

# Stud Anchors

## Bottom-Bearing, Hammer-Driven Anchors



### DESCRIPTION/SUGGESTED SPECIFICATIONS

#### Stud Type Anchors — SPECIFIED FOR ANCHORAGE INTO CONCRETE



Stud Anchors feature a bolt body and pre-assembled expander plug. Anchors should be installed with carbide tipped hammer drill bits made in accordance to ANSI B212.15-1994.

Anchors are tested to ASTM E488 criteria. Anchors are listed by the following agencies as required: UL and FM.

### ADVANTAGES

- Fast and easy to install
- Same drill size as anchor size
- Bottom-bearing design is ideal for jacking and leveling applications
- Install anchor directly through fixture
- Hammer-driven expansion design eliminates torque requirements, for dependable holding capacity

### APPLICATIONS



Stud Anchors are commonly used to anchor equipment to concrete slabs. The external studs make for easy jacking and leveling for easy cleanup in industrial settings.

### FEATURES



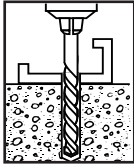
- External Threads for easy equipment setting
- Stamped part number on body
- Pre-assembled expander plug—easy anchor to set—drill and hammer in—anchor is bottom bearing

### APPROVALS/LISTINGS

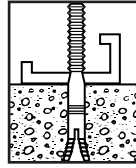
Meets or exceeds U.S. Government G.S.A. specification A-A-55614 Type 2 (Formerly GSA: FF-S-325 Group VIII, Type 2)  
Factory Mutual  
California State Fire Marshal  
Underwriters Laboratories

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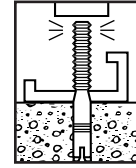
## INSTALLATION STEPS



1. Drill hole same diameter as anchor to embedment specified in chart. Clean hole.



2. Drive anchor with expander plug in bottom, through material to be fastened.



3. Expand anchor by driving anchor over plug with hammer.

Note: Recommended thickness of concrete for bottom-bearing anchors = embedment depth + three times anchor diameter

## SELECTION CHART

### Stud Anchors

| PART NUMBER | HOLE OR BIT SIZE (THREADS) PER INCH | OVERALL LENGTH In. (mm) | STUD LENGTH In. (mm) | THREAD LENGTH In. (mm) | MIN. EMBEDMENT In. (mm) | QTY/WT PER BOX lbs. | QTY/WT PER MASTER CARTON lbs. |
|-------------|-------------------------------------|-------------------------|----------------------|------------------------|-------------------------|---------------------|-------------------------------|
| JS-14C      | 1/4" - 20                           | 1-3/4 (44.5)            | 3/4 (19.1)           | 5/8 (15.9)             | 1-3/8 (34.9)            | 100/ 2.6            | 1000/ 26                      |
| JS-14H      |                                     | 2-1/4 (57.2)            | 1-1/8 (28.6)         | 7/8 (22.2)             | 1-3/8 (34.9)            | 100/ 3.1            | 1000/ 31                      |
| JS-14M      |                                     | 3-1/4 (82.6)            | 2-1/8 (54.0)         | 7/8 (22.2)             | 1-3/8 (34.9)            | 100/ 4.5            | 1000/ 45                      |
| JS-38C      | 3/8" - 16                           | 2-1/4 (57.2)            | 1 (25.4)             | 3/4 (19.1)             | 1-5/8 (41.3)            | 50/ 3.6             | 500/ 36                       |
| JS-38H      |                                     | 3 (76.2)                | 1-5/8 (41.3)         | 1-1/4 (31.8)           | 1-5/8 (41.3)            | 50/ 4.5             | 500/ 45                       |
| JS-38M      |                                     | 3-3/4 (95.3)            | 2-1/4 (57.2)         | 1-1/4 (31.8)           | 1-5/8 (41.3)            | 50/ 5.7             | 500/ 57                       |
| JS-12C      | 1/2" - 13                           | 2-3/4 (69.9)            | 1-1/8 (28.6)         | 7/8 (22.2)             | 1-7/8 (47.6)            | 25/ 3.9             | 250/ 39                       |
| JS-12H      |                                     | 4-1/4 (108.0)           | 2-1/2 (63.5)         | 2 (50.8)               | 1-7/8 (47.6)            | 25/ 5.6             | 250/ 56                       |
| JS-12M      |                                     | 5-1/4 (133.4)           | 3-5/8 (92.1)         | 2 (50.8)               | 1-7/8 (47.6)            | 25/ 7.0             | 250/ 70                       |
| JS-58H      | 5/8" - 11                           | 5 (127.0)               | 3 (76.2)             | 2-1/4 (57.2)           | 2-3/8 (60.3)            | 10/ 4.1             | 100/ 42                       |
| JS-34H      | 3/4" - 10                           | 6-1/4 (158.8)           | 3-3/4 (95.3)         | 2-1/2 (63.5)           | 2-7/8 (73.0)            | 10/ 7.6             | 50/ 59                        |

## PERFORMANCE TABLE

### Stud Anchors

### Ultimate Tension and Shear Values in Concrete (Lbs/kN)

| ANCHOR DIA. In. (mm) | MINIMUM EMBEDMENT DEPTH In. (mm) | f'c = 2000 PSI (13.8 MPa) |                 | f'c = 4000 PSI (27.6 MPa) |                 |
|----------------------|----------------------------------|---------------------------|-----------------|---------------------------|-----------------|
|                      |                                  | TENSION Lbs. (kN)         | SHEAR Lbs. (kN) | TENSION Lbs. (kN)         | SHEAR Lbs. (kN) |
| 1/4 (6.4)            | 1-3/8 (34.9)                     | 1,120 (5.0)               | 580 (2.6)       | 1,500 (6.7)               | 1,640 (7.3)     |
| 3/8 (9.5)            | 1-5/8 (41.3)                     | 1,740 (7.7)               | 2,280 (10.1)    | 3,160 (14.1)              | 3,360 (14.9)    |
| 1/2 (12.7)           | 1-7/8 (47.6)                     | 2,680 (11.9)              | 5,320 (23.7)    | 4,020 (17.9)              | 5,100 (22.7)    |
| 5/8 (15.9)           | 2-3/8 (60.3)                     | 3,200 (14.2)              | 5,460 (24.3)    | 5,520 (24.6)              | 6,820 (30.3)    |
| 3/4 (19.1)           | 2-7/8 (73.0)                     | 4,020 (17.9)              | 8,100 (36.0)    | 7,520 (33.5)              | 8,560 (38.1)    |

Allowable loads are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

## PERFORMANCE TABLE

### Stud Anchors

### Recommended Edge and Spacing Distance Requirements\*

| ANCHOR DIA. In. (mm) | MINIMUM EMBEDMENT DEPTH In. (mm) | EDGE DISTANCE REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm) | MIN. EDGE DISTANCE AT WHICH FACTOR APPLIED = .90 FOR TENSION = .65 FOR SHEAR In. (mm) | SPACING REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm) | MIN. ALLOWABLE SPACING BETWEEN ANCHORS LOAD FACTOR APPLIED = .90 FOR TENSION = .50 FOR SHEAR In. (mm) |
|----------------------|----------------------------------|---|---|---|---|
| 1/4 (6.4)            | 1-3/8 (34.9)                     | 2-7/16 (61.9)   | 1-1/4 (31.8)  | 4-13/16 (122.2)                                       | 2-7/16 (61.9)   |
| 3/8 (9.5)            | 1-5/8 (41.3)                     | 2-7/8 (73.0)  | 1-7/16 (36.5)   | 5-11/16 (144.5)                                       | 2-7/8 (73.0)  |
| 1/2 (12.7)           | 1-7/8 (47.6)                     | 3-5/16 (84.1)   | 1-11/16 (42.9)  | 6-9/16 (166.7)  | 3-5/16 (84.1)   |
| 5/8 (15.9)           | 2-3/8 (60.3)                     | 4-3/16 (106.4)  | 2-1/8 (54.0)  | 8-5/16 (211.1)  | 4-3/16 (106.4)  |
| 3/4 (19.1)           | 2-7/8 (73.0)                     | 5-1/16 (128.6)  | 2-9/16 (65.1)   | 10-1/16 (255.6)                                       | 5-1/16 (128.6)  |

\* Linear interpolation may be used for intermediate spacing and edge distances.

### Combined Tension and Shear Loading—for Stud Anchors

Allowable loads for anchors subjected to combined shear and tension forces are determined by the following equation:  $(P_s/P_t)^{5/3} + (V_s/V_t)^{5/3} \leq 1$

$P_s$  = Applied tension load

$V_s$  = Applied shear load

$P_t$  = Allowable tension load

$V_t$  = Allowable shear load