	31	43	43	42	37	34	31
	170	38	38	38	35	32	29	38	38	38	35	32	29	38	38	38	35	32	29
	180	35	35	35	32	30	27	35	35	35	32	30	27	35	35	35	32	30	27
	200	28	28	28	28	26	24	28	28	28	28	26	24	28	28	28	28	26	24

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. Panels are assumed to be in portrait orientation with a maximum length of 66"

**Rail Spans (in.) for Everest Crossrail 48 Roof Mount for use with QMHLS Products**

<b>Table 6B</b>		Roof Height: 0 - 30 feet																	
		Roof Angle: 27 - 45 degrees		Roof Wind Pressure Zone 1					Roof Wind Pressure Zone 2					Roof Wind Pressure Zone 3					
Exposure <b>D</b>	Ultimate Wind Speed, V (mph)	Roof Snow Load (psf)					Roof Snow Load (psf)					Roof Snow Load (psf)							
		0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50
Roofs >27° to 45°	110	74	71	58	49	42	37	74	71	58	49	42	37	74	71	58	49	42	37
	115	68	67	55	47	41	36	68	67	55	47	41	36	68	67	55	47	41	36
	120	64	64	53	45	39	35	64	64	53	45	39	35	64	64	53	45	39	35
	130	55	55	48	42	37	33	55	55	48	42	37	33	55	55	48	42	37	33
	140	49	49	44	39	34	31	49	49	44	39	34	31	49	49	44	39	34	31
	150	43	43	41	36	32	29	43	43	41	36	32	29	43	43	41	36	32	29
	160	38	38	37	33	30	27	38	38	37	33	30	27	38	38	37	33	30	27
	170	34	34	34	31	28	26	34	34	34	31	28	26	34	34	34	31	28	26
	180	31	31	31	29	26	24	31	31	31	29	26	24	31	31	31	29	26	24
	200	25	25	25	25	23	22	25	25	25	25	23	22	25	25	25	25	23	22

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. Panels are assumed to be in portrait orientation with a maximum length of 66"