Tie-Wire Wedge Anchor

The Simpson Strong-Tie tie-wire anchor is a wedge-style expansion anchor for use in normal-weight concrete or in concrete over steel deck. With a tri-segmented, dual-embossed clip, the tie-wire anchor is ideal for the installation of acoustic ceiling grid and is easily set with the claw of a hammer.

Features

- ¼" eyelet for easy threading of wire
- Sets with claw of hammer
- Tri-segmented clip — each segment adjusts independently to hole irregularities
- Dual embossments on each clip segment enable the clip to undercut into the concrete, increasing follow-up expansion
- Wedge-style expansion anchor for use in normal weight concrete or concrete over steel deck

Material: Carbon steel

Coating: Zinc plated

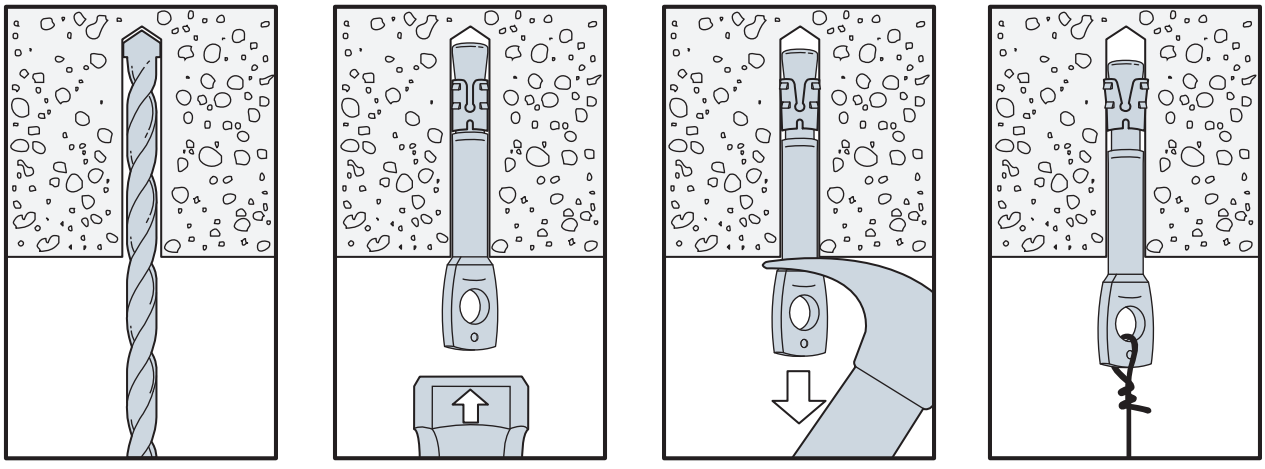
Installation

1. Drill a hole at least 1 ¼" deep using a ¼"-diameter carbide tipped bit.
2. Drive the anchor into the hole until the bottom of the head is flush with the base material.
3. Set the anchor by prying/pulling the head with the claw end of the hammer.

Size (in.)	Model No.	Drill Bit Diameter (in.)	Eyelet Hole Size (in.)	Quantity	
				Box	Carton
¼ x 1 ¼	TW25114	¼	¼	100	500

Tie-Wire

Installation Sequence



Tie-Wire Wedge Anchor

Allowable Tension and Shear Loads for Tie-Wire Anchor in Normal-Weight Concrete

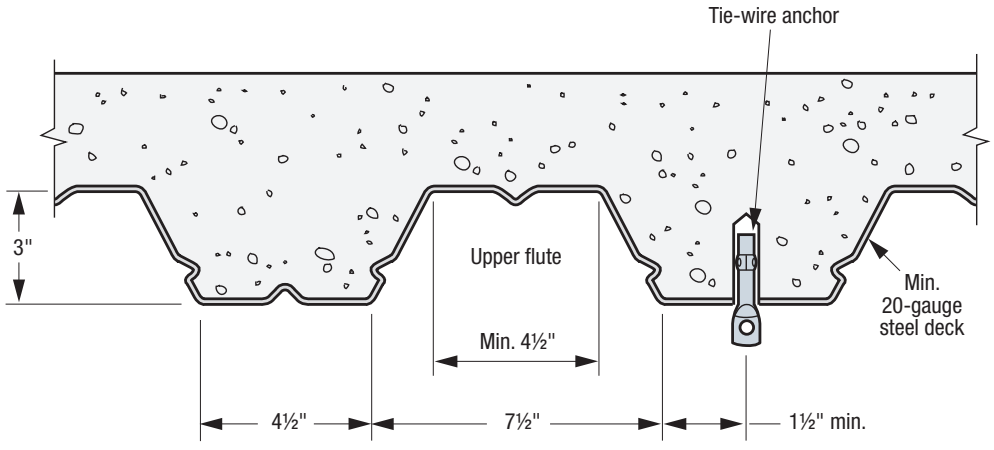
Size in. (mm)	Drill Bit Diameter in.	Embed Depth in. (mm)	Critical End Dist. in. (mm)	Critical Spacing in. (mm)	Tension Load		Shear Load	
					$f'_c \geq$ 2,500 psi (17.2 MPa)		$f'_c \geq$ 2,500 psi (17.2 MPa)	
					Ultimate lb. (kN)	Allowable lb. (kN)	Ultimate lb. (kN)	Allowable lb. (kN)
¼ (6.4)	¼	1¼ (32)	2½ (64)	5 (127)	1,155 (5.1)	290 (1.3)	380 (1.7)	95 (0.4)

1. The allowable loads listed are based on a safety factor of 4.0.
2. The minimum concrete thickness is 1½ times the embedment depth.

Allowable Tension and Shear Loads for Tie-Wire Anchor in the Soffit of Normal-Weight Concrete or Sand-Lightweight Concrete over Steel Deck

Size in. (mm)	Drill Bit Diameter in.	Embed Depth in. (mm)	Critical End Dist.[5] in. (mm)	Critical Spacing in. (mm)	Tension Load		Shear Load	
					$f'_c \geq$ 3,000 psi (20.7 MPa)		$f'_c \geq$ 3,000 psi (20.7 MPa)	
					Ultimate lb. (kN)	Allowable lb. (kN)	Ultimate lb. (kN)	Allowable lb. (kN)
¼ (6.4)	¼	1¼ (32)	2½ (64)	5 (127)	1,155 (5.1)	290 (1.3)	460 (2.0)	115 (0.5)

1. The allowable loads listed are based on a safety factor of 4.0.
2. The minimum concrete thickness is 1½ times the embedment depth.
3. Steel deck must be minimum 20-gauge thick with minimum yield strength of 33 ksi.
4. Anchors installed in the bottom flute of the steel deck must have a minimum edge distance of 1½" away from inclined edge of the bottom flute. See the figure below.
5. Critical end distance is defined as the distance from the end of the slab in the direction of the flute.



Installation in the Soffit of Concrete over Steel Deck

*See p. 14 for an explanation of the load table icons.