

SUBJECT: NAIL WITHDRAWAL CAPACITIES OF OSB

With the use of Extreme SIPs, the attachment of finishing materials such as roof shingles, siding, drywall, etc., is required. The application of these materials is typically accomplished with conventional nail products. An independent, code-recognized testing agency conducted withdrawal tests following ASTM D1037 procedures to provide data on the direct withdrawal resistance of nail fasteners when driven into the 7/16" OSB face of SIP. The following is a summary of the average ultimate values achieved for various nail fasteners.

AVERAGE DIRECT WITHDRAWAL (PULLOUT) – LBS.

Nail Size & Description	Avg. Ultimate Pullout	Nominal Shank Diameter
4d ring shank-drywall nail	133	0.109"
6d smooth galvanized	59	0.120"
Roofing Nail-smooth galvanized	51	0.110"
8d smooth coated sinker	150	0.131"
8d smooth galvanized spiral shank	112	0.120"
8d galvanized ring shank	77	0.113"
8d smooth galvanized	65	0.134"
8d bright box	107	0.113"
10d galvanized ring shank	164	0.148"
16d smooth galvanized	63	0.165"
16d bright box	90	0.135"

These values are ultimate values. Appropriate safety factors should be applied to obtain design values.

This data has been compiled to provide manufacturers, designers and engineers with values for the assessment of fastener requirements.