

GENERAL INFORMATION

PUSH-IN THREAD COUPLER

Steel-to-Steel Threaded Connections

PRODUCT DESCRIPTION

Push-In Thread Couplers have one end that does not require turning threaded rod elements for placement during installation. These high performance couplings are designed for common industrial and commercial hardware connections. For example, they can be ideal for applications such as mounting prefabricated hardware and hanger assemblies. Push-In Thread Couplers may be considered for use as a replacement for standard threaded couplers (e.g. hex coupling nuts).

GENERAL APPLICATIONS AND USES

- Rod Hangers and Supports
- Prefabrication Connections
- Trapeze Assemblies
- Threaded Rod Extensions
- Cast-In Inserts and Threaded Anchors
- Distribution Systems / Utility Lines
- Replacement for Typical Rod Coupling Nuts

FEATURES AND BENEFITS

- + Push-In thread does not require turning threaded rod elements during installation
- + Cinch nut mechanism designed to eliminate thread misalignment
- + Threaded rod compatibility can accept burred or oiled common standard UNC threaded rods
- + Separate thread-in and push-in connection ends designed for attaching existing anchor points to pre-fabrication assemblies
- + Hex nut side enables installation with a wrench for threaded end
- + Couplers compatible with 3/8"-16 or 1/2"-13 UNC threads (threaded rods and bolts)

APPROVALS AND LISTINGS

- International Code Council, Evaluation Service (ICC-ES), ESL-1485 for steel threaded connections
- Code compliant with the 2021 IBC/IRC, 2018 IBC/IRC, 2015 IBC/IRC, and 2012 IBC/IRC
- Tested in accordance with ASTM F606/606M for static loading and in accordance with ACI 355.2/ ASTM E488 and ICC-ES AC193 for seismic loading
- May be considered for use in support systems described in MSS SP-58, ASME B31.1, and ASME B31.9, provided that the support systems are designed and installed in accordance with the requirements in the referenced standards (within ESL-1485)

GUIDE SPECIFICATIONS

CSI Divisions: 05 05 23 - Metal Fastenings. Couplers shall be Push-In Thread Coupler as supplied by DEWALT, Towson, MD. Anchors shall be installed in accordance with published instructions and the Authority Having Jurisdiction.

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PUSH-IN THREAD COUPLER (INTERNALLY THREADED)

ANCHOR MATERIALS

- Zinc Plated Carbon Steel Body

ROD/ANCHOR SIZE RANGE (TYP.)

- 3/8" to 3/8" (UNC)
- 1/2" to 1/2" (UNC)

INSERT VERSIONS

- Single Push-In Thread

SUITABLE BASE MATERIALS

- Steel Threaded Connections



CODE LISTED
ICC-ES ESL-1485

MATERIAL SPECIFICATIONS

Push-In Coupler

| Anchor Component | Component Material |
|------------------|--|
| Coupler Body | Carbon steel |
| Zinc Plating | ASTM B633 (Fe/Zn5) Min. plating requirements for mild service condition |

Material Properties for Common Threaded Rods

| Description | Steel Specification (ASTM) | Threaded Rod Diameter (inch) | Minimum Yield Strength, f_y (ksi) | Minimum Ultimate Strength, f_u (ksi) |
|----------------------------|----------------------------|------------------------------|-------------------------------------|--|
| Standard Carbon Steel | A36 | 3/8 or 1/2 | 36.0 | 58.0 |
| High Strength Carbon Steel | A193, Grade B7 | 3/8 or 1/2 | 105.0 | 125.0 |

Couplers may be considered for use in conjunction with all grades of continuously threaded carbon steels (all-thread or threaded bolts) that comply with code reference standards and that have thread characteristics comparable with ANSI B1.1 UNC Coarse Thread Series.

INSTALLATION SPECIFICATIONS

Installation Specifications for Push-In Thread Coupler

| Nominal Size | Internal Thread Diameter Size | Approximate Push-In Rod Length | Approximate Outside Insert Diameter | Approximate Insert Length | Hex Nut Size | Approximate Hex Nut Thread Depth |
|--------------|-------------------------------|--------------------------------|-------------------------------------|---------------------------|--------------|----------------------------------|
| 3/8" | 3/8"-16 (both ends) | 7/8" | 1/2" | 1-9/16" | 1/2" | 3/8" |
| 1/2" | 1/2"-13 (both ends) | 1" | 21/32" | 1-13/16" | 3/4" | 1/2" |

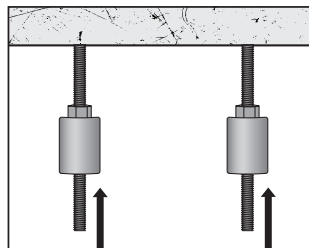
INSTALLATION INSTRUCTIONS

Installation Instructions for Push-In Thread Coupler

HEX NUT SIDE UP / PUSH-IN SIDE DOWN:



Step 1
Thread hex nut side of couplers fully onto hanging threaded rod.

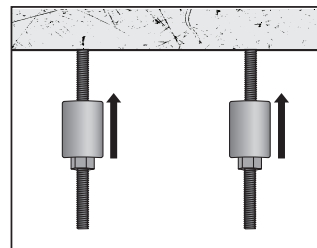


Step 2
Push threaded assembly fully into couplers.

PUSH-IN SIDE UP / HEX NUT SIDE DOWN:



Step 1
Thread hex nut side of couplers fully onto threaded assembly.



Step 2
Push couplers (attached to assembly) fully into hanging threaded rod.

REFERENCE DATA (ASD)

Ultimate and Allowable Load Capacities for Push-In Thread Couplers^{1,2,3,4}

| Threaded Rod/Anchor Diameter in. | Tension | |
|----------------------------------|--------------------|---------------------|
| | Ultimate lbs. (kN) | Allowable lbs. (kN) |
| 3/8 | 12,375 (55.1) | 4,125 (18.4) |
| 1/2 | 18,000 (80.1) | 6,000 (26.7) |

1. Allowable load capacities are calculated using an applied safety factor of 3.0
2. The tabulated allowable load capacities must be checked against the steel strength of the corresponding steel threaded insert, the lowest load level controls.
3. Allowable load capacities for 3/8-inch-diameter couplers may also be used for seismic tension loading provided the allowable values are reduced by 15 percent.
4. Allowable load capacities for the 1/2-inch-diameter couplers may also be used for seismic tension loading with no additional reduction.

Allowable Loads Based on Steel Strength for Common Threaded Rods^{1,2}

| Rod Diameter in. | Tension, lbs. | | | |
|------------------|--|--------------------------|------------------------------------|------------------------------------|
| | ASTM A36, ASTM F1554 Grade 36 $F_u = 58$ ksi | ASTM A307 $F_u = 60$ ksi | ISO 898 Class 5.8 $F_u = 72.5$ ksi | ASTM A193 Grade B7 $F_u = 125$ ksi |
| 3/8 | 2,115 | 2,185 | 2,640 | 4,555 |
| 1/2 | 3,755 | 3,885 | 4,700 | 8,100 |

For St: 1 inch = 25.4 mm; 1 lbf = 0.0044 kN, 1 ksi = 1000 lbs/in² = 6.894 MPa.

1. Allowable load used in the design must be the lesser of internally threaded coupler values and tabulated steel threaded insert values.
2. Allowable loads for steel strength are calculated using allowable tension equal to $0.33 \times F_u \times A_{nom}$.

ORDERING INFORMATION

Push-In Thread Couplers

| Cat. No. | Description | Internal Thread Diameter | Pack Qty. |
|------------|-------------------------|--------------------------|-----------|
| PFM3613038 | 3/8"-16 Coupler Push-In | 3/8" to 3/8" | 20 |
| PFM3613012 | 1/2"-13 Coupler Push-In | 1/2" to 1/2" | 20 |

