PanelCraft™ Engineering Properties

The material in this document is intended for general information only. Any use of this material in relation to any specific application should be determined of suitability for the application by professionally qualified design personnel. Those making use of or relying upon the material assume all risks and liability arising from such use or reliance.

Building Research Systems shall not be responsible for damage or failure due to misapplication or improper design.

Appropriate Design Documents To be Used In Conjunction With This Data:

- International Building Code (IBC) and Local Amendments, Latest Adopted Edition for Building Site.
- ASCE 7, Latest Edition.
- MBMA Metal Building Systems Manual, Latest Edition.
- MBMA Metal Roofing Systems Design Manual, Latest Edition.
- MBMA Metal Roofing Systems Performance Guide Specification, Latest Edition
- AISI North American Specification for the Design of Cold-Formed Steel Structural Members (AIS

I S100), Latest Edition.

- AISI North American Specification for A Design Guide for Standing Seam Roof Panels, Latest Edition.
- Factory Mutual® FM 1-28, Latest Edition, and relevant assemblies (when required)
- Underwriters Laboratories® constructions, Latest Edition (when required)

The PanelCraft panel is developed to function as a system when appropriately designed using the tested clips, High Capacity Rake Starter Plate, High Capacity Rake plate, High Capacity Eave Plate, and the Superior Seam Technology Architectural Details. The resistance capacity can be varied over a roof plane through clip and seam type selection by uplift zone. It is the designer's responsibility to calculate the design loads and specify the appropriate clips and seams to resist the required loading. Please contact BRS if you need assistance with the material contained within this document.

Material contained in the document subject to change without notice. Check website for latest data.

4.0 Section Properties and Load Span Tables

4.1 *"PanelCraft"* 216 Panel Profile

4.2 *"PanelCraft"* 216 Section Properties

Section Properties: 16" wide, 50 ksi PC 216 Panel										
Gauge	**Design Thickness in.**	**Weight psf**	**Yield Stress ksi**	**Allowable Shear kips/ft**	**Top in Compression (Positive Bending)**			**Bottom in Compression (Negative Bending)**		
					I_{xx} in^4/ft	**S_{xx} in^3/ft**	**M_a in.kips/ft**	**I_{xx} in^4/ft**	**S_{xx} in^3/ft**	**M_a in.kips/ft**
24	0.0221	1.254	50.0	0.84	0.1943	0.1113	3.333	0.1110	0.0983	2.456
22	0.0275	1.555	50.0	1.28	0.2490	0.1448	4.337	0.1425	0.1226	3.671

Notes on Section Properties:

* Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2016 Edition & 2018 Supplement)
* Design Thickness is the bare steel thickness.
* I +/- is for deflection determination, S +/- is for bending determination & Ma is allowable bending moment.
* Ma is allowable bending moment and Va is allowable shear.
* All values are for one foot of panel width.
* Minimum deliverable bare steel thickness should not be less than 0.95 of design thickness.

Web Crippling:

24 gauge: Allowable intermediate bearing at 2.5" = 0.584 kips/ft
Allowable end bearing at 2.5" = 0.387 kips/ft

22 gauge: Allowable intermediate bearing at 2.5" = 0.870 kips/ft
Allowable end bearing at 2.5" = 0.571 kips/ft

* Specified web crippling values are for bare panel only. End bearing assumes panels are fastened to end supports. Clip compression capacity as tested in system assembly may govern the interior bearing capacity.

4.3 ***"PanelCraft"*** 216 Allowable Gravity Loads - *All Loads in Pounds per Square Foot*

Gauge	Span Condition		Span (ft)						
			2	2.5	3	3.5	4	4.5	5
24	SS	Stress	555.5	355.5	246.9	181.4	138.9	109.7	88.9
		L/180	2122.4	1086.6	628.8	396.0	265.3	186.3	135.8
	DS	Stress	350.1	235.8	168.7	126.3	97.9	78.1	63.7
		L/180	5108.1	2615.4	1513.5	953.1	638.5	448.4	326.9
	TS	Stress	393.8	268.0	193.1	145.2	113.0	90.3	73.7
		L/180	4005.1	2050.6	1186.7	747.3	500.6	351.6	256.3
22	SS	Stress	722.8	462.6	321.2	236.0	180.7	142.8	115.6
		L/180	2720.6	1392.9	806.1	507.6	340.1	238.8	174.1
	DS	Stress	525.5	353.4	252.7	189.1	146.6	116.8	95.2
		L/180	6547.9	3352.5	1940.1	1221.8	818.5	574.8	419.1
	TS	Stress	591.7	402.0	289.3	217.5	169.1	135.1	110.3
		L/180	5133.9	2628.6	1521.2	957.9	641.7	450.7	328.6

Notes on Load Table:

* Allowable load based on stress is the smallest load due to bending, shear and combined bending and shear.
* Allowable load based on deflection limit cannot exceed allowable load based on stress.
*These loads are for panel strength. Frames, purlins, clips, fasteners and all supports must be designed to resist all loads imposed on the panel.
* Allowable uplift loads based on stress have not been increased by 33.33 % for wind uplift.
* Allowable loads for deflection are based on deflection limitation of span/180.
* For roof panels, self weight of the panel has to be deducted from the allowable inward load to arrive at the actual 'live load' carrying capacity of the panel.
* SS = Simple span, DS = Double Span and TS = Three or more spans

4.4 ***"PanelCraft"*** 216 Allowable Wind Uplift Loads - *All Loads in Pounds per Square Foot*

A. **24** Gauge Material (F_y = 50 ksi)) with MC 1200 and FC 11200 series clips

TripleLok Seam Test Report: C1432-1

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0	232.3	136.4	140.8
2.5		113.2	116.9
3.0		94.3	97.3
3.5		80.9	83.5
4.0		70.8	73.1
4.5		62.9	64.9
5.0	96.5	56.6	58.5

QuadLok Seam Test Report: C1432-2

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0	326.1	191.2	197.6
2.5		157.6	163.0
3.0		131.3	135.8
3.5		112.6	116.5
4.0		98.5	101.9
4.5		87.6	90.6
5.0	134.7	78.8	81.6

1. The above tabulated loads are generated from certified ASTM E-1592 testing using BRS' MC 1200 series or FC 11200 series clips and **a BRS compliant seamer**. ***These design loads are not valid with other clips or seamers.***
2. Intermediate design loads are interpolated from ultimate test loads.
3. Design loads contain a safety factor calculated per AISI.
4. COE design load contains a 1.65 safety factor per COE 07416 Specification.
5. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel.
6. Allowable wind uplift loads have *not* been increased by 33% as allowed by some codes when wind load controls.
7. This material is subject to change without notice. Contact Building Research Systems for most current values.
8. **MC 1200 Series Clips:** MC 1203, MC 1213 **FC 11200 Series clips**: FC 11200, FC 11203, FC 11213

4.4 ***"PanelCraft"*** 216 Allowable Wind Uplift Loads - *All Loads in Pounds per Square Foot*

B. **24** Gauge Material (F_y = 50 ksi)) with MPS 1200 series clips

TripleLok Seam Test Report: C2518-1

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0	358.4	210.6	
2.5		183.9	
3.0		153.3	
3.5		131.4	
4.0		115.0	
4.5		102.2	
5.0	156.7	92.0	

QuadLok Seam Test Report: C2518-2

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0	400.0	235.0	
2.5		196.5	
3.0		163.7	
3.5		140.3	
4.0		122.8	
4.5		109.2	
5.0	167.5	98.2	

1. The above tabulated loads are generated from certified ASTM E-1592 testing using BRS' MPS 1200 series clips and **a BRS compliant seamer**. ***These design loads are not valid with other clips or seamers.***
2. Intermediate design loads are interpolated from ultimate test loads.
3. Design loads contain a safety factor calculated per AISI.
4. COE design load contains a 1.65 safety factor per COE 07416 Specification.
5. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel.
6. Allowable wind uplift loads have *not* been increased by 33% as allowed by some codes when wind load controls.
7. This material is subject to change without notice. Contact Building Research Systems for most current values.
8. **MPS 1200 Series Clips:** MPS 1203, MPS 1213, MPS 1220

4.4 ***"PanelCraft"*** 216 Allowable Wind Uplift Loads(cont.) - *All Loads in Pounds per Square Foot*

C. **24** Gauge Material (F_y = 50 ksi) with MPW-1200-12 Series Clip

TripleLok Seam Test Report: C2098-1

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0	315.0	185.1	
2.5		164.2	
3.0		136.8	
3.5		117.3	
4.0		102.6	
4.5		91.2	
5.0	139.7	82.1	

1. The above tabulated loads are generated from certified ASTM E-1592 testing using BRS' MPW 1200 series clips and **a BRS compliant seamer**. ***These design loads are not valid with other clips or seamers.***
2. Intermediate design loads are interpolated from ultimate test loads.
3. Design loads contain a safety factor calculated per AISI.
4. COE design load contains a 1.65 safety factor per COE 07416 Specification.
5. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel.
6. Allowable wind uplift loads have *not* been increased by 33% as allowed by some codes when wind load controls.
7. This material is subject to change without notice. Contact Building Research Systems for most current values.
8. **MPW 1200 Series Clips:** MPW 1203-12, MPW 1213-12.

4.4 ***"PanelCraft"*** 216 Allowable Wind Uplift Loads (cont.) - *All Loads in Pounds per Square Foot*

D. **22** Gauge Material (F_y = 50 ksi)) with MC 1200, MPS 1200, and FC 11200 series clips

TripleLok Seam Test Report: C456-9

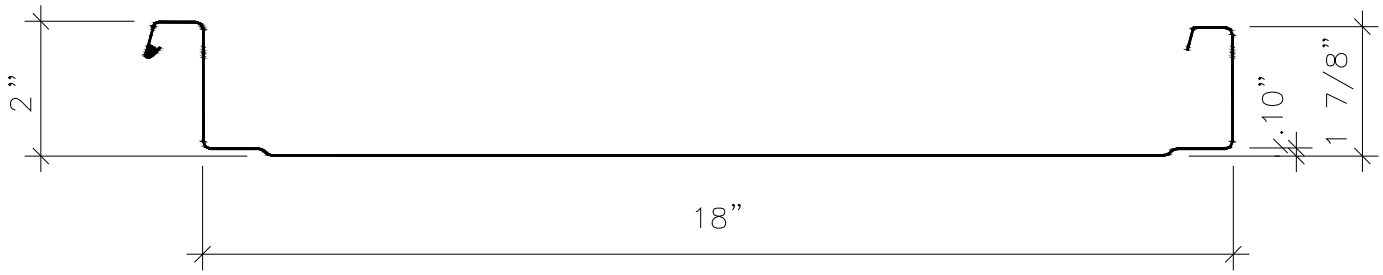
Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0			
2.5	171.6	85.8	104.0
3.0		79.6	95.2
3.5		73.3	87.0
4.0		67.1	79.4
4.5		60.7	72.4
5.0	109.2	54.6	66.2

QuadLok Seam Test Report: C905-2

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0			
2.5	192.4	96.2	116.6
3.0		90.0	108.8
3.5		83.7	100.0
4.0		77.5	92.4
4.5		71.2	85.3
5.0	130.0	65.0	78.8

1. The above tabulated loads are generated from certified ASTM E-1592 testing using BRS' MC 1200 series, MPS 1200 series or FC 11200 series clips and **a BRS compliant seamer**. ***These design loads are not valid with other clips or seamers.***
2. Intermediate design loads are interpolated from ultimate test loads.
3. Design loads contain a safety factor calculated per AISI.
4. COE design load contains a 1.65 safety factor per COE 07416 Specification.
5. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel.
6. Allowable wind uplift loads have *not* been increased by 33% as allowed by some codes when wind load controls.
7. This material is subject to change without notice. Contact Building Research Systems for most current values.
8. **MC 1200 Series Clips:** MC 1203, MC 1213 **MPS 1200 Series Clips:** MPS 1203, MPS 1213 **FC 11200 Series clips**: FC 11200, FC 11203, FC 11213

4.5 *"PanelCraft"* 218 Panel Profile



4.6 *"PanelCraft"* 218 Section Properties

Section Properties: 18" wide, 50 ksi PC 218 Panel										
Gauge	**Thickness in.**	**Weight psf**	**Yield Stress ksi**	**Allowable Shear kips/ft**	**Top in Compression (Positive Bending)**			**Bottom in Compression (Negative Bending)**		
					I_{xx} in⁴/ft	**S_{xx} in³/ft**	**M_a in.kips/ft**	**I_{xx} in⁴/ft**	**S_{xx} in³/ft**	**M_a in.kips/ft**
24	0.0221	1.214	50.0	0.75	0.1760	0.0987	2.955	0.0987	0.0873	2.184
22	0.0275	1.507	50.0	1.14	0.2253	0.1281	3.837	0.1267	0.1090	2.725

Notes on Section Properties:

* Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2016 Edition & 2018 Supplement)
* Design Thickness is the bare steel thickness.
* I +/- is for deflection determination, S +/- is for bending determination & Ma is allowable bending moment.
* Ma is allowable bending moment and Va is allowable shear.
* All values are for one foot of panel width.
* Minimum deliverable bare steel thickness should not be less than 0.95 of design thickness.

Web Crippling:

24 gauge: Allowable intermediate bearing at 2.5" = 0.519 kips/ft
Allowable end bearing at 2.5" = 0.344 kips/ft

22 gauge: Allowable intermediate bearing at 2.5" = 0.773 kips/ft
Allowable end bearing at 2.5" = 0.508 kips/ft

* Specified web crippling values are for bare panel only. End bearing assumes panels are fastened to end supports. Clip compression capacity as tested in system assembly may govern the interior bearing capacity.

4.7 ***"PanelCraft"*** 218 Allowable Gravity Loads - *All Loads in Pounds per Square Foot*

Gauge	Span Condition		Span (ft)						
			2	2.5	3	3.5	4	4.5	5
24	SS	Stress	492.6	315.2	218.9	160.8	123.1	97.3	78.8
		L/180	1923.0	984.6	569.8	358.8	240.4	168.8	123.1
	DS	Stress	311.3	209.6	150.0	112.3	87.1	69.4	56.6
		L/180	4628.2	2369.6	1371.3	863.6	578.5	406.3	296.2
	TS	Stress	350.2	238.3	171.7	129.1	100.4	80.3	65.5
		L/180	3628.8	1857.9	1075.2	677.1	453.6	318.6	232.2
22	SS	Stress	639.4	409.2	284.2	208.8	159.9	126.3	102.3
		L/180	2462.0	1260.5	729.5	459.4	307.7	216.1	157.6
	DS	Stress	406.6	270.0	191.6	142.6	110.2	87.6	73.1
		L/180	5925.5	3033.9	1755.7	1105.6	740.7	520.2	379.2
	TS	Stress	461.6	309.2	220.5	164.7	127.5	101.6	82.7
		L/180	4645.9	2378.7	1376.6	866.9	580.7	407.9	297.3

Notes on Load Table:

* Allowable load based on stress is the smallest load due to bending, shear and combined bending and shear.
* Allowable load based on deflection limit cannot exceed allowable load based on stress.
*These loads are for panel strength. Frames, purlins, clips, fasteners and all supports must be designed to resist all loads imposed on the panel.
* Allowable uplift loads based on stress have not been increased by 33.33 % for wind uplift.
* Allowable loads for deflection are based on deflection limitation of span/180.
* For roof panels, self weight of the panel has to be deducted from the allowable inward load to arrive at the actual 'live load' carrying capacity of the panel.
* SS = Simple span, DS = Double Span and TS = Three or more spans

4.8 ***"PanelCraft"*** 218 Allowable Wind Uplift Loads - *All Loads in Pounds per Square Foot*

A. **24** Gauge Material (F_y = 50 ksi)) with MC 1200, MPS 1200, and FC 11200 series clips

TripleLok Seam Test Report: C456-6

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0			
2.5	135.2	67.6	81.9
3.0		61.7	74.8
3.5		52.9	64.1
4.0		46.3	56.1
4.5		41.1	49.8
5.0	72.8	36.4	44.1

QuadLok Seam Test Report: C905-3

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0			
2.5	156.0	78.0	94.5
3.0		71.8	85.5
3.5		65.5	77.1
4.0		58.5	69.6
4.5		52.0	62.8
5.0	93.6	46.8	56.7

1. The above tabulated loads are generated from certified ASTM E-1592 testing using BRS' MC 1200 series, MPS 1200 series or FC 11200 series clips and **a BRS compliant seamer**. ***These design loads are not valid with other clips or seamers.***
2. Intermediate design loads are interpolated from ultimate test loads.
3. Design loads contain a safety factor calculated per AISI.
4. COE design load contains a 1.65 safety factor per COE 07416 Specification.
5. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel.
6. Allowable wind uplift loads have *not* been increased by 33% as allowed by some codes when wind load controls.
7. This material is subject to change without notice. Contact Building Research Systems for most current values.
8. **MC 1200 Series Clips:** MC 1203, MC 1213 **MPS 1200 Series Clips:** MPS 1203, MPS 1213 **FC 11200 Series clips**: FC 11200, FC 11203, FC 11213

4.8 ***"PanelCraft"*** 218 Allowable Wind Uplift Loads (cont.) - *All Loads in Pounds per Square Foot*

A. **24** Gauge Material (F_y = 50 ksi) with MPW-1200-12 Series Clip

TripleLok Seam Test Report: C2098-2

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0	280	164.5	
2.5		136.1	
3.0		113.4	
3.5		97.2	
4.0		85.1	
4.5		75.6	
5.0	118.3	68.1	

1. The above tabulated loads are generated from certified ASTM E-1592 testing using BRS' MPW 1200 series clips and **a BRS compliant seamer**. ***These design loads are not valid with other clips or seamers.***
2. Intermediate design loads are interpolated from ultimate test loads.
3. Design loads contain a safety factor calculated per AISI.
4. COE design load contains a 1.65 safety factor per COE 07416 Specification.
5. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel.
6. Allowable wind uplift loads have *not* been increased by 33% as allowed by some codes when wind load controls.
7. This material is subject to change without notice. Contact Building Research Systems for most current values.
8. **MPW 1200 Series Clips:** MPW 1203-12, MPW 1213-12.

4.8 ***"PanelCraft"*** 218 Allowable Wind Uplift Loads (cont.) - *All Loads in Pounds per Square Foot*

A. **22** Gauge Material (F_y = 50 ksi)) with MC 1200, MPS 1200, and FC 11200 series clips

TripleLok Seam Test Report: C456-7

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0			
2.5	156.0	78.0	94.5
3.0		72.8	87.4
3.5		67.6	80.7
4.0		62.4	74.4
4.5		57.2	68.5
5.0	104.0	52.0	63.0

QuadLok Seam Test Report: C905-4

Span	1592 Test Ultimate Load	1592 Design Load	COE Design Load
2.0			
2.5	182.0	91.0	110.3
3.0		83.2	98.8
3.5		74.3	88.4
4.0		65.0	78.9
4.5		57.8	70.5
5.0	104.0	52.0	63.0

1. The above tabulated loads are generated from certified ASTM E-1592 testing using BRS' MC 1200 series, MPS 1200 series or FC 11200 series clips and **a BRS compliant seamer**. ***These design loads are not valid with other clips or seamers.***
2. Intermediate design loads are interpolated from ultimate test loads.
3. Design loads contain a safety factor calculated per AISI.
4. COE design load contains a 1.65 safety factor per COE 07416 Specification.
5. These load capacities are for the panel itself. Frames, purlins, clips, fasteners, and all supports must be designed to resist all loads imposed by the panel.
6. Allowable wind uplift loads have *not* been increased by 33% as allowed by some codes when wind load controls.
7. This material is subject to change without notice. Contact Building Research Systems for most current values.
8. **MC 1200 Series Clips:** MC 1203, MC 1213 **MPS 1200 Series Clips:** MPS 1203, MPS 1213 **FC 11200 Series clips**: FC 11200, FC 11203, FC 11213

4.9 *"PanelCraft"* Clip Data:

Clip		Tab Length (in)	Base		Stand Off (in)	UL	FM
PT #	Type		Std (2 hole)	Stabilizing (4 hole)			
FC 11200	1	4.30			0	X	
FC 11203	1	4.30			1/2	X	
FC 11213	1	4.30			1 1/2	X	
MC 1203	3	4.30	X		1/2	X	X
MC1213	3	4.30	X		1 1/2	X	X
MPS 1203	2	4.30		X	1/2	X	
MPS 1213	2	4.30		X	1 1/2	X	
MPS 1220	2	4.30		X	2	X	
MPW 1203	4	12		X	1/2	X	
MPW 1213	4	12		X	1 1/2	X	

1 – Fixed Clip
2 – Purlin Stabilizing
3 – Standard
4 – Wind/Expansion clip
5 – Clips will have a -S at the end of the part # when factory applied sealant is required

4.10 *"PanelCraft"* Allowable Panel Run for Various Temperature Differentials:

Clip PT #	Tab Length	Base Holes	Slide One Way	Temp diff 100^0	Temp diff 125^0	Temp diff 150^0
MC 1200 series	4 5/16	2	1.325	170'	135'	115'
MPS 1200 series	4 5/16	4	1.625	210'	165'	140'
MPW 1200-12 series	12	4	3.90	500'	410'	340'

Note: Longer slide offsets may require additional secondary framing bracing.

4.11 *"PanelCraft"* Insulation Thickness and Clip Standoff Guidelines

Building Research Systems has reviewed the recent changes with insulation properties with the addition of higher clip standoffs and now offers the following recommendations for thermal spacer blocks. These are general guidelines, and the roof designer is responsible for choosing the proper clip and thermal block combination based on the insulation densities they are specifying. Under filled cavities can allow roof rumble or foot traffic problems and over filled cavities can cause pan distortion or purlin read through. Over filling the cavity also causes panel module/ coverage to grow due to the panel pan being held above the designed elevation for the respective clip height. This chart was constructed with 1/8" of space per 1" of compressed insulation. Verify with the insulation manufacturer per their density.

"PanelCraft" Open Framing

Insulation Thickness	Standard Stand-offs			Extended Stand-off		
	0" Stand-off[1]	1/2" Stand-off	1 1/2" Stand-off	2" Stand-off[3]		
No Insulation	Not Required	1/2" Block	Unsuitable	Unsuitable		
3" insulation	Unsuitable	Not Required	1" Block	Unsuitable		
4" insulation	Unsuitable	Not Required	3/4" Block	Unsuitable		
6" insulation	Unsuitable	Unsuitable	1/2" Block	1" Block		
8" insulation	Unsuitable	Unsuitable	Not Required	3/4" Block		
10" insulation[2]	Unsuitable	Unsuitable	Unsuitable	1/2" Block		
12" insulation[2]	Unsuitable	Unsuitable	Unsuitable	Not Required		

1. Available in fixed clip only.
2. Insulation should be slit at clips or combination of 6" faced insulation and 2' wide unfaced batts used.
3. BRS recommends use of module tools during roof panel installation.

"PanelCraft" Over Screw-Down Roof (1 1/4" major ribs)

Insulation Thickness	Extended Stand-off		
	2" Stand-off[3]		
No Insulation	Unsuitable		
3" insulation	3/8" block		
4" insulation	not required		
6" insulation	Unsuitable		

1. Roof designer required to determine existing roof vapor barrier suitability.

4.12 *"PanelCraft"* High Capacity Rake and Starter Rake Plate Testing

Report C2178_R1

Test Date:	1.16.2018
Type:	Pull Test
Description:	
Rake Plate	RP-005, RP-015, RP-030 and RP-138
Fastener	(2) 1/4"-14 x 1.25" long SDS with RP-005, RP-015, RP-030
	1/4"-14 x 1.25" long Shoulder SDS with RP-138
Support Thickness	16 ga.

Test	Rake Plate	Ultimate Load (lbs)	Failure Mode
1	RP-005	813	Plate rolled off clip
2	RP-005	790	Plate rolled off clip
3	RP-005	794	Plate rolled off clip
Average		799	
4	RP-015	841	Plate rolled off clip
5	RP-015	824	Plate rolled off clip
6	RP-015	806	Plate rolled off clip
Average		824	
7	RP-030	761	Plate rolled off clip
8	RP-030	818	Plate rolled off clip
9	RP-030	782	Plate rolled off clip
Average		787	

RP-030 Design Example

Ultimate Tested Load = 787#

Fastener/Retainer Clip locations per part = 7

Total load per 10' part = 787 x 7 = 5509#

Design Load = 5509# / s.f. of 1.72 = 3202.9#

3202.9#/10' = 320.3 plf

320.3plf / 1.5' max tributary* = **213.5 psf design load**

*Max Tributary = ½ Panel width + ½ gable trim width

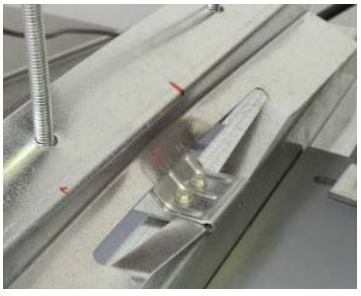


Figure 1- Note part is still attached at deemed failure.

4.13 *"PanelCraft"* Air and Water Infiltration Testing

Standard - Seam Sealant Placement and Clips with Factory Applied Sealant

ASTM E1680-95 (2018) C2629-1

Test Number	Static Pressure Difference psf	Air Infiltration Rate	
		cfm/ft2	cfm/lin.ft
1	1.57	0.0002	0.0003
2	6.24	0.0005	0.0006
3	12.00	0.0009	0.0013
4	20.00	0.0020	0.0026
5	40.00	0.0049	0.0066

ASTM E1646-95 (2018) C2629-1

Test Number	Static Pressure Difference psf	Water Infiltration
1	12	None
2	30	None
3	50	None

ASTM E2140-01(2017) C2630-1

Passed 24hrs - No Observed Leaks

Optional: Alternate Seam Sealant Location (in female hook) and clips without sealant

ASTM E1680-95 (2003) C1571-1

Test Number	Static Pressure Difference psf	Air Infiltration Rate	
		cfm/ft2	cfm/lin.ft
1	1.57	0.0010	0.0013
2	6.24	0.0031	0.0041
3	30.00	0.0058	0.0077
4	40.00	0.0064	0.0086

ASTM E1646-95 (2003) C1571-1

Test Number	Static Pressure Difference psf	Water Infiltration
1	12	None
2	30	None
3	50	None

Note: All testing done with ***"TripleLok®"*** Seam – other seams would have better performance values.

4.14 Additional Testing Available:

ASTM E 455-16 Diaphragm Shear Strength Report: C2120-2
ASTM E 1592 Uplift Testing Reports: 201-0124t-13-secured test report
FM 4471 uplift test program results
UL 90 - Constructions No.s 506, 506A, 506B

4.15 Additional Testing Addendums:

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