Zilla[®] Double Stud Flashing Load Data

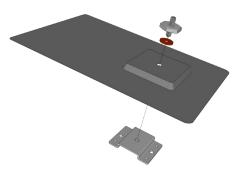
ZILLA

One or more patents apply to this product including without limitation: US Pat. 8,448,405; 8,707,654; 8,689,517; 8,707,655; and/or 8,752,338. ZDSFA-15 AL / ZDSFA-15 AL BLK

Code Based Withdrawal:

Use the following chart and assumptions to calculate Withdrawal (Pull-Out) Capacities, measured in pounds per inch (Ib/in) of thread penetration, for the Zilla[®] Double Stud Flashing. Follow shingle manufacturer recommendations and AHJ requirements for exposure and proper coverage.

LUMBER SPECIES	SPECIFIC GRAVITY	1/4" LAG SCREW (Ib/in)	5/16" LAG SCREW (Ib/in)	3/8" LAG SCREW (lb/in)
Douglas Fir-Larch	0.5	252	298	342
Douglas Fir-South	0.46	223	263	301
Englemann Spruce-Lodgepole Pine	0.46	223	263	301
Hem-Fir	0.43	200	237	272
Hem-Fir (North)	0.46	223	263	301
Southern Pine	0.55	291	344	394
Spruce-Pine-Fir	0.42	194	230	263
Spruce-Pine-Fir (South)	0.36	153	183	208
Western Cedars	0.36	153	183	208



Assumptions:

- Tabulated values above based on American Wood Council, NDS 2012 Table 10.3.1 and Table 11.2A
- Information for reference only. Engineer of Record shall be consulted for actual design.
- Thread penetration does not include roofing thickness
- Wind Uplift Load Duration, 10 minutes: CD =1.6
- Values listed above for dry (MC < 19%) lumber
- Rooftop Temperature Range, 125° F<T ≤150° F: Ct =0.7
- Thread penetration into side grain of structural member

Vertical or horizontal Structural method

Third Party Test Data*:

Project Summary: Architectural Testing, Inc., a subsidiary of Intertek (Intertek-ATI), was contracted by Zilla Corporation to perform uplift and shear load evaluations on fasteners used in conjunction with flashing and connector products for the installation of roof mounted photovoltaic systems.

Test Method: the test specimens were evaluated in accordance with ICC-ES[™] AC 13, Acceptance Criteria for Joist Hangers and Similar Devices (Approved 2010, Revised 2011) using the methodology of ASTM D 1761-12, *Standard Test Methods for Mechanical Fasteners in Wood*.

Test Specimen Description: Testing was performed in accordance with the loading methodology of ASTM D 1761 for shear or withdrawal (vertical) evaluation of the Double Stud Flashing product. The Double Stud Base Plate product was installed on a 12" length of 2x4" southern yellow pine (SYP) to simulate a roof truss. Each roof truss was capped with a layer of 1/2" plywood and one layer of asphalt fiberglass shingle. Fasteners were installed into the southern yellow pine roof truss. Double Stud Base Plate fasteners were two (2), 5/16" x 3-1/2" lag screws.

Load Orientation				
Ultimate Load in Tension (Ib _f)	Ultimate Load in Shear Lateral Parallel to Beam (Ib _r)	Ultimate Load in Shear Lateral Perpendicular to Beam (Ib _r)		
4,289	5,070	1,693		

* Values shown are average ultimate values and do not include a factor of safety.

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