



DSF No. 7002

Subject: Diamond Snap-Form ICF Screw Withdrawal Capacities

Date: February 2011

The DSF ICF System is used in applications where finish materials such as drywall and sheet sidings are desired. The attachment of these types of finishes is accomplished by installing screws through the finishing material and into the tie face of the Diamond Snap®-Tie (reference the DSF ICF Construction Manual). As support for these types of applications, DSF conducted numerous screw withdrawal tests. In these tests, screws of various sizes and thread design were evaluated for resistance to withdrawal when pulled out of the face of Diamond Snap-Ties. Tests showed only slight variation in the force required to remove a variety of screw fastener types from the tie, irrespective of screw diameter, thread design, or penetration depth.

DSF recommendation for the ultimate withdrawal value of #6 through #14 screw fasteners placed in Diamond Snap-Ties is 210 pounds per fastener.

In all cases: the screw fastener must penetrate the full thickness of the Diamond Snap-Tie face. The finishing materials manufacturers' recommendations for fastener frequency should be followed. Applications exposed to weather conditions should utilize corrosion resistant fasteners.

The data in this bulletin is an average ultimate withdrawal value. No factor of safety has been applied. An appropriate factor of safety must be used in design calculations.

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