

Technical Bulletin

Wood Screw Withdrawal from APA-Trademarked OSB Structural Panels

Publication TT-051C, **Screw Withdrawal from the Face of APA-Trademarked Wood Structural Panels**, published by APA – The Engineered Wood Association, provides guidance for determining the withdrawal capacity of screws from structural oriented strand board (OSB) panels. The information below provides the equation from TT-051C for calculation of withdrawal capacity of various screw sizes and sample calculations.

Wood Screw Withdrawal

$$W = 2850 \times G^2 \times D \times L$$

Where:

- W = withdrawal design load
- G = Specific Gravity of wood
- D = Diameter of screw
- L = Length of thread penetration in the panel (in)

Wood Screw Number	Screw Diameter	Assumed SG of OSB	Withdrawal Capacity, lb _f per inch screw penetration	Withdrawal Capacity, lb _f 7/16" OSB
6	0.138	0.42	69	30
8	0.164	0.42	82	36
10	0.190	0.42	96	42
12	0.216	0.42	109	48
14	0.242	0.42	122	53

Notes:

1. Tabulated values are calculated based on the use of screws driven into dry OSB panels (moisture content <16%) and use under circumstances where the OSB and connection remains dry in service.
2. Tabulated withdrawal capacity based upon thread penetration for the full depth of 7/16" OSB skins on Insulspan SIPs.
3. For additional detailed information download APA publication TT-051C available at <http://www.apawood.org>.