

GENERAL INFORMATION

DOMESTIC WEDGE ANCHOR

Carbon Steel and Stainless Steel Wedge Expansion Anchors

*Anchor body produced in the U.S.A., nut and washer made in Taiwan or China

PRODUCT DESCRIPTION

The Domestic Wedge Anchor is a threaded, torque-controlled, carbon steel or stainless steel wedge expansion anchor which is designed for consistent performance in concrete. Suitable base materials are normal-weight and lightweight concrete. The anchor is manufactured with carbon steel body and expansion clip or a stainless steel body and expansion clip. Nut and washer are included.

GENERAL APPLICATIONS AND USES

- Steel fixtures
- Support connections
- Equipment and machinery
- Railing and barriers

FEATURES AND BENEFITS

- + Anchor body made in the U.S.A.
- + Nut and washer made in Taiwan or China
- + Nominal drill bit size is the same as the anchor diameter
- + Anchor can be installed through standard size fixture clearance holes
- + Length ID code and identifying marking stamped on head of each anchor
- + Corrosion resistant stainless steel anchors available

APPROVALS AND LISTINGS

- Tested in accordance with ASTM E488

GUIDE SPECIFICATIONS

CSI Divisions: 03 16 00 - Concrete Anchors, 04 05 19.16 - Masonry Anchors and 05 05 19 - Post-Installed Concrete Anchors. Expansion anchors shall be Domestic Wedge Anchor as supplied by DEWALT, Towson, MD. Anchors shall be installed in accordance with published instructions and the Authority Having Jurisdiction.

MATERIAL SPECIFICATIONS

| Anchor component | Specification | | |
|------------------------|--------------------------------------|----------------------------|---------------------|
| | Carbon Steel ¹ | Type 303 | Type 316 |
| Anchor body | AISI C12L14 | 303 Stainless Steel | 316 Stainless Steel |
| Washer | AISI C1010-1018 | 300 Series Stainless Steel | 316 Stainless Steel |
| Hex Nut | Low Carbon Steel, ASTM A563, Grade A | 18-8 Stainless Steel | 316 Stainless Steel |
| Expansion wedge (clip) | AISI C1010-1018 | 18-8 Stainless Steel | 316 Stainless Steel |

1. Zinc plated in accordance with ASTM B633, SC1 Type III.
* Domestic nut and washer available upon request.

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DOMESTIC WEDGE ANCHOR ASSEMBLY

THREAD VERSION

- Threaded Stud (UNC)

ANCHOR MATERIALS

- Carbon Steel
- 303 Stainless Steel
- 316 Stainless Steel

ANCHOR SIZE RANGE (TYP.)

- 1/4" through 1-1/4" diameters

SUITABLE BASE MATERIALS

- Normal-weight Concrete
- Lightweight Concrete

INSTALLATION SPECIFICATIONS

Installation Specifications Table for Domestic Wedge Anchor

| Anchor Property/ Setting Information | Notation | Units | Nominal Anchor Diameter (inch) | | | | | | | |
|---|-------------------|----------|--------------------------------|-------|-------|-------|---------|---------|---------|---------|
| | | | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1-1/4 |
| Anchor outside diameter | d | in. | 0.25 | 0.375 | 0.500 | 0.625 | 0.750 | 0.875 | 1.000 | 1.250 |
| Nominal drill bit diameter (ANSI) | d _{bit} | in. | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1-1/4 |
| Minimum diameter of hole clearance in fixture | d _h | in. | 5/16 | 7/16 | 9/16 | 11/16 | 13/16 | 15/16 | 1-1/8 | 1-3/8 |
| Minimum nominal embedment depth | h _{nom} | in. | 1-1/8 | 1-1/2 | 2-1/4 | 2-3/4 | 3-1/4 | 3-7/8 | 4-1/2 | 5-1/2 |
| Minimum hole depth | h _o | in. | 1-3/8 | 1-7/8 | 2-3/4 | 3-1/4 | 3-3/4 | 4-3/8 | 5 | 6 |
| Installation torque | T _{inst} | ft.-lbf. | 5-10 | 25-30 | 50-60 | 75-90 | 150-175 | 200-250 | 250-300 | 400-450 |
| Torque wrench/socket size | - | in. | 7/16 | 9/16 | 3/4 | 15/16 | 1-1/8 | 1-5/16 | 1-1/2 | 1-7/8 |
| Nut height | - | in. | 7/32 | 21/64 | 7/16 | 35/64 | 41/64 | 3/4 | 55/64 | 1-1/16 |

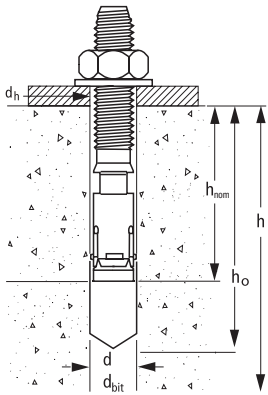
For SI: 1 inch = 25.4 mm, 1 ft-lbf = 1.356 N-m.

Length Identification

| Mark | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|-----|
| From | 1-1/2" | 2" | 2-1/2" | 3" | 3-1/2" | 4" | 4-1/2" | 5" | 5-1/2" | 6" | 6-1/2" | 7" | 7-1/2" | 8" | 8-1/2" | 9" | 9-1/2" | 10" | 11" |
| Up to but not including | 2" | 2-1/2" | 3" | 3-1/2" | 4" | 4-1/2" | 5" | 5-1/2" | 6" | 6-1/2" | 7" | 7-1/2" | 8" | 8-1/2" | 9" | 9-1/2" | 10" | 11" | 12" |

Length identification mark indicates overall length of anchor.

Anchor Detail

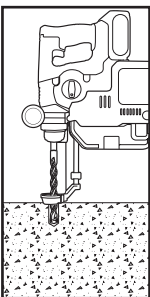


Nomenclature

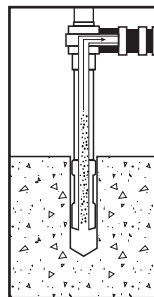
- d = Diameter of anchor
- d_{bit} = Diameter of drill bit
- d_h = Diameter of fixture clearance hole
- h = Base material thickness
The minimum value of h should be 1.5h_{nom} or 4" whichever is greater
- h_{nom} = Minimum embedment depth

INSTALLATION INSTRUCTIONS

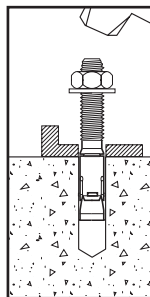
Installation Instructions for Domestic Wedge Anchor



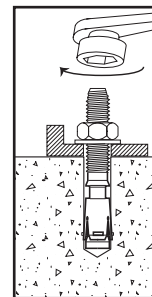
Step 1
Using the proper drill bit size, drill a hole into the base material to the required depth. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15.



Step 2
Remove dust and debris from the hole during drilling (e.g. dust extractor, hollow bit) or following drilling (e.g. suction, forced air) to extract loose particles created by drilling.



Step 3
Position the washer on the anchor and thread on the nut. If installing through a fixture, drive the anchor through the fixture into the hole. Be sure the anchor is driven to the minimum required embedment depth.



Step 4
Tighten the anchor with a torque wrench by applying the required installation torque, T_{inst}.

PERFORMANCE DATA (ASD)

Ultimate Load Capacities for Domestic Wedge Anchor in Normal-Weight Concrete^{1,2}

| Nominal Anchor Diameter (in.) | Minimum Embedment Depth (in.) | Concrete Compressive Strength, f'c | | | | | |
|-------------------------------|-------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|
| | | 2,000 psi | | 4,000 psi | | 6,000 psi | |
| | | Ultimate Tension Load Capacity (lbs.) | Ultimate Shear Load Capacity (lbs.) | Ultimate Tension Load Capacity (lbs.) | Ultimate Shear Load Capacity (lbs.) | Ultimate Tension Load Capacity (lbs.) | Ultimate Shear Load Capacity (lbs.) |
| 1/4 | 1-1/8 | 1,170 | 1,445 | 1,770 | 1,815 | 2,775 | 2,635 |
| | 1-3/4 | 1,840 | | 2,410 | | 2,775 | |
| | 2-3/4 | 1,975 | | 2,750 | | 2,830 | |
| 3/8 | 1-1/2 | 1,630 | 4,320 | 3,640 | 5,120 | 4,450 | 6,235 |
| | 3 | 3,230 | | 5,655 | | 5,975 | |
| | 5 | 4,075 | | 6,330 | | 6,360 | |
| 1/2 | 2-1/4 | 4,000 | 7,420 | 6,715 | 9,380 | 9,615 | 9,890 |
| | 4 | 6,335 | | 8,945 | | 10,190 | |
| | 6 | 6,900 | | 10,175 | | 12,065 | |
| 5/8 | 2-3/4 | 5,000 | 8,265 | 8,750 | 12,930 | 9,760 | 16,375 |
| | 5 | 8,855 | | 15,590 | | 16,800 | |
| | 7 | 9,380 | | 16,710 | | 17,735 | |
| 3/4 | 3-1/4 | 6,640 | 12,505 | 11,315 | 17,050 | 16,230 | 22,965 |
| | 6 | 10,085 | | 18,410 | | 21,095 | |
| | 8 | 11,170 | | 19,805 | | 22,525 | |
| 7/8 | 3-7/8 | 8,395 | 18,250 | 16,355 | 20,235 | 16,800 | 23,980 |
| | 5-3/4 | 12,065 | | 18,250 | | 23,405 | |
| 1 | 4-1/2 | 9,775 | 23,620 | 18,250 | 27,605 | 27,460 | 28,910 |
| | 7-1/2 | 11,890 | | 26,725 | | 34,960 | |
| | 10 | 15,590 | | 30,490 | | 37,840 | |
| 1-1/4 | 5-1/2 | 17,550 | 32,275 | 22,970 | 42,690 | 32,370 | 55,565 |
| | 7 | 21,050 | | 27,845 | | 48,365 | |
| | 10 | 27,895 | | 34,790 | | 61,270 | |

1. Tabulated load values are for anchors installed in uncracked concrete with no edge or spacing considerations. Concrete compressive strength must be at the specified minimum at the time of installation.
2. Ultimate load capacities must be reduced by a minimum safety factor of 4.0 or greater to determine allowable working loads.

MECHANICAL ANCHORS

DOMESTIC WEDGE ANCHOR
Carbon Steel and Stainless Steel Wedge Expansion Anchors



Allowable Load Capacities for Carbon Steel and Stainless Steel Domestic Wedge Anchor in Normal-Weight Concrete^{1,2,3}

| Nominal Anchor Diameter (in.) | Minimum Embedment Depth (in.) | Concrete Compressive Strength, f'c | | | | | |
|-------------------------------|-------------------------------|--|--------------------------------------|--|--------------------------------------|--|--------------------------------------|
| | | 2,000 psi | | 4,000 psi | | 6,000 psi | |
| | | Allowable Tension Load Capacity (lbs.) | Allowable Shear Load Capacity (lbs.) | Allowable Tension Load Capacity (lbs.) | Allowable Shear Load Capacity (lbs.) | Allowable Tension Load Capacity (lbs.) | Allowable Shear Load Capacity (lbs.) |
| 1/4 | 1-1/8 | 295 | 360 | 445 | 455 | 695 | 660 |
| | 1-3/4 | 460 | | 600 | | 695 | |
| | 2-3/4 | 495 | | 690 | | 710 | |
| 3/8 | 1-1/2 | 410 | 1,080 | 910 | 1,280 | 1,115 | 1,560 |
| | 3 | 810 | | 1,415 | | 1,495 | |
| | 5 | 1,020 | | 1,580 | | 1,590 | |
| 1/2 | 2-1/4 | 1,000 | 1,855 | 1,680 | 2,345 | 2,405 | 2,475 |
| | 4 | 1,585 | | 2,235 | | 2,550 | |
| | 6 | 1,725 | | 2,545 | | 3,015 | |
| 5/8 | 2-3/4 | 1,250 | 2,065 | 2,190 | 3,235 | 2,440 | 4,095 |
| | 5 | 2,215 | | 3,900 | | 4,200 | |
| | 7 | 2,345 | | 4,180 | | 4,435 | |
| 3/4 | 3-1/4 | 1,660 | 3,125 | 2,830 | 4,265 | 4,060 | 5,740 |
| | 6 | 2,520 | | 4,600 | | 5,275 | |
| | 8 | 2,795 | | 4,950 | | 5,630 | |
| 7/8 | 3-7/8 | 2,100 | 4,565 | 4,090 | 5,060 | 4,200 | 5,995 |
| | 5-3/4 | 3,015 | | 4,565 | | 5,850 | |
| 1 | 4-1/2 | 2,445 | 5,905 | 4,565 | 6,900 | 6,865 | 7,230 |
| | 7-1/2 | 2,975 | | 6,685 | | 8,740 | |
| | 10 | 3,900 | | 7,625 | | 9,460 | |
| 1-1/4 | 5-1/2 | 4,390 | 8,070 | 5,745 | 10,675 | 8,095 | 13,890 |
| | 7 | 5,265 | | 6,960 | | 12,095 | |
| | 10 | 6,975 | | 8,700 | | 15,320 | |

1. Tabulated load values are for anchors installed in uncracked concrete. Concrete compressive strength must be at the specified minimum at the time of installation.
 2. Allowable load capacities listed are calculated using and applied safety factor of 4.0.
 3. Allowable loads for lightweight concrete may be determined by multiplying the tabulated allowable load capacities for normal weight concrete by 0.60.

MECHANICAL ANCHORS

DOMESTIC WEDGE ANCHOR
Carbon Steel and Stainless Steel Wedge Expansion Anchors

ORDERING INFORMATION



****Domestic Wedge Anchor (Carbon Steel)**

| Cat. No. | Size | Thread Length | Pack Qty. | Carton Qty. |
|-------------|---------------|---------------|-----------|-------------|
| 7400USA-PWR | 1/4" x 1-3/4" | 3/4" | 100 | 500 |
| 7402USA-PWR | 1/4" x 2-1/4" | 3/4" | 100 | 500 |
| 7404USA-PWR | 1/4" x 3-1/4" | 3/4" | 100 | 500 |
| 7410USA-PWR | 3/8" x 2-1/4" | 7/8" | 50 | 250 |
| 7412USA-PWR | 3/8" x 2-3/4" | 1-1/8" | 50 | 250 |
| 7413USA-PWR | 3/8" x 3" | 1-1/8" | 50 | 250 |
| 7415USA-PWR | 3/8" x 3-3/4" | 1-1/8" | 50 | 250 |
| 7416USA-PWR | 3/8" x 5" | 1-1/8" | 50 | 250 |
| 7417USA-PWR | 3/8" x 6-1/2" | 1-1/8" | 50 | 200 |
| 7420USA-PWR | 1/2" x 2-3/4" | 1-1/4" | 50 | 200 |
| 7422USA-PWR | 1/2" x 3-3/4" | 1-1/4" | 50 | 200 |
| 7423USA-PWR | 1/2" x 4-1/2" | 1-1/4" | 50 | 200 |
| 7424USA-PWR | 1/2" x 5-1/2" | 1-1/4" | 50 | 150 |
| 7426USA-PWR | 1/2" x 7" | 1-1/4" | 25 | 100 |
| 7428USA-PWR | 1/2" x 10" | 1-1/4" | 25 | 100 |
| 7430USA-PWR | 5/8" x 3-1/2" | 2" | 25 | 100 |
| 7432USA-PWR | 5/8" x 4-1/2" | 2" | 25 | 100 |
| 7433USA-PWR | 5/8" x 5" | 2" | 25 | 100 |
| 7434USA-PWR | 5/8" x 6" | 2" | 25 | 75 |
| 7436USA-PWR | 5/8" x 7" | 2" | 25 | 75 |
| 7440USA-PWR | 3/4" x 4-1/4" | 2" | 20 | 60 |
| 7441USA-PWR | 3/4" x 4-3/4" | 2" | 20 | 60 |
| 7442USA-PWR | 3/4" x 5-1/2" | 2" | 20 | 60 |
| 7444USA-PWR | 3/4" x 6-1/4" | 2" | 20 | 60 |
| 7446USA-PWR | 3/4" x 7" | 2" | 20 | 60 |
| 7449USA-PWR | 3/4" x 10" | 2" | 10 | 30 |
| 7461USA-PWR | 1" x 6" | 2-1/4" | 10 | 40 |
| 7475USA-PWR | 1-1/4" x 12" | 3-1/4" | 5 | 15 |

Installation Accessories

| Cat. No. | Description | Pack Qty |
|-----------|-------------------------|----------|
| 08280-PWR | Hand pump / dust blower | 1 |

****Domestic Wedge Anchor (303 Stainless Steel)**

| Cat. No. | Size | Thread Length | Pack Qty. | Carton Qty. |
|-------------|---------------|---------------|-----------|-------------|
| 7300USA-PWR | 1/4" x 1-3/4" | 3/4" | 100 | 500 |
| 7304USA-PWR | 1/4" x 3-1/4" | 3/4" | 100 | 500 |
| 7312USA-PWR | 3/8" x 2-3/4" | 1-1/8" | 50 | 250 |
| 7313USA-PWR | 3/8" x 3" | 1-1/8" | 50 | 250 |
| 7314USA-PWR | 3/8" x 3-1/2" | 1-1/8" | 50 | 250 |
| 7315USA-PWR | 3/8" x 3-3/4" | 1-1/8" | 50 | 250 |
| 7316USA-PWR | 3/8" x 5" | 1-1/8" | 50 | 250 |
| 7320USA-PWR | 1/2" x 2-3/4" | 1-1/4" | 50 | 200 |
| 7322USA-PWR | 1/2" x 3-3/4" | 1-1/4" | 50 | 200 |
| 7323USA-PWR | 1/2" x 4-1/2" | 1-1/4" | 50 | 200 |
| 7324USA-PWR | 1/2" x 5-1/2" | 1-1/4" | 50 | 150 |
| 7326USA-PWR | 1/2" x 7" | 1-1/4" | 25 | 100 |
| 7332USA-PWR | 5/8" x 4-1/2" | 2" | 25 | 100 |
| 7341USA-PWR | 3/4" x 4-3/4" | 2" | 20 | 60 |
| 7348USA-PWR | 3/4" x 8-1/2" | 2" | 10 | 40 |
| 7349USA-PWR | 3/4" x 10" | 2" | 10 | 30 |

****Domestic Wedge Anchor (316 Stainless Steel)**

| Cat. No. | Size | Thread Length | Pack Qty. | Carton Qty. |
|-------------|---------------|---------------|-----------|-------------|
| 7600USA-PWR | 1/4" x 1-3/4" | 3/4" | 100 | 500 |
| 7602USA-PWR | 1/4" x 2-1/4" | 3/4" | 100 | 500 |
| 7604USA-PWR | 1/4" x 3-1/4" | 1-1/8" | 100 | 500 |
| 7610USA-PWR | 3/8" x 2-1/4" | 7/8" | 50 | 250 |
| 7612USA-PWR | 3/8" x 2-3/4" | 1-1/8" | 50 | 250 |
| 7613USA-PWR | 3/8" x 3" | 1-1/8" | 50 | 250 |
| 7614USA-PWR | 3/8" x 3-1/2" | 1-1/8" | 50 | 250 |
| 7615USA-PWR | 3/8" x 3-3/4" | 1-1/8" | 50 | 250 |
| 7616USA-PWR | 3/8" x 5" | 1-1/8" | 50 | 250 |
| 7620USA-PWR | 1/2" x 2-3/4" | 1-1/4" | 50 | 200 |
| 7626USA-PWR | 1/2" x 7" | 1-1/4" | 25 | 100 |
| 7632USA-PWR | 5/8" x 4-1/2" | 2" | 25 | 100 |
| 7633USA-PWR | 5/8" x 5" | 2" | 25 | 100 |
| 7634USA-PWR | 5/8" x 6" | 2" | 25 | 75 |
| 7636USA-PWR | 5/8" x 7" | 2" | 25 | 75 |
| 7638USA-PWR | 5/8" x 8-1/2" | 2" | 25 | 75 |
| 7642USA-PWR | 3/4" x 5-1/2" | 2" | 20 | 60 |
| 7646USA-PWR | 3/4" x 7" | 2" | 20 | 60 |

* Anchor produced in the U.S.A., nut and washer made in Taiwan or China (domestic nut and washer by request).

** Anchors are Made to Order.

The published size includes the diameter and the overall length of the carbon and stainless steel anchors.

All anchors are packaged with nuts and washers.