DEWALT
ANCHORS & FASTENERS

Product Submittal/Substitution Request

TO:

PROJECT:

PROJECT LOCATION:

SPECIFIED ITEM:

Section | Page | Paragraph | Description

PRODUCT SUBMIT TAL / SUBSTITUTION REQUESTED:

DEWALT® Anchors & Fasteners Suspender -

The attached submittal package includes the product description, specifications, drawings, and performance data for use in the evaluation of the request.

SUBMITTED BY:

Name: Signature:

Company:

Address:

Date: Telephone: Fax:

FOR USE BY THE ARCHITECT AND/OR ENGINEER

☐ **Approved** ☐ **Approved as Noted** ☐ **Not Approved**

(If not approved, please briefly explain why the product was not accepted.)

By: Date:

Remarks:

Questions or inquiries? Contact us at engineering@powers.com, or call 1.800.524.3244

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 for all anchor sizes. Only the Suspender drive socket is needed with the self-drilling anchors for wood and steel, or in pre-drilled applications. This unique system allows users to consolidate inventory to complete a project and reduces downtime required to retrieve the correct part.

GENERAL APPLICATIONS AND USES

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

FEATURES AND BENEFITS

+ Ease and speed in overhead installation
+ Lower in-place cost, when compared to beam clamps, lag bolts and dropins
+ Solid, one-piece, cold formed and machined anchor
+ Coupler head 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
- Underwriters Laboratory (UL) - see listing for applicable sizes and types
  Pipe Hangers - File No. EX1289 and VFXT7.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

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).	

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).	

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
Coupling Thread Size (UNC)	3/8-16
Coupling Thread Depth (in.)	1/2
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.

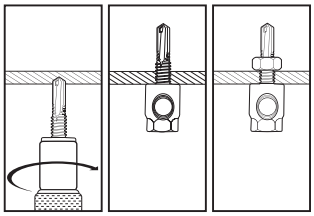
3. Thread the appropriate diameter steel threaded rod or threaded bolt into the coupling. The threaded rod or bolt should fully engage the thread length of the coupling on a vertical mount fastener. The threaded rod or threaded portion of the bolt can pass through coupling of a side mount attachment.

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

UL and/or FM listings for Steel Suspender require installations with a retaining nut (see performance data and listings as applicable).

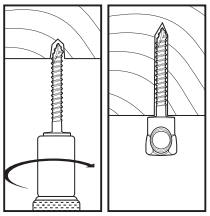
Suggested drill speed for Steel Suspender installations is 1200 to 1800 rpm.

Steel



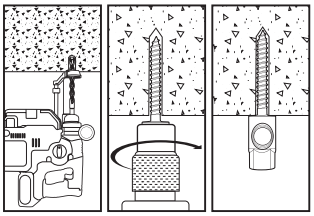
Install with universal socket driver.

Wood



Install with universal socket driver.

Concrete



Install with universal 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[1]

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.
Suspender For Steel - Vertical										
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
Suspender For Steel - Horizontal										
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

1. 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.
2. 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[1,2]

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

*Ultimate Loads In Douglas Fir, Pine and Spruce

1. 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.
2. 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[1,2]

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	5/16" x 2-1/4"	Vertical	1/4	2-1/4	1,760	2,580	2,595	2,640	2,770	2,700

1. 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.
2. 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	5/16" x 2-1/4"	Vertical	1/4	2-1/4	4"