

SUBJECT: SCREW WITHDRAWAL CAPACITIES OF OSB

To finish a project that utilizes Extreme SIPs for the walls and roof of a structure, many types of materials need to be fastened to SIPs. These materials can include siding, roofing materials, other structural elements, cabinets, and more.

In many of these applications, screws are the preferred method of fastening. To help quantify the performance of screw withdrawal from OSB, a major manufacturer of OSB generated test data on various screw types and sizes withdrawn from different thicknesses of OSB. Prior to the withdrawal testing, the OSB was exposed to three different environmental conditions—dry, wet, and wet/dry. Fifteen repetitions of both direct and lateral withdrawal from the environmentally conditioned OSB were conducted on the screw types and sizes shown in the charts below. The following tables summarize the lowest ultimate average value achieved for each screw type and size when withdrawn from three different thicknesses of environmentally conditioned OSB.

Average Direct Withdrawal (Pullout) - lbs.

Screw Size	7/16" OSB	5/8" OSB	3/4" OSB
#6 Deck Screw	177	272	324
#8 Deck Screw	182	309	359
#10 Deck Screw	198	355	363
#12 Roofing Screw	190	312	360
#14 Roofing Screw	177	340	393

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

Average Lateral Withdrawal (Shear) - lbs.

Screw Size	7/16" OSB	5/8" OSB	3/4" OSB
#6 Deck Screw	198	273	295
#8 Deck Screw	118	197	224
#10 Deck Screw	143	260	301
#12 Roofing Screw	436	581	561
#14 Roofing Screw	466	630	797

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