

TER 1909-04: SIPTP, SIPLD, and SIPHD Installation Instructions

1 Installation

- 1.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this TER, and the applicable building code.
- 1.2 In the event of a conflict between the manufacturer installation instructions and this TER, the more restrictive shall govern.
- 1.3 Fasteners shall be installed with the appropriate rotating powered driver, per the manufacturer instructions.
- 1.4 Fasteners shall not be struck with a hammer during installation.
- 1.5 *Installation in Wood*
 - 1.5.1 Minimum penetration is 1", unless otherwise stated in TER 1909-04.
 - 1.5.2 Lead holes are not required.
 - 1.5.3 The underside of the fastener head shall be installed flush to the surface of the wood member being connected. Fasteners shall not be overdriven.
 - 1.5.4 Minimum requirements for fastener spacing, edge distance, and end distance shall be in accordance with Table 1.

Table 1. SIPTP Distance, and End Distance Requirements in Wood and SIPLD Minimum Spacing, Edge (in)

Connection Geometry ^{1,2}	SIPTP & SIPLD (in)
Edge Distance – Load in any direction	$\frac{5}{8}$
End Distance – Load parallel to grain, towards end	$3\frac{7}{8}$
End Distance – Load parallel to grain, away from end	$2\frac{5}{8}$
End Distance – Load perpendicular to grain	$2\frac{5}{8}$
Spacing between Fasteners in a Row – Parallel to grain	$3\frac{7}{8}$
Spacing between Fasteners in a Row – Perpendicular to grain	$2\frac{5}{8}$
Spacing between Rows of Fasteners – In-line	$1\frac{1}{4}$
Spacing between Rows of Fasteners – Staggered	$\frac{5}{8}$
SI: 1 in = 25.4 mm 1. Edge distances, end distances, and spacing of fasteners shall be sufficient to prevent splitting of the wood or as shown in this table, whichever is the more restrictive. 2. Values for "Spacing between Rows of Fasteners-Staggered" apply where the fasteners in adjacent rows are offset by one half of the "Spacing between Fasteners in a Row"	

1.6 Installation in Cold-Formed Steel

- 1.6.1 For installation of SIPHD fasteners in steel over $\frac{3}{8}$ " thickness, predrill with a #8 bit (0.199").
- 1.6.2 Install using a maximum 2,000-rpm screw gun.
- 1.6.3 Minimum requirements for fastener spacing, edge distance and end distance shall be in accordance with Table 2.
- 1.6.4 The fastener shall penetrate a minimum of three threads past the backside of the steel.

Table 2. SIPLD and SIPHD Minimum Spacing, Edge Distance, and End Distance Requirements in CFS (in)

Connection Geometry	SIPLD & SIPHD (in)
Spacing Between Fastener	$\frac{5}{8}$
Edge Distance	$\frac{3}{8}$
End Distance	$\frac{5}{8}$
SI: 1 in = 25.4 mm	

1.7 Installation in Concrete and Masonry (CMU Block)

- 1.7.1 For SIPTP fasteners, predrill with a $\frac{3}{16}$ " masonry bit. Install using a low rpm/high torque screw gun.
- 1.7.2 For SIPLD fasteners, predrill with a $\frac{3}{16}$ " masonry bit. Install using a maximum 2,500-rpm screw gun.
- 1.7.3 SIPTP and SIPLD shall be installed in the web of the CMU block.
- 1.7.4 Installation requirements for SIPTP and SIPLD fasteners in concrete and masonry are provided in Table 3 and Table 4.

Table 3. SIPTP & SIPLD Installation Requirements in Concrete (in)

Connection Geometry ¹	SIPTP & SIPLD (in)
Minimum Spacing Between Fasteners	3
Critical Edge Distances (c_{ac})	3
Minimum Edge Distance (c_{min})	$2\frac{1}{2}$
Effective Embedment (h_e)	1
Minimum Concrete Thickness	$1\frac{1}{2}$
SI: 1 in = 25.4 mm	
1. This information shall be used in conjunction with the requirements of Chapter 17 of ACI 318-19.	

Table 4. SIPTP & SIPLD Installation Requirements in CMU Block (in)

Connection Geometry	SIPTP & SIPLD (in)
Embedment Depth	1
Minimum Spacing	3
Minimum Edge Distance	$2\frac{1}{2}$
SI: 1 in = 25.4 mm	