DUCs are mechanical anchors expanded into holes that have been undercut at the bottom using an undercutting drill bit. This creates a true bearing type anchor that performs like a cast-in-place headed anchor. Load is transferred into the concrete through bearing, not friction like traditional expansion anchors. Excellent performance in seismic and dynamic loading conditions. Meets ACI 318-14 Chapter 17 (2018 IBC) requirements as a code anchor, including seismic loading, tension zone, and cracked concrete provisions.

**Rod Materials:** ASTM A36 (L Series), A193 Grade B7 (H Series), or AISI 316 Stainless Studs  
**Anchor Body Materials:** ASTM A 513 Type 5, or AISI 316 Stainless  
**Codes:** IBC, FL, LA

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**Tension and shear capacities for DUC Anchors in f\(^c\) ≥ 2,500 psi concrete**

<table>
<thead>
<tr>
<th>MiTek USP Stock No.</th>
<th>Rod Dia. (d_b) (in)</th>
<th>Anchor Length (l_a) (in)</th>
<th>Expansion Coupling Dia. (d_c) (in)</th>
<th>Drilled Hole Depth of Stop Bit (in)</th>
<th>Effective Embedment (h_{ef}) (in)</th>
<th>Allowable Tensile Capacity (Lbs.)</th>
<th>Allowable Shear Capacity (Lbs.)</th>
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<td>3-3/4</td>
<td>5/8</td>
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</table>

1) Allowable tensile and shear capacities are for anchors installed at standard edge distance and spacing in uncracked concrete in accordance with the 2018 IBC and referenced ACI documents.  
Screw-Bolt+ anchors are a one-piece, heavy duty screw anchor with a finished hex head. The patented thread design, designed for use with standard ANSI drill bits, reduces installation torque and enhances productivity. The steel threads along the anchor body tap into the hole during installation to provide keyed engagement and allow for reduced edge and spacing distances.

**Finish:** Zinc Plated or Mechanically Galvanized

**Codes:** IBC, FL, LA

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### MiTek USP® Screw-Bolt+ Anchor Specifications

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<tr>
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1) The anchor size includes the diameter and length of the anchor measured from under the head.
The Power-Stud® HD5 anchor is a fully threaded, torque-controlled, wedge expansion anchor. Suitable base materials include normal-weight concrete, sand-lightweight concrete and grouted concrete masonry. Nut and washer are included.

**Materials:** Anchor Body – Carbon Steel; Expansion Clip: Type 304 Stainless Steel; Hex Nut: ASTM A 563, Grade A; Washer: ASTM F 844

**Finish:** Anchor Body, Nut, Washer – Hot-dip galvanized; Expansion Clip: Stainless Steel

### Power-Stud® HD5 Wedge Expansion Anchors

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<th>Ref. No.</th>
<th>Anchor Size (in)</th>
<th>Thread Length (in)</th>
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1) The anchor size includes the diameter and the overall length of the anchor.
2) All anchors are packaged with nuts and washers.

### Power-Stud+® SD1 Wedge Expansion Anchors

Power-Stud+® SD1 anchor is a fully threaded, torque-controlled, wedge expansion anchor which is designed for consistent performance in cracked and uncracked concrete. Suitable base materials include normal-weight concrete, sand-lightweight concrete, concrete over steel deck and grouted concrete masonry. Nut and washer are included.

**Materials:** Anchor Body, Expansion Clip – Carbon Steel; Hex Nut: ASTM A 563, Grade A; Washer: ASTM F 844

**Finish:** Zinc Plated

**Codes:** IBC, FL, LA

<table>
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<tr>
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1) The anchor size includes the diameter and the overall length of the anchor.
2) All anchors are packaged with nuts and washers.
THR Threaded Rods

THR’s support the deck oriented code requirements for mechanically reinforced railing post and deck to house ledger board attachments.

**Materials:** ASTM A36 steel, also conforms to ASTM F1554, Grade 36

**Finish:** Hot-dip galvanized

**Installation:**
- Install into wet concrete with nut embedded or drill minimum 1/16” – 1/8” oversized hole depending on rod size and secure with anchor epoxy. Nut and washer included.

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**Corrosion Finish**
- Stainless Steel
- Gold Coat
- HDG
- Triple Zinc

1/2" THR Threaded Rod

Typical THR installation

Typical THR deck to ledger installation