



S-5! Metal Roof Attachments
12730 Black Forrest Rd
Colorado Springs, CO 80908
Attn: Mark Gies

Re: Load Capacities for S-5! ProteaBracket

Lord and Lawrence Consulting Engineers has performed a review of the test report for the S-5! ProteaBracket attachment for metal roofs. Testing was performed by PSILab and Colorado Metallurgical Services and results are shown in report numbers MET-043019-1 RP1 and 2209-002-Rev1 respectively. The tables below show the tested and allowable loads for 24ga and 26ga metal roofs.

Design Assumptions:

1. Roof material shall be coated steel, ultimate strength of 92ksi for 26ga and 59ksi for 24ga.
2. Specifications: ASTM A792/A1011/A653/A572/A526/B221/E527/E8; ISO 9001:2015/17025; UL 2703
3. Tested in worst-case scenario with eccentric load
4. Self-Drilling fasteners attached to roof sheet only
5. ProteaBracket setup for PVKITS: L-Foot horizontal leg facing up
 Rails: L-Foot horizontal leg facing down
6. Uplift forces at connection between roof structure and metal roof shall be evaluated by a licensed design professional.

S-5 ProteaBracket w/PVKIT on 24 Gauge Trapezoidal Roof		
	Ultimate Loads (lbs)	Allowable Loads (lbs) – Safety Factor = 3.0
Pullout	1352	451
Shear	219	73
S-5 ProteaBracket w/PVKIT on 26 Gauge Trapezoidal Roof		
	Ultimate Loads (lbs)	Allowable Loads (lbs) – Safety Factor = 3.0
Pullout	1168	389
Shear	268	89

S-5 ProteaBracket w/Rails on 24 Gauge Trapezoidal Roof		
	Ultimate Loads (lbs)	Allowable Loads (lbs) – Safety Factor = 3.0
Pullout	1400	467
Shear	557	186
S-5 ProteaBracket w/Rails on 26 Gauge Trapezoidal Roof		
	Ultimate Loads (lbs)	Allowable Loads (lbs) – Safety Factor = 3.0
Pullout	1255	418
Shear	559	186

Prepared by:
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