

## GENERAL INFORMATION

# SUSPENDER®

Rod Hanging Anchors

### PRODUCT DESCRIPTION

Suspender threaded rod anchors are a next step in the evolution of threaded rod anchoring. These one-piece anchors feature heads that are both end-tapped and cross-tapped to permit both in-line mounting and side-mounting of threaded rod systems, eye rings and more.

Suspender anchors feature a universal driver (socket or sleeve) to drive all anchor sizes. The Suspender drive sleeve eases switching between drilling and driving in concrete applications. However, only the Suspender drive socket is needed with the self-drilling anchors for wood and steel, or in pre-drilled applications. This new system allows you to consolidate your inventory to complete a project and reduces downtime required to retrieve the correct part.

### GENERAL APPLICATIONS AND USES

- Hanging Pipe and Sprinkler Systems
- HVAC Ductwork and Strut Channels
- Suspending Conduit and Cable Trays
- Suspended Ceilings
- Lighting Systems and Overhead Utilities
- Electrical Systems

### FEATURES AND BENEFITS

- + Ease and speed of overhead installation
- + Lower in-place cost, when compared to beam clamps, lag bolts and dropins
- + Solid, one-piece, cold formed and machined anchor
- + New head style is both end and cross drilled to accept vertical (in-line) and horizontal (side-mount) applications
- + Entire system requires only one driver
- + 3/8" to 1/2" thread adapter allows installation of 1/2"-13 threaded rod components

### APPROVALS AND LISTINGS

- FM Approvals (FM) - see listing for applicable sizes and types  
Pipe Hangers components for automatic sprinkler systems - File No. JI 3015153
- Underwriters Laboratory (UL) - see listing for applicable sizes and types  
Pipe Hangers - File No. EX1289

### GUIDE SPECIFICATIONS

CSI Divisions: 03 16 00 - Concrete Anchors, 05 05 23 - Metal Fastenings and 06 05 23 - Wood, Plastic, and Composite Fastenings. Rod Hangers shall be Suspender anchors as supplied by DEWALT, Towson, MD. Anchors shall be installed in accordance with published instruction and the Authority Having Jurisdiction.

## SECTION CONTENTS

General Information.....	1
Material Specifications .....	2
Installation Specifications .....	2
Performance Data .....	3
Ordering Information.....	4



STEEL SUSPENDER



WOOD SUSPENDER



CONCRETE SUSPENDER

## ANCHOR MATERIALS

- Zinc Plated Carbon Steel

## ANCHOR SIZE RANGE (TYP.)

- 3/8" for Steel
- 3/8" for Wood
- 3/8" for Concrete  
(Threaded Coupler Heads)

## THREAD VERSION

- Unified Coarse Thread (UNC)

## SUITABLE BASE MATERIALS

- Steel Purlins and Beams
- Wood and Timber
- Concrete Members

**MATERIAL SPECIFICATIONS**

Component	Component Material
Screw Body	Case hardened carbon steel
Coupling (UNC thread)	Case hardened carbon steel
Zinc Plating	ASTM B633, SC1, Type III (Fe/Zn5)

**INSTALLATION SPECIFICATIONS**

**Steel Suspender**

Rod Coupler Size	3/8"
Coupling Thread Size (UNC)	3/8-16
Coupling Thread Depth (in.)	3/8
Coupling Height (in.)	1
Socket Driver Size (in.)	1/2

Note: the side mount couplings have full thread depth (through head).

**Concrete Suspender**

Rod Coupler Size	3/8"
ANSI Drill Bit (in.)	1/4
Overall Screw Shank Length	2-1/4
Anchor Thread Length (in.)	2
Coupler / Washing Height (in.)	1
Coupling Thread Size (UNC)	3/8-16
Coupling Thread Depth (in.)	1/2
Socket Driver Size (in.)	1/2

Note: the side mount couplings have full thread depth (through head).

**Wood Suspender**

Rod Coupler Size	3/8"
Coupling Thread Size (UNC)	3/8-16
Coupling Thread Depth (in.)	3/8
Coupling Height (in.)	1
Socket Driver Size (in.)	1/2

Note: the side mount couplings have full thread depth (through head).

**Installation Guidelines**

1. If pre-drilling is required (certain types of wood truss/wood joist and all concrete base materials), select the recommended drill bit type and diameter.

For concrete, drill a hole to the appropriate embedment depth, adding at least 1/4" to the drilling depth to prevent the tip of the fastener from running into the back of the anchor hole during installation.

2. Select the appropriate socket driver for the anchor size and type to be installed and mount into chuck of installation tool. Insert the coupling head into the socket driver, and install perpendicular to the base material surface. Drive the fastener with a smooth steady motion until the driver and coupling is seated against the surface of the base material.

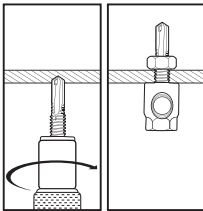
3. Thread the appropriate diameter steel threaded rod or threaded bolt into the coupling. The threaded rod or bolt should fully engage the thread length of the coupling on a vertical mount fastener. The threaded rod or threaded portion of the bolt can pass through coupling of a side mount attachment.

When installing Suspender, eye protection should be worn as a safety precaution.

For UL and/or FM listings for hangers Steel Suspender should be installed with a retaining nut for parts that are packaged with a nut (see performance data and listings as applicable).

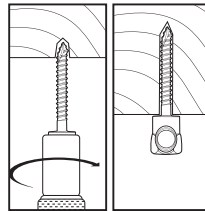
Suggested drill speed for Steel Suspender installations is 1200 to 1800 rpm.

**Steel**



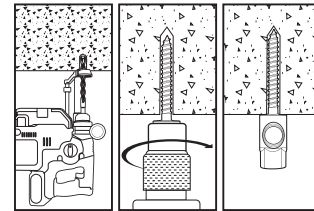
Install with appropriate sized steel socket driver.

**Wood**



Install with appropriate sized wood socket driver.

**Concrete**



Install with appropriate sized concrete socket driver.

## PERFORMANCE DATA

### Suspender for Steel - Dual Direction

Cat. No.	Screw Description	Mount Direction	Rod Size	Driver No.	Min. Thick. in.	Max. Thick. in.	Load Direction	UL		FM	
								Pipe Size	Thick.	Pipe Size	Thick.
PFM227110N	1/4-20 x 1" #3/nut	Vert. & Horiz.	3/8"	PFM2201300	0.060	0.188	V	4"	0.060"	4"	16 ga.
							H	4"	0.060"	4"	16 ga.
PFM227120N	1/4-20 x 1-1/2" #3/nut	Vert. & Horiz.	3/8"	PFM2201300	0.060	0.188	V	4"	0.060"	4"	16 ga.
							H	4"	0.060"	4"	16 ga.
PFM227130N	1/4-20 x 1-1/2" #5/nut	Vert. & Horiz.	3/8"	PFM2201300	0.125	0.500	V	4"	0.060"	4"	16 ga.
							H	4"	0.060"	4"	16 ga.

### Suspender for Steel - Ultimate Load Capacities when Installed in Steel<sup>1</sup>

Cat. No.	Screw Description	Mount Direction	Rod Coupler Size	Steel Gage   Thickness						
				16   0.060 lbs.	14   0.075 lbs.	12   0.105 lbs.	1/8   0.125 lbs.	3/16   0.187 lbs.	1/4   0.250 lbs.	1/2   0.500 lbs.
<b>Suspender For Steel - Vertical</b>										
PFM227110N	1/4-20 x 1" #3	Vertical	3/8	785	1,140	1,740	2,375	4,695	-	-
	1/4-20 x 1" #3/nut	Vertical	3/8	3,435	4,025	4,280	4,690	5,810	-	-
PFM227120N	1/4-20 x 1-1/2" #3	Vertical	3/8	785	1,140	1,740	2,375	4,695	-	-
	1/4-20 x 1-1/2" #3/nut	Vertical	3/8	3,435	4,025	4,280	4,690	4,695	-	-
PFM227130N	1/4-20 x 1-1/2" #5	Vertical	3/8	-	-	-	-	3,675	5,205	5,205
	1/4-20 x 1-1/2" #5/nut	Vertical	3/8	3,435	4,025	4,280	4,690	5,810	5,810	5,810
<b>Suspender For Steel - Horizontal</b>										
PFM227110N	1/4-20 x 1" #3	Side	3/8	1,740	1,945	2,420	2,570	2,810	-	-
	1/4-20 x 1" #3/nut	Side	3/8	2,755	2,810	2,570	2,810	2,810	-	-
PFM227120N	1/4-20 x 1-1/2" #3	Side	3/8	1,740	1,945	2,420	2,570	2,810	-	-
	1/4-20 x 1-1/2" #3/nut	Side	3/8	2,755	2,810	2,570	2,810	2,810	-	-
PFM227130N	1/4-20 x 1-1/2" #5	Side	3/8	-	-	-	-	2,205	2,810	2,810
	1/4-20 x 1-1/2" #5/nut	Side	3/8	2,755	2,810	2,570	2,810	2,810	2,810	2,810

- The values listed above are ultimate load capacities which should be reduced by a minimum safety factor of 3.0 or greater to determine the allowable working load.
- The strength of the threaded rod used with the Suspender anchors must be considered when determining the controlling load capacity of the assembly.

### Suspender for Wood - Ultimate Load Capacities when Installed in Wood<sup>1,2</sup>

Cat. No.	Screw Description	Mount Direction	Rod Coupler Size	Driver No.	Ultimate Tension Load lbs*	UL	FM
						Max. Pipe Size	Max. Pipe Size
<b>Suspender For Wood - Vertical</b>							
PFM2271000	5/16" x 2-1/2"	Vert.	3/8"	PFM2201300	2,670	4"	4"
<b>Suspender For Wood - Horizontal</b>							
PFM2271000	5/16" x 2-1/2"	Side	3/8"	PFM2201300	1,450	3"	-

\*Ultimate Loads In Douglas Fir, Pine and Spruce

- Truss/joist manufacturers may require pre-drilled holes with wood depending on the location of the anchor installation. Consult with the truss/joist manufacturer for details.
- The values listed above are ultimate load capacities that must be reduced by a minimum safety factor of 3.0 or greater to determine the allowable working load.

### Suspender for Concrete - Ultimate Load Capacities when Installed in Normal-Weight Concrete<sup>1,2</sup>

Cat No.	Rod Coupler Size in.	Screw Description	Mount Direction	ANSI Drill Bit Diameter in.	Embed. Depth in.	Minimum Concrete Compressive Strength (f'c)					
						2,000 psi		4,000 psi		6,000 psi	
						Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
PFM2271050	3/8	1/4" x 1-1/2"	Vertical	1/4	1-1/2	1,760	2,580	2,595	2,640	2,770	2,700

- The values listed above are ultimate load capacities which must be reduced by a minimum safety factor of 4.0 or greater to determine the allowable working load.
- Linear interpolation may be used to determine load capacities for intermediate compressive strengths.

### Suspender for Concrete - Factory Mutual (FM Global) Listings for Pipe Hangers

Cat. No.	Rod Coupler Size in.	Screw Description	Mount Direction	ANSI Drill Bit Diameter in.	Embedment Depth in.	FM Max. Pipe Size
PFM2271050	3/8	1/4" x 1-1/2"	Vertical	1/4	1-1/2	4"

## ORDERING INFORMATION

### Suspender for Steel - Dual Direction

Cat. No.	Description	Driver	Rod Size	Box Qty.	Carton Qty.
PFM227110N	1/4-20 x 1" #3/nut	PFM2201300	3/8"	25	125
PFM227120N	1/4-20 x 1-1/2" #3/nut	PFM2201300	3/8"	25	125
PFM227130N	1/4-20 x 1-1/2" #5/nut	PFM2201300	3/8"	25	125



### Suspender for Wood - Dual Direction

Cat. No.	Description	Driver # (Red)	Rod Size	Box Qty.	Carton Qty.
PFM2271000	5/16" x 2-1/2"	PFM2201300	3/8"	25	125





### Suspender for Concrete - Dual Direction

Cat. No.	Description	Driver	Rod Size	Box Qty.	Carton Qty.
PFM2271050	5/16" x 2-1/4"	PFM2201300	3/8"	25	125



### Concrete Installation Accessories and Tool Guide

Cat. No.	Description	Drilling	
		Rotary Hammer	SDS+ Bit
PFM2271050	3/8" Hanger 1/4" x 1-1/2"	 DCH273P2DH	 DW5517 (1/4")

### Steel and Wood Installation Accessories

Cat. No.	Description	Qty.
PFM2201100	Hangermate/Suspender Pole Tool Kit	1

The pole tool kit is designed for use with standard 1/2-inch diameter steel conduit tubing (conduit not included) and can be customized to various lengths and ceiling heights.



### Universal Installation Accessories

Cat. No.	Description	Qty.
PFM2201050	3/8" to 1/2" Adapter	1

The 3/8" to 1/2" adaptor has a 3/8-16 external thread and a 1/2-13 internal thread.

