

# Spider Seismic Push-In Toggle Adapter

## Seismic Vertical Rod Suspension Attachment

Adapter connects directly to our Spider concrete inserts creating a seismic bracing point for bracing and securing suspended MEP services

- **Fast**  
Below deck install thanks to our push-in toggle technology
- **Universal design**  
Accepts multiple rod sizes, allowing decision to be made after the concrete is poured
- **ICC, LARR & UL**  
Approved and tested



## Product Specification

### Load Rating

- Refer to table 1-2

### Material

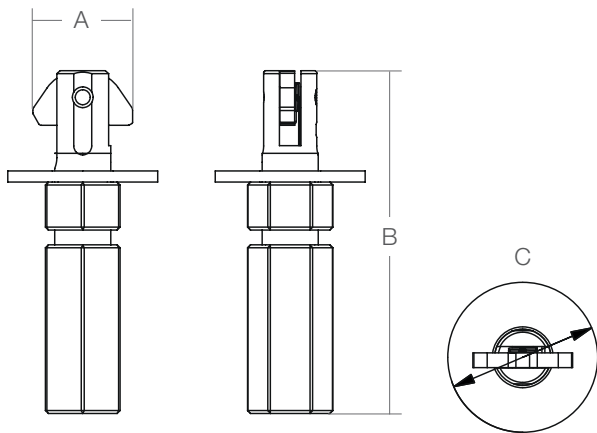
- Toggle – Zinc Plated Steel
- Pin – Zinc Plated Steel
- Bracket – Zinc Plated Steel
- Nut – Zinc Plated Steel
- 3/4" UNC End Fitting - Zinc Plated Steel
- Coupler – Zinc Plated Steel
- Spring - Galvanized Spring Steel

## Approvals

- International Code Council Evaluation Service (ICC-ES), ESR-4190 for Concrete Slab and Deck. Code compliance with 2021 IBC/IRC. LA Department of Building and Safety (LADBS) LARR Approved through ICC-ES ESR-4190 LABC and LARC supplement. Tested by an accredited independent testing laboratory in accordance with ASTM E488 and ICC-ES AC502 for use in cracked and uncracked concrete under the design provisions of ACI318.
- Underwriters Laboratories (UL Listed)  
UL listed per UL 2239 Conduit & Cable Hardware. File No. E251132.  
Also UL listed and recognized for use in air handling spaces (Plenum Rated) per UL 2043.  
UL Listed per UL 1598, File No. E228153 (Rod Push-In Adapter Sizes 3/8" - 5/8" & all Cable Push-In Toggles)
- The following approval is applicable in the USA and Canada.



## Design & Dimensions

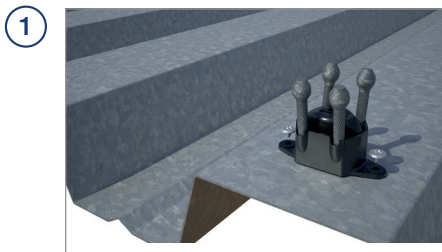


	In
A	1.30
B	4.00
C	Ø 2.00

## Packaging

Product Name	Code	Box QTY	Box Weights
Spider Seismic Push-In Toggle Adapter 3/8"	SX-ADP-SEIS-CPL-3/8	20	17.36 lbs
Spider Seismic Push-In Toggle Adapter 1/2"	SX-ADP-SEIS-CPL-1/2	20	16.96 lbs
Spider Seismic Push-In Toggle Adapter 5/8"	SX-ADP-SEIS-CPL-5/8	20	16.64 lbs
Spider Seismic Push-In Toggle Adapter 3/4"	SX-ADP-SEIS-CPL-3/4	20	16.15 lbs

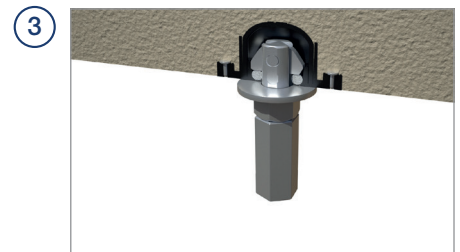
## Installation



1 Attach the Spider Metal Deck or Wood Form Insert (if using Spider Wood Form Insert, you can use Spider installation tool to position and secure).



2 If used with metal deck, remove protrusion from bottom of the Spider Insert.



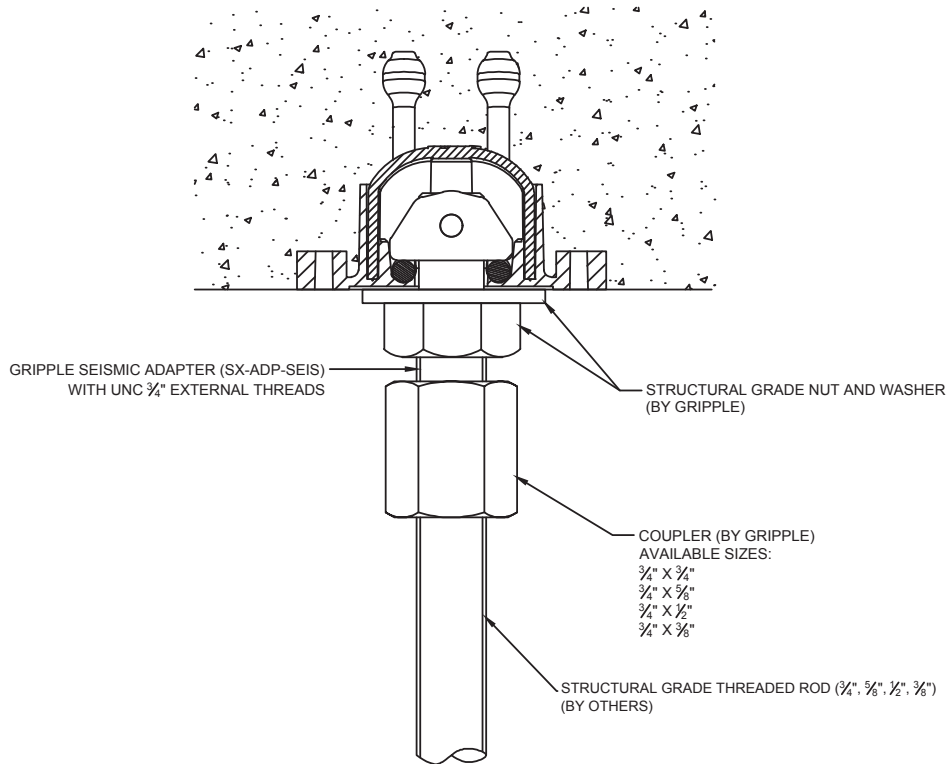
3 Tighten nut to secure washer against the structure. Max. 44ft-lbf.



4 Screw threaded rod into the female thread on the coupler until the rod no longer rotates (ensure full engagement).

## Installation Guidance

Spider Insert, Spider Seismic Push-In Toggle Adapter and Threaded Rod Assembly Dimensions for Pre-Fabrication.



Do not load the Spider Insert before the concrete is poured and fully cured to recommended compressive strength.

Always use the Spider Cable Push-In Toggle or Spider Rod Push-In Toggle supplied by Gripple for suspension from the Spider.

Warranty will not apply if used with any other third party products.

Not recommended for use with Spider Metal Deck Low Profile or Spider Wood Form Low Profile.

Do not over rotate toggle as this can cause the spring to come out of place.

## Installation Guidance

### Minimal structural requirements - Metal Deck

Figure 1A

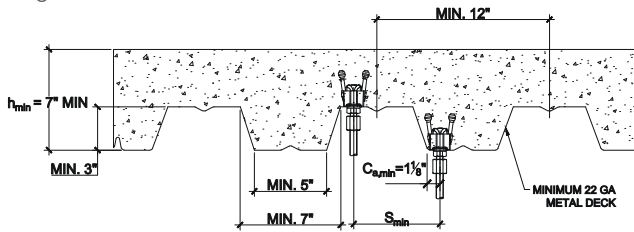


Figure 1A shows spider in 3 inch profile metal deck with 4 inch of concrete topping thickness.

\*Data in Table 1 is only applicable if the structure meets the minimum parameters given in Figure 1A or 1B.

Figure 1B

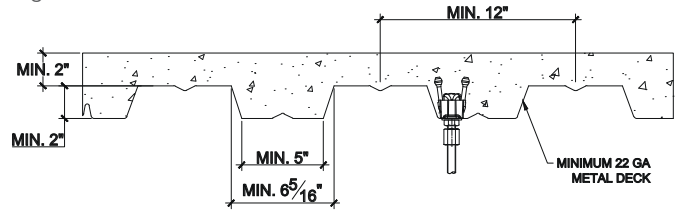


Figure 1B shows spider in 2 inch profile metal deck with 2 inch of concrete topping thickness

\*Concrete compressive strength = 3000 psi sand lightweight, light weight or normal-weight concrete.

Table 1: Spider Metal Deck & Spider Seismic Push-In Toggle Adapter assembly allowable tension design values in concrete (ASD)

INSERT RECEIVER	CONCRETE			ALLOWABLE TENSION IN METAL DECK (lbs)			
				SX-ADP-SEIS-CPL-3/8	SX-ADP-SEIS-CPL-1/2	SX-ADP-SEIS-CPL-5/8	SX-ADP-SEIS-CPL-3/4
Spider Insert (SX-MD)	3 inch Profile Deck with 4 inch of concrete topping thickness (Figure 1A)	Sandlightweight concrete	Uncracked	1,080	1,700	1,700	1,700
		f'c = 3,000 psi	Cracked <sup>4</sup>	1,080	1,200	1,200	1,200
	2 inch Profile Deck with 2 inch of concrete topping thickness (Figure 1B)	Sandlightweight concrete	Uncracked	1,080	1,480	1,480	1,480
		f'c = 3,000 psi	Cracked <sup>4</sup>	1,080	1,125	1,125	1,125

To convert above Allowable Loads (ASD) into Design Strengths (LRFD) multiply the values in the table by 1.4

- Concrete compressive strength, f'c = 2,500 psi minimum normal-weight concrete for Spider Wood Form and f'c = 3,000 psi minimum sand lightweight, lightweight or normal-weight concrete for Spider Metal Deck.
- The insert assembly nominal static strength in tension  $\phi N_n$  has been multiplied by the strength reduction factor,  $\phi$ .
- Values are applicable for Seismic Design Categories C, D, E and F application
- Edge distance and spacing meets the requirements in Table 1.
- To convert the values in ASD divide the load ratings by 1.4

For SI: 1 Inch = 25.4 mm, 1 pound = 0.00445 kN, 1 in<sup>2</sup> = 645.2 mm<sup>2</sup>. For pound-inch unit: 1 mm = 0.03937 inches.

## Installation Guidance

### Minimal structural requirements - Wood Form

Figure 2

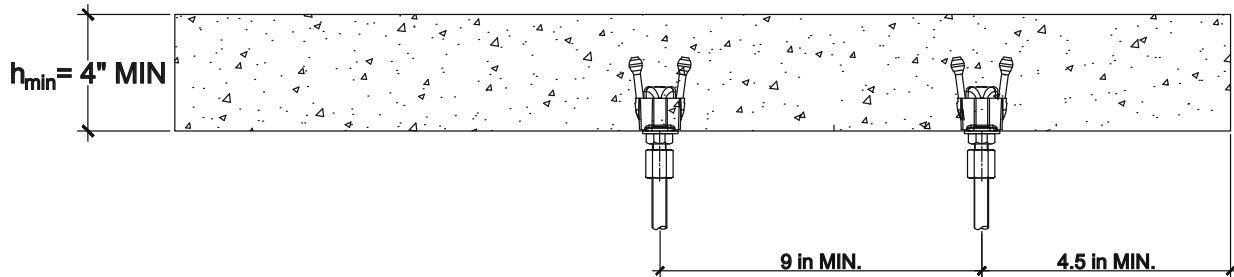


Figure 2 shows Spider Wood Form Insert in 4 inch concrete slab.

\*Data in Table 2 is only applicable if the structure meets the minimum parameters given in Figure 2.

Table 2: Spider Wood Form & Spider Seismic Push-In Toggle Adapter assembly allowable tension design values in concrete (ASD)

INSERT RECEIVER	CONCRETE		ALLOWABLE TENSION IN WOOD DECK (lbs)			
			SX-ADP-3/8	SX-ADP-1/2	SX-ADP-5/8	SX-ADP-3/4
Spider Insert (SX-WF)	Normal Weight Concrete $f'_c = 2,500$ psi	Uncracked	1,080	2,430	2,430	2,430
		Cracked <sup>4</sup>	1,080	2,200	2,200	2,200
	Normal Weight Concrete $f'_c = 6000$ psi	Uncracked	1,080	2,975	2,975	2,975
		Cracked <sup>4</sup>	1,080	3,090	3,090	3,090

To convert above Allowable Loads (ASD) into Design Strengths (LRFD) multiply the values in the table by 1.4

1. Load combinations from ACI 318-14 5.3 or ACI 318-11 Section 9.2, as applicable
2. 100% dead load, controlling load combination 1.4D
3. Edge distance, spacing and concrete member thickness shall meet the requirements in Figure 2
4. Values are applicable for seismic design category C, D, E and F applications
5. Values are for condition B where supplementary reinforcement in accordance with ACI 318-14 17.3.3 or ACI 318-11. D.4.3 is not provided
6. Values shown in the table are for insert assembly in tension only

## Key Recommendations

Failure to comply with these recommendations may result in product malfunction and possible damage to property or person and will invalidate the Gripple guarantee. Gripple products are guaranteed to be free from defects in materials and workmanship in accordance with our terms and conditions. No other warranty, whether express or implied, including any warranty of merchantability or fitness for purpose shall exist in connection with the sale or use of any Gripple product.

Full technical information and installation instructions should be obtained directly from Gripple Limited, Gripple Europe, Gripple Inc., Gripple Japan, Gripple Poland, Gripple India, Gripple Germany, any regional Gripple office, or via our website [www.gripple.com](http://www.gripple.com).



### LOADS

Always operate the product within its stated safe working load range. Suspend static loads only. Do not subject to shock loading. Do not adjust under load.



### ENVIRONMENT

Do not use in chlorinated or chemically corrosive atmospheres. Standard hangers are for use in dry and air conditioned environments only. Stainless steel hangers should be considered for high to saturated humid environments after validation by a competent person.



### SWIMMING POOLS

Not suitable for swimming pools.



### INSTALLATION

Do not walk or stand on the Gripple product installation. Gripple products must not be used for personal suspension, fall protection or harnessing people.



### STORING

Do not store the product outdoors, or in damp or abnormal conditions.



### REPAIR, MODIFICATION AND RE-USE

Do not repair, modify or re-use Gripple products. If you have any queries regarding product performance, please contact [TechnicalServices@gripple.com](mailto:TechnicalServices@gripple.com)



### TEMPERATURE PERFORMANCE

The standard operating temperature range of this product is -20°C to +70°C (-4°F to +158°F). If increased temperature resistance is required, please contact Gripple Technical Services for advice on your specific application.