

Nail Pullout Capacity

Design engineers, manufactures, and installers often must consider the pullout capacity of nails in PorterSIPS to determine the correct fastener placement required for finishing products and systems. The following table identifies various withdrawal design values (pullout capacities) for different types of nails:

Nail Type ¹	Pennyweight	Diameter (in) ²	Withdrawal Design Value (lb) ^{3,4,5}
Common	6d	0.113	9.3
	7d	0.113	9.3
	8d	0.131	10.7
	10d	0.148	12.1
	12d	0.148	12.1
	16d	0.162	13.3
Box	6d	0.099	8.1
	7d	0.099	8.1
	8d	0.113	9.3
	10d	0.128	10.5
	12d	0.128	10.5
	16d	0.135	11.1
Sinker	6d	0.092	7.5
	7d	0.099	8.1
	8d	0.113	9.3
	10d	0.120	9.8
	12d	0.135	11.1
	16d	0.148	12.1

- 1 For ring shank nails, use the withdrawal design values for the common nail type.
- 2 Reference National Design Wood Specification (NDS) 2005, Appendix L (Table L4).
- 3 Reference National Design Wood Specification (NDS) 2005, Section 11.2.3 (Eq. 11.2-3).
- 4 These values incorporate the properties of the sheathing used on the top side of PorterSIPS. The sheathing thickness is 7/16" and the sheathing specific gravity is 0.45 (Aspen OSB).
- 5 The withdrawal design values shall be multiplied by all applicable load adjustment factors in National Design Wood Specification (NDS) 2005, Section 10.3 (Table 10.3.1).