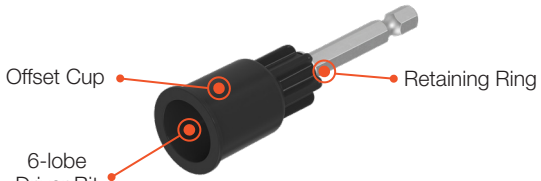
SIMPSON Strong-Tie

Introducing the Strong-Drive® SDPW Deflector structural fastening solution for securing non-load-bearing walls to trusses or joists.

SDPW Deflector Solution: US Patent 8,458,972
US Patent 9,523,383 (applies to 6" SDPW Deflector Screw)


**SDPW Deflector Screw**




**6-Lobe Offset Driver Bit**
*(provides ¾" offset when driving screw)*

**⅜" Predrill Bit**

**18" and 30" Bit Extensions for overhead installations — no ladder needed!**
(sold separately)

## Strong-Drive SDPW Deflector Screw Products

### SDPW Deflector Fasteners

| Size (in.) | Thread Length (in. ) | Head Dia. (in.) | Drive Type | Sleeve Color | Retail Pack | | Mini-Bulk Packaging SKU | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Model No. | Fasteners per Pack | Model No. | Fasteners per Pack |
| 0.140 x 3½ | 2 | 0.55 | T25 | Blue | SDPW 14312-R50 | 50 | SDPW 14312MB | 500 |
| 0.140 x 5 | 2 | 0.55 | T25 | Orange | SDPW 14500-R50 | 50 | SDPW 14500MB | 500 |
| 0.195 x 6 | 2¾ | 0.65 | T40 | Gray | SDPW 19600-R50 | 50 | SDPW 19600MB | 400 |

**Note:** Retail packs include (1) offset driver bit and (1) ⅜" predrill bit. Mini-bulk packs include (2) offset driver bits and (2) ⅜" predrill bits.

### SDPW Deflector Accessories (sold separately)

| Part No. | Description | Contents |
|---|---|---|
| PWKIT25T | Bit Kit | (1) ⅜" Quick-Release Predrill Bit |
| | | (2) T25 Offset Driver Bits |
| PWKIT40T | Bit Kit | (1) ⅜" Quick-Release Predrill Bit |
| | | (2) T40 Offset Driver Bits |
| PW18EXT | 18" Drive Extension | 1 |
| PW30EXT | 30" Drive Extension | 1 |

T-F-SDPWINST22 4/22 exp. 12/24

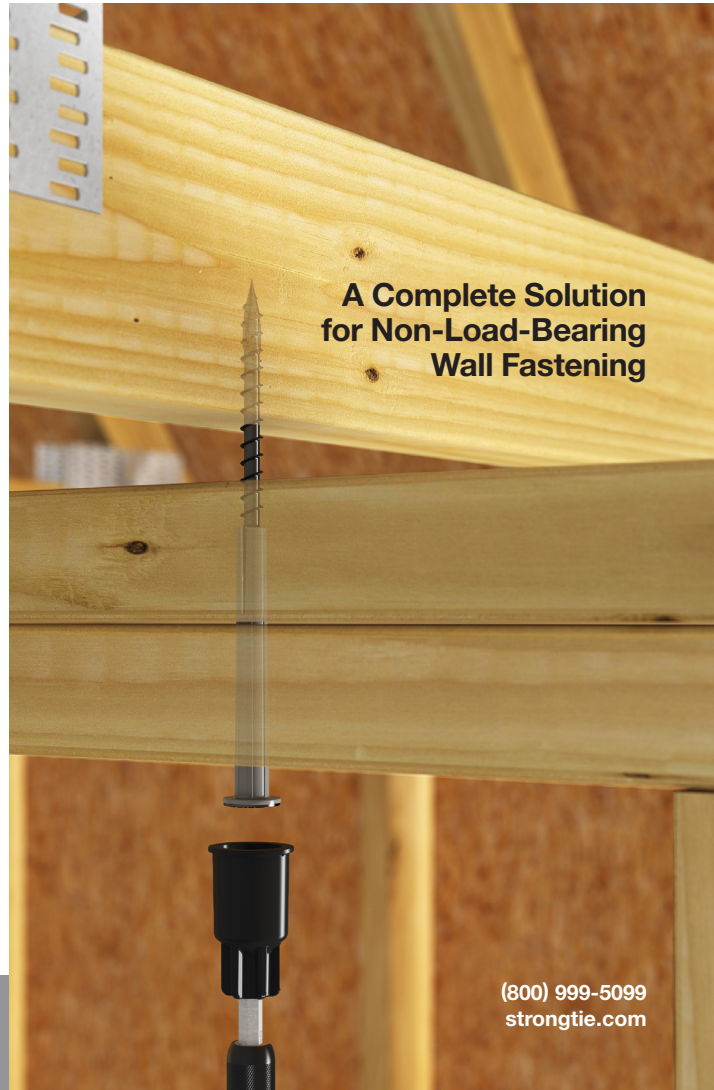

P.O. Box 10789, Pleasanton, CA 94588

(800) 999-5099
strongtie.com

# *Strong-Drive*® SDPW **DEFLECTOR** Screw

Installation Guide

SIMPSON Strong-Tie

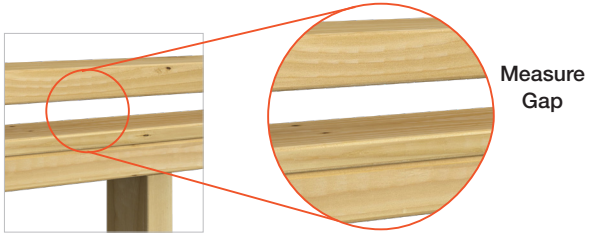


# Installation Guide

## EASY TO INSTALL

**Note:** When installed with the offset driver bit, the SDPW Deflector screw provides a ¾" offset (the distance from the bottom of the screw head to the bottom surface of the top plate) for installations where upward or downward deflection can occur.

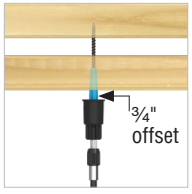
1 Measure the gap between the partition wall top plate and the truss/joist.




### Three Sizes Available for These Configurations

**3½"**

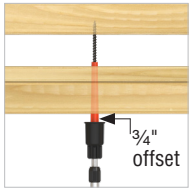
**Single Top Plate** for up to ¾" gap, use 3½" SDPW Deflector screw




*Min. penetration: ½" Max. top plate thickness: 1½"*

**5"**

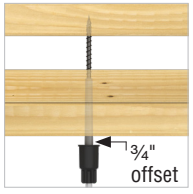
**Built-up Top Plate** for 0"–1½" gap, use 5" SDPW Deflector screw




*Min. penetration: ½" Max. top plate thickness: 2¼"*

**6"**

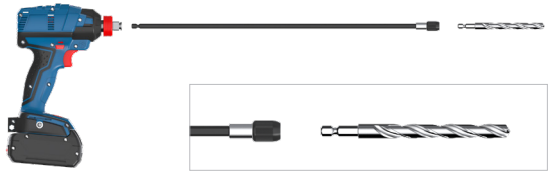
**Double Top Plate** for 0"–1½" gap, use 6" SDPW Deflector screw




*Min. penetration: ¾" Max. top plate thickness: 3"*

**Note:** A ¾" head offset is assumed for the three installations.

2 For added safety with overhead installations, using the 18" or 30" drill/driver extension is recommended (parts PW18EST and PW30EXT, sold separately). Attach the extension to drill/driver motor and insert the ⅜" predrill bit into the extension.



3 Position the predrill bit under the top plate where it is aligned with the truss/joist above.

Drill completely through the top plate(s).

**Note:** Be careful not to predrill into the truss/joist.

4 Replace the ⅜" predrill bit with the SDPW offset driver bit.

5 Place the SDPW Deflector screw into the offset driver bit.

6 Drive the screw until the rim of the offset driver bit is flush with the bottom of the top plate.


**Note:** The polymer sleeve should not penetrate into the truss/joist. For 0" offset, use a 6-lobe T25 (SDPW14312 and SPDW14500) or T40 (SDPW19600) bit and drive until the underside of the polymer sleeve is in contact with the top plate.

## SDPW Deflector Screw Spacing

| Model No. | Screw Length (in.) | Top Plate | On-Center Spacing (in.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Offset = 0" | | | | Offset = ¾" | | | |
| | | | Gap | | | | Gap | | | |
| | | | 0" | ½" | ¾" | 1½" | 0" | ½" | ¾" | 1½" |
| SDPW14312 | 3½ | 2x | 48/48 | 48/48 | 48/48 | NA | 48/48 | 48/48 | NA | NA |
| SDPW14500 | 5 | 2x + ¾" member | 48/48 | 48/48 | 48/48 | 48/48 | 48/48 | 48/48 | 48/42 | 24/18 |
| SDPW19600 | 6 | (2) 2x | 48/48 | 48/48 | 48/48 | 42/36 | 48/48 | 48/48 | 48/48 | 42/36 |

**Note:** Cells with "NA" represent conditions that should not be built using the SDPW Deflector screw.

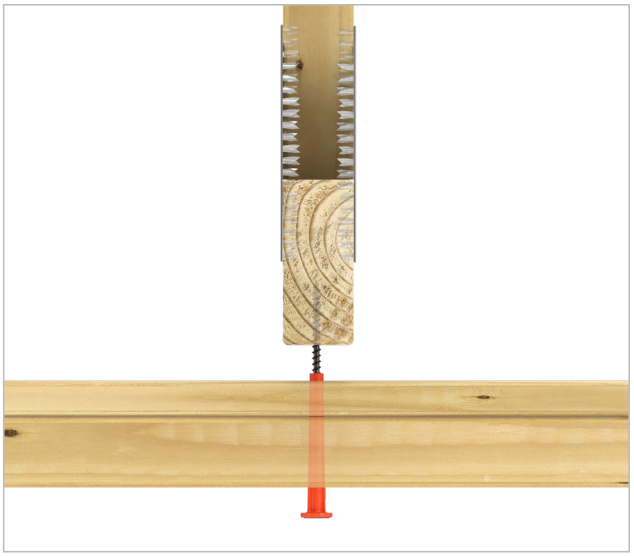
1. Spacings are maximums (in.) based on a short-duration horizontal load of 5 psf.
2. In each cell: spacing (in.) for 8' tall/10' tall wall. For allowable loads, see L-F-SDPWSCREW on **strongtie.com**.
3. SDPW19600 and spacing may be substituted for SDPW14500 and SDPW14312; SDPW14500 and spacing may be substituted for SDPW14312.

## A Simple, Cost-Effective Solution for Partition Wall Connections

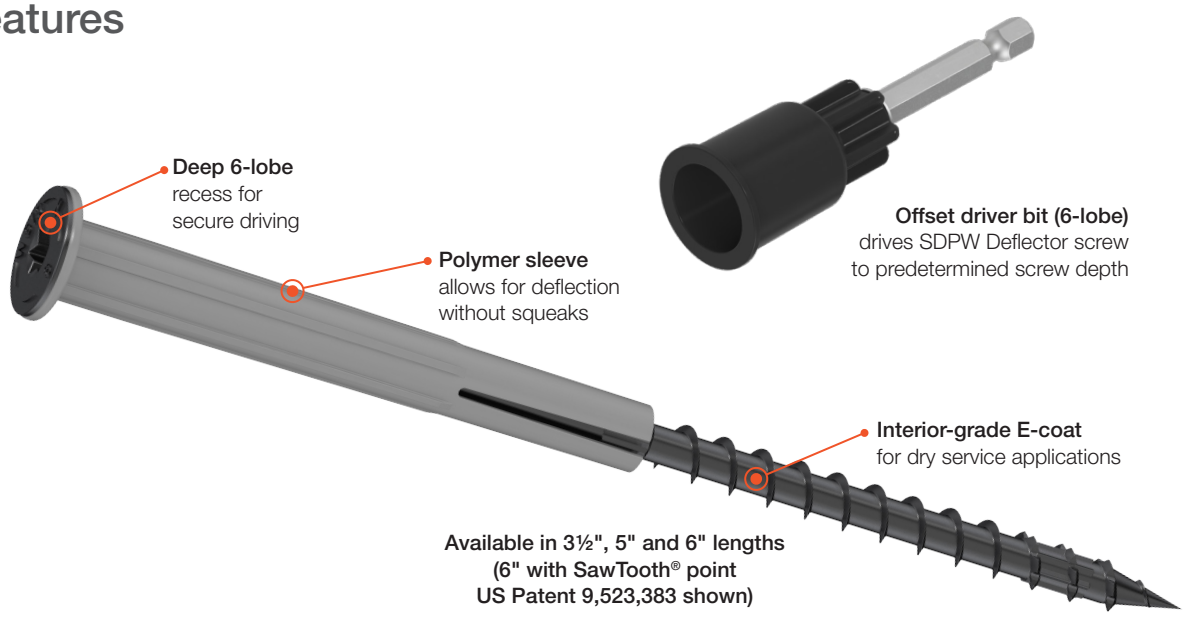
SIMPSON Strong-Tie

Introducing the Strong-Drive® SDPW Deflector screw from Simpson Strong-Tie — a premium structural fastening solution for connecting non-load-bearing walls to trusses and joists. With tested lateral load ratings that meet building code requirements, the SDPW screw is value engineered for strength, installation speed and safety. Offset driver bits and a driver extension maximize installation speed and safety while minimizing installed cost. The SDPW's polymer sleeve allows for sliding during deflection, preventing squeaks. The SDPW is designed for superior performance and is backed by the best service and product support in the industry.

SDPW Deflector Solution: US Patent 8,458,972



# Features



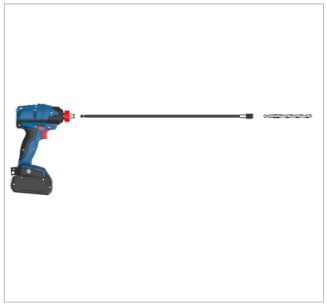

**3½" length**

**5" length**

**⅜" x 5" drill bit**
for predrilling

**18" and 30" bit extensions** available for
overhead installations — no ladder needed

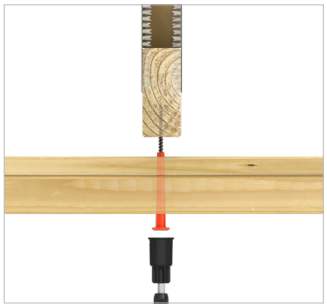
# Easy to Install



1 Attach extension with drill bit to drill/driver motor

2 Predrill into top plate only

3 Replace drill bit with offset bit

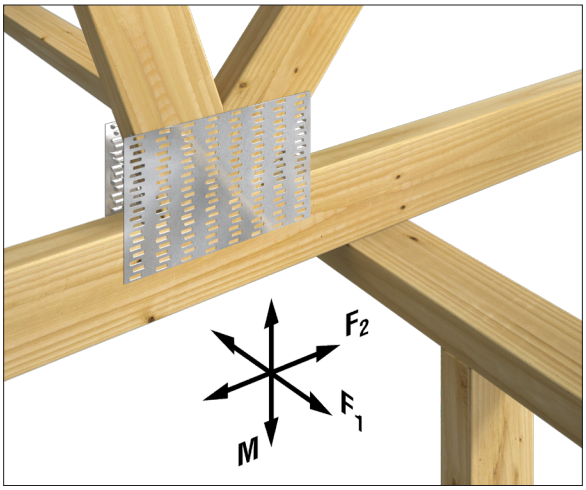


4 Drive SDPW Deflector screw through predrilled top plate and into the truss or ceiling joist

# Why Use the SDPW Deflector Screw?

## The Problem

Non-load-bearing, full-height partition walls are installed with a gap between the top plate of the wall and the supporting member, which is commonly a ceiling joist, truss chord, bridging, or the floor diaphragm framing of the floor above in multistory structures. The gap is critical to permit differential movements associated with building settlement, load-bearing wall shortening, floor loading changes (above and below) and seasonal arching of joists and truss chords. Non-load-bearing, full-height partition walls are fastened to the floor at the bottom of the wall. At the top of the wall, non-load-bearing partition walls should be fastened to the supporting member with a connection that permits differential movement (M) to prevent visible partition separation (see Note) that usually occurs at the top of the wall, and to prevent imposing gravity loads on a wall that is not designed for gravity loading. The installation of non-load-bearing, full-height partition walls for residential structures also must provide resistance to horizontal forces ($F_2$ direction). Both the IRC and IBC require that in the absence of other lateral design loads, full-height partition walls must resist a horizontal pressure of 5 psf.



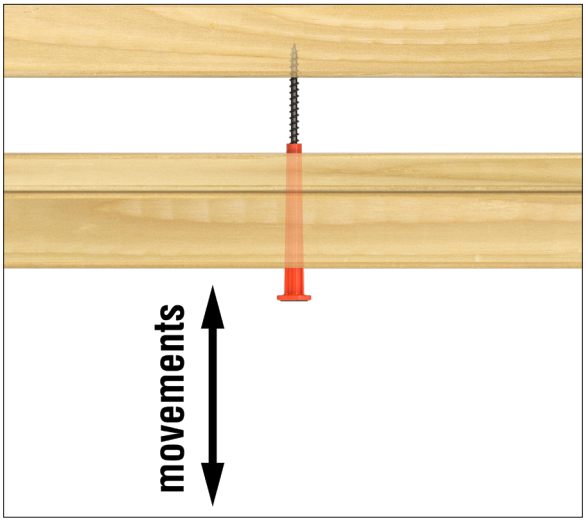

**$F_1$, $F_2$ – Lateral Forces; M – Vertical Deflections**

## The SDPW Deflector Screw Solution

The SDPW Deflector screw makes a connection that slips on demand with vertical displacements of the floor or the supporting ceiling joist or truss chord while providing resistance to horizontal forces in the $F_2$ direction.

When installed, the SDPW Deflector screw connects the non-load-bearing partition wall with a gap between the top plate of the wall and the supporting joist or truss. The SDPW Deflector screw installation also includes a head offset from the bottom of the top plate. The gap between the top plate of the wall and supporting joist or truss is intended to prevent the wall taking gravity load from the supporting joist or truss. The SDPW Deflector screw, installed with the gap and head offset, accommodates the upward and downward differential movements of the supporting joist or truss with seasonal moisture fluctuations and loading changes, as well as movements due to floor load changes, exterior wall shortening and building settlement.

**Note:** Preventing damage to gypsum board due to building movements requires appropriate detailing of gypsum board installation.




**SDPW Deflector screw solution with vertical movement and direction of deflection**

# SDPW Deflector Screw Solution Advantages

## Fast

Installation of the SDPW Deflector screw solution involves driving a single screw per connection point up through the partition wall top plate and into the supporting member. The single SDPW Deflector screw provides equivalent load capacity as alternative methods, using metal clips installed with several fasteners per connection point.

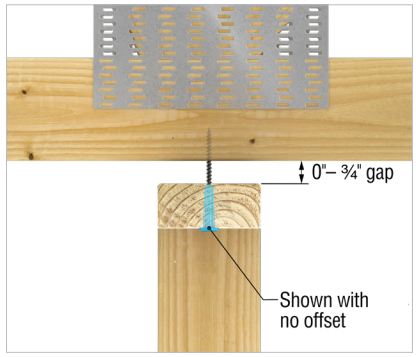
## Efficient

Non-load-bearing, full-height partition walls require being secured to resist lateral forces, while providing the ability to allow for vertical deflection as a result of vertical forces. There are existing hardware connector and fastener solutions, but the Strong-Drive® SDPW Deflector screw single-fastener-per-joist solution provides a comprehensive, more efficient solution.

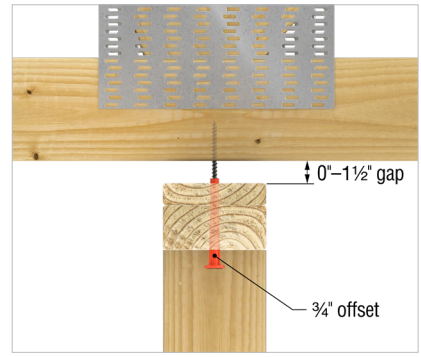
## Versatile

Many alternative deflection solutions are limited as to which partition wall connection they can be applied. A single-length deflection screw solution is often applicable to a specific connection configuration. The SDPW Deflector screw is available in three sizes, providing solutions for various top-of-wall configurations:

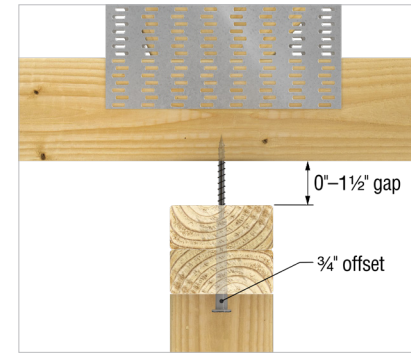
**5" Strong-Drive SDPW Deflector screw installed through built-up top plate**




**3½"** 3½" length for single 2x plate connections, provide up to a ¾" gap (between top plate and truss/joist)




**5"** 5" length for built-up top plate (single 2x plus ¾" member, to be connected per code), providing a 0" to 1½" gap




**6"** 6" length for (2) 2x top plate connections, providing a 0" to 1½" gap

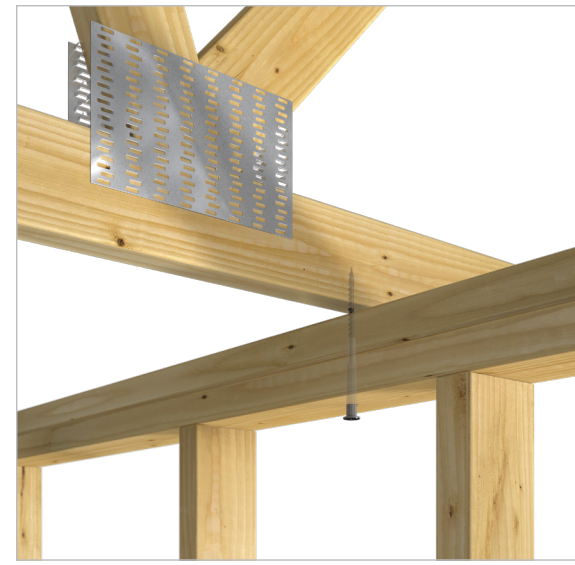
SDPW Deflector screws installed with the offset driver bit can be set with the head at either a 0" or ¾" offset from the underside of the top plate to allow for vertical movements up and down.

**Note:** Float the ceiling drywall end as per standard industry practice.

# SDPW Deflector Solution Advantages (cont.)

## Reduce Callbacks

The SDPW Deflector screw solution helps prevent costly callbacks. Studies have shown that improperly connected partition walls can lead to cracks in attached drywall when loading or when environmental forces are applied. A partition wall fastened with SDPW Deflector screws and with drywall correctly detailed will facilitate differential movements without damage to the drywall. Deflection solutions involving metal-on-metal fastening are prone to squeaking when movement occurs. SDPW Deflector screw solution's polymer sleeve acts as a friction barrier between the fastener and top plate, thus preventing squeaks.



**Prevents movement-related squeaks**

## SDPW Deflector Screw Spacing

| Model No. | Screw Length (in.) | Top Plate | On-Center Spacing (in.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Offset = 0" | | | | Offset = ¾" | | | |
| | | | Gap | | | | Gap | | | |
| | | | 0" | ½" | ¾" | 1½" | 0" | ½" | ¾" | 1½" |
| SDPW14312 | 3½ | 2x | 48/48 | 48/48 | 48/48 | NA | 48/48 | 48/48 | NA | NA |
| SDPW14500 | 5 | 2x + ¾" member | 48/48 | 48/48 | 48/48 | 48/48 | 48/48 | 48/48 | 48/42 | 24/18 |
| SDPW19600 | 6 | (2) 2x | 48/48 | 48/48 | 48/48 | 42/36 | 48/48 | 48/48 | 48/48 | 42/36 |

**Note:** Cells with "NA" represent conditions that should not be built using the SDPW Deflector Screw.

1. Spacings are maximums (in.) based on a short-duration horizontal load of 5 psf.
2. In each cell: spacing (in.) for 8' tall wall/spacing for 10' tall wall. For allowable loads, see L-F-SDPWSCREW21 on **strongtie.com**.
3. SDPW19600 and spacing may be substituted for SDPW14500 and SDPW14312; SDPW14500 and spacing may be substituted for SDPW14312.

# A Simple, Cost-Effective Solution for Partition Wall Connections

SIMPSON Strong-Tie

## SDPW Deflector Screws

| Size (in.) | Thread Length (in. ) | Head Dia. (in.) | Drive Type | Sleeve Length (in.) | Sleeve Color | Retail Pack | | Mini-Bulk Packaging SKU | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Model No. | Fasteners per Pack | Model No. | Fasteners per Pack |
| 0.140 x 3½ | 2 | 0.55 | T25 | 1.38 | Blue | SDPW14312-R50 | 50 | SDPW14312MB | 500 |
| 0.140 x 5 | 2 | 0.55 | T25 | 2.88 | Orange | SDPW14500-R50 | 50 | SDPW14500MB | 500 |
| 0.195 x 6 | 2¾ | 0.65 | T40 | 3.10 | Gray | SDPW19600-R50 | 50 | SDPW19600MB | 400 |

**Note:** Retail packs include (1) offset driver bit and (1) ⅜" predrill bit. Mini-bulk packs include (2) offset driver bits and (2) ⅜" predrill bits.

## SDPW Accessories

| Part No. | Description | Quantity |
|---|---|---|
| PWKIT25T | Bit Kit | (1) ⅜" Quick-Release Predrill Bit |
| | | (2) T25 Offset Driver Bits |
| PWKIT40T | Bit Kit | (1) ⅜" Quick-Release Predrill Bit |
| | | (2) T40 Driver Bits |
| PW18EXT | 18" Drive Extension | 1 |
| PW30EXT | 30" Drive Extension | 1 |

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Quik Stik™

# Raising the bar on overhead fastening.

**The Quik Stik rafter and truss fastening system — ideal for load-bearing wall connections.**

A versatile tool that does the work for you. Drive truss screws quickly, safely and efficiently without ladders, line compressors or power nailers.

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