

MATERIAL SPECIFICATIONS

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

INSTALLATION SPECIFICATIONS

Steel HangerMate

Rod Coupler Size	1/4"	3/8"
Coupling Thread Size (UNC)	1/4-20	3/8-16
Coupling Thread Depth (in.)	3/8	3/8
Coupling Height (in.)	3/4	3/4
Socket Driver Size (in.)	1/2	1/2

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

Wood HangerMate

Rod Coupler Size	1/4"	3/8"	1/2"
Coupling Thread Size (UNC)	1/4-20	3/8-16	1/2-13
Coupling Thread Depth (in.)	3/8	3/8	3/8
Coupling Height (in.)	13/16	13/16	13/16
Socket Driver Size (in.)	5/8	5/8	5/8

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

Concrete HangerMate

Rod Coupler Size	1/4"	3/8"
ANSI Drill Bit (in.)	1/4	1/4
Overall Screw Shank Length	1-1/4	1-1/2
Anchor Thread Length (in.)	1-1/8	1-3/8
Coupler / Washing Height (in.)	27/64	9/16
Integral Washer O.D. (in.)	31/64	39/64
Coupling Thread Size (UNC)	1/4-20	3/8-16
Coupling Thread Depth (in.)	3/8	1/2
Socket Driver Size (in.)	3/8	1/2

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 HangerMate, 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.

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

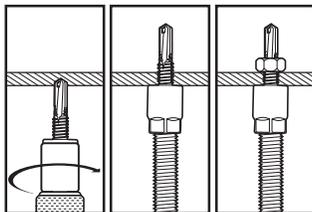
For UL and/or FM listings for hangers Steel HangerMate should be installed with a retaining nut for parts that are packaged with a nut (see performance data and listings as applicable).

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

2. Select the appropriate socket driver for the anchor size and type to be installed and mount into chuck of installation tool. Insert the HangerMate coupling 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.

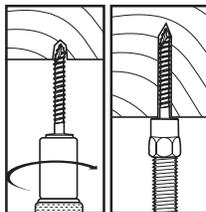
3. Thread the appropriate diameter steel threaded rod or threaded bolt into the coupling. The threaded rod or bolt should fully engage the thread length of the coupling on a vertical mount fastener. The threaded rod or threaded portion of the bolt can pass through coupling of a side mount fastener.

Steel



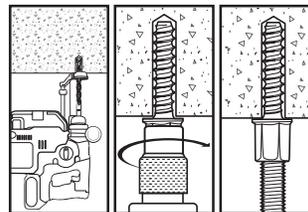
Install with appropriate sized steel socket driver. (side and variable mount direction versions not pictured)

Wood



Install with appropriate sized wood socket driver. (side and variable mount direction versions not pictured)

Concrete



Install with appropriate sized concrete socket driver. (variable mount direction version not pictured)

HANGERMATE®
Rod Hanging Anchors

PERFORMANCE DATA

HangerMate for Steel - General Information

Cat. No.	Screw Description	Mount Direction	Rod Coupler Size	Driver #	Min. Thick. in.	Max. Thick. in.	UL		FM	
							Max. Pipe Size	UL Thick.	Max. Pipe Size	FM Thick.
HangerMate For Steel - Vertical										
PFM2231000	1/4-20 x 1" #3	Vert.	1/4"	PFM2201200 (Silver)	0.060	0.210	-	-	-	-
PFM2231100	1/4-20 x 1" #3	Vert.	3/8"	PFM2201200 (Silver)	0.060	0.210	4"	0.060"	-	-
PFM223110N	1/4-20 x 1" #3/nut	Vert.	3/8"	PFM2201200 (Silver)	0.060	0.210	4"	0.125"	4"	0.105"
PFM2231150	1/4"-20 x 1-1/2" #5	Vert.	3/8"	PFM2201200 (Silver)	0.125	0.500	4"	0.060"	4"	0.060"
PFM223115N	1/4-20 x 1-1/2" #5/nut	Vert.	3/8"	PFM2201200 (Silver)	0.125	0.500	4"	0.125"	4"	0.105"
PFM2231200	1/4-20 x 1-1/2" #3	Vert.	3/8"	PFM2201200 (Silver)	0.060	0.210	4"	0.060"	-	-
PFM223120N	1/4-20 x 1-1/2" #3/nut	Vert.	3/8"	PFM2201200 (Silver)	0.060	0.210	4"	0.060"	-	-
PFM2231250	1/4-20 x 2" #3	Vert.	3/8"	PFM2201200 (Silver)	0.060	0.210	4"	0.125"	-	-
HangerMate For Steel - Horizontal										
PFM2241100	1/4-20 x 1" #3	Side	3/8"	PFM2201200 (Silver)	0.060	0.210	-	-	-	-
PFM224110N	1/4-20 x 1" #3/nut	Side	3/8"	PFM2201200 (Silver)	0.060	0.210	4"	0.060"	4"	0.060"
PFM2241150	1/4-20 x 1-1/2" #3	Side	3/8"	PFM2201200 (Silver)	0.060	0.210	-	-	-	-
PFM224115N	1/4-20 x 1-1/2" #3/nut	Side	3/8"	PFM2201200 (Silver)	0.060	0.210	4"	0.060"	4"	0.060"
PFM2241200	1/4-20 x 1-1/2" #5	Side	3/8"	PFM2201200 (Silver)	0.125	0.500	-	-	-	-
PFM224120N	1/4-20 x 1-1/2" #5/nut	Side	3/8"	PFM2201200 (Silver)	0.125	0.500	4"	0.060"	4"	0.060"
HangerMate Pivot For Steel - Angled Applications										
PFM2281150	1/4-20 x 1" #3	Variable	3/8"	PFM2201250	0.060	0.188	-	-	-	-
PFM2281200	12-20 x 1-3/4" #5	Variable	3/8"	PFM2201250	0.125	0.500	-	-	-	-
PFM2281250	1/4-14 x 1" #3	Variable	3/8"	PFM2201250	0.060	0.188	-	-	-	-
HangerMate For Steel - Acoustical Ceiling Eyelet										
PFM2231500	1/4-14 x 7/8" #2	Variable	13/64" eyelet	PFM2201350	0.060	0.105	-	-	-	-
PFM2231550	1/4-14 x 2" #2	Variable		PFM2201350	0.060	0.105	-	-	-	-

HangerMate for Steel - Ultimate Load Capacities when Installed in Steel^{1,2}

Cat. No.	Screw Description	Mount Direction	Rod Coupler Size	Steel Gauge Thickness, in.						
				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.
HangerMate For Steel - Vertical										
PFM2231000	1/4-20 1" #3	Vertical	1/4"	785	1,140	1,740	2,375	2,820	-	-
PFM2231100	1/4-20 x 1" #3	Vertical	3/8"	785	1,140	1,740	2,375	4,695	-	-
PFM223110N	1/4-20 x 1" #3/nut	Vertical	3/8"	3,435	4,025	4,280	4,690	5,810	-	-
PFM2231150	1/4 -20 x 1-1/2" #5	Vertical	3/8"	-	-	-	-	3,675	5,205	5,205
PFM223115N	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
PFM2231200	1/4-20 x 1-1/2" #3	Vertical	3/8"	785	1,140	1,740	2,375	4,695	-	-
PFM223120N	1/4-20 x 1-1/2" #3/nut	Vertical	3/8"	3,435	4,025	4,280	4,690	4,695	-	-
PFM2231250	1/4-20 x 2" #3	Vertical	3/8"	785	1,140	1,740	2,375	4,695	-	-
HangerMate For Steel - Horizontal										
PFM2241100	1/4-20 x 1" #3	Side	3/8"	1,740	1,945	2,420	2,570	2,810	-	-
PFM224110N	1/4-20 x 1" #3/nut	Side	3/8"	2,755	2,810	2,570	2,810	2,810	-	-
PFM2241150	1/4-20 x 1-1/2" #3	Side	3/8"	1,740	1,945	2,420	2,570	2,810	-	-
PFM224115N	1/4-20 x 1-1/2" #3/nut	Side	3/8"	2,755	2,810	2,570	2,810	2,810	-	-
PFM2241200	1/4-20 x 1-1/2" #5	Side	3/8"	-	-	-	-	2,205	2,810	2,810
PFM224120N	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
HangerMate Pivot For Steel - Angled Applications										
PFM2281150	1/4-20 x 1" #3	Variable	3/8"	635 - Vert. (875 @ 45°)	635 - Vert. (875 @ 45°)	1,130 - Vert. (875 @ 45°)	1,130 - Vert. (875 @ 45°)	1,640 - Vert. (875 @ 45°)	-	-
PFM2281200	12-20 x 1-3/4" #5	Variable	3/8"	635 - Vert. (875 @ 45°)	635 - Vert. (875 @ 45°)	1,130 - Vert. (875 @ 45°)	1,130 - Vert. (875 @ 45°)	1,640 - Vert. (875 @ 45°)	1,640 - Vert. (875 @ 45°)	1,640 - Vert. (875 @ 45°)
PFM2281250	1/4-14 x 1" #3	Variable	3/8"	590 - Vert. (875 @ 45°)	590 - Vert. (875 @ 45°)	970 - Vert. (875 @ 45°)	970 - Vert. (875 @ 45°)	1,640 - Vert. (875 @ 45°)	-	-
HangerMate For Steel - Acoustical Ceiling Eyelet³										
PFM2231500	3/16 x 2" #2	Variable	13/64" eyelet	800	800	1,245	-	-	-	-
PFM2231550	3/16 x 3-1/4" #2	Variable	eyelet	800	800	1,245	-	-	-	-

Vert. = Vertical

1. The values listed above are ultimate load capacities which must 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 HangerMate anchors must be considered when determining the controlling load capacity of the assembly.
3. Ultimate load capacity for PFM2231500 or PFM2231550 acoustical ceiling eyelets installed into 20 gauge steel deck members is 300 lbs.

MECHANICAL ANCHORS

HANGERMATE[®]
Rod Hanging Anchors

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HangerMate for Wood - Ultimate Load Capacities when Installed in Wood^{1,2}

Cat. No.	Screw Description	Mount Direction	Rod Coupler Size	Driver #	Load lbs*	UL	FM
						Max. Pipe Size	Max. Pipe Size
HangerMate For Wood - Vertical							
PFM2251000	1/4" x 2"	Vert.	1/4"	PFM2201150 (Red)	1,510	-	-
PFM2251050	1/4" x 1"	Vert.	3/8"	PFM2201150 (Red)	650	-	-
PFM2251100	1/4" x 2"	Vert.	3/8"	PFM2201150 (Red)	1,510	3"	-
PFM2251150	5/16" x 2-1/2"	Vert.	3/8"	PFM2201150 (Red)	2,670	4"	4"
PFM2251200	1/4" x 3"	Vert.	3/8"	PFM2201150 (Red)	2,075	3"	-
PFM2251250	1/4" x 4"	Vert.	3/8"	PFM2201150 (Red)	2,075	3"	-
PFM2251300	5/16" x 2-1/2"	Vert.	1/2"	PFM2201150 (Red)	2,670	-	-
HangerMate For Wood - Horizontal							
PFM2261000	1/4" x 1"	Side	1/4"	PFM2201150 (Red)	650	-	-
PFM2261050	1/4" x 1"	Side	3/8"	PFM2201150 (Red)	650	-	-
PFM2261100	1/4" x 2"	Side	3/8"	PFM2201150 (Red)	1,080	3"	-
PFM2261150	5/16" x 2-1/2"	Side	3/8"	PFM2201150 (Red)	1,450	4"	-
HangerMate Pivot For Wood - Angled Applications							
PFM2281100	1/4" x 2"	Variable	3/8"	PFM2201250	1,470 (Vertical)	-	-
					1,155 (45°)	-	-
HangerMate For Wood - Acoustical Ceiling Eyelet							
PFM2251500	3/16" x 3-1/4" (2-1/4" shank, 1-1/2" thread)	Variable	13/64" eyelet	PFM2201350	880	-	-

*Ultimate Loads from tests conducted in Douglas Fir, Pine and Spruce.
 1. Truss/joint manufacturers may require pre-drilled holes with wood depending on the location of the anchor installation. Consult with the truss/joint 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.

Concrete HangerMate - Ultimate Load Capacities when Installed in Normal-Weight Concrete^{1,2,3}

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.
PFM2217171	1/4	1/4" x 1-1/4"	Vertical	1/4	1-1/4	1,390	1,810	1,950	2,440	2,070	2,570
PFM2217173	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
PFM2281300	3/8	3/16" x 2"	Variable	3/16	1-3/4	800 (Vertical) 875 (load at 45°)					

1. The values listed above are ultimate load capacities for anchors installed in uncracked normal weight concrete.
 2. 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.
 3. Linear interpolation may be used to determine load capacities for intermediate compressive strengths.

Concrete HangerMate - Ultimate Load Capacities when Installed Through Metal Deck into Lightweight Concrete^{1,2,3,4}

Cat No.	Rod Coupler Size in.	Screw Description	Mount Direction	ANSI Drill Bit Diameter in.	Embedment Depth in.	Lightweight Concrete Over Metal Deck f'c ≥ 3,000 psi			
						4-1/2" Wide Deck			
						Tension lbs.		Load at 45° lbs.	
PFM2217171	1/4	1/4" x 1-1/4"	Vertical	1/4	1-1/4	800		1,140	
PFM2217173	3/8	1/4" x 1-1/2"	Vertical	1/4	1-1/2	1,780		1,500	

1. The values listed above are ultimate load capacities for anchors installed in uncracked sand-lightweight concrete.
 2. The metal deck shall not exceed 18 gauge (0.048-inch base metal thickness) and conform to ASTM A653.
 3. 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.
 4. The tabulated load values are for anchors installed with a minimum lower flute edge distance of 1-1/8-inch; or in the upper flute with consideration for integral washer clearance.

Concrete HangerMate - Ultimate Load Capacities when Installed in Hollow Core Concrete Plank^{1,2}

Cat No.	Rod Coupler Size in.	Screw Description	Mount Direction	ANSI Drill Bit Diameter in.	Embedment Depth in.	Tension, Center of Web lbs.	Tension, Center of Core lbs.
PFM2217171	1/4	1/4" x 1-1/4"	Vertical	1/4	1-1/4	2,775	1,920
PFM2217173	3/8	1/4" x 1-1/2"	Vertical	1/4	1-1/2	3,700	2,570

1. Tabulated load values are for anchors installed in 8-inch-thick uncracked hollow core concrete with minimum compressive strength of 5,000 psi at the time of installation. The normal-weight concrete must have 1-1/2" cover above and below cores and a minimum web thickness of 1-1/2".
 2. 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.

Concrete HangerMate - 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
PFM2217173	3/8	1/4" x 1-1/2"	Vertical	1/4	1-1/2	4"