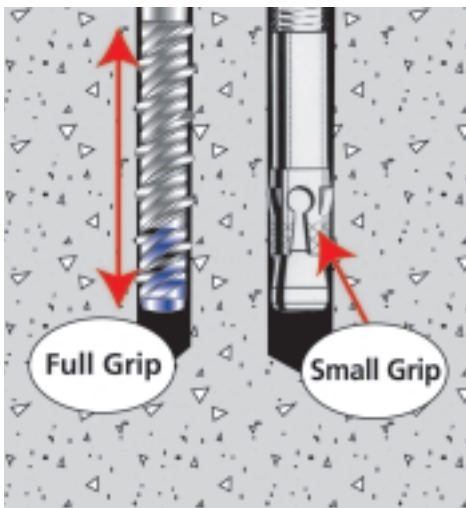
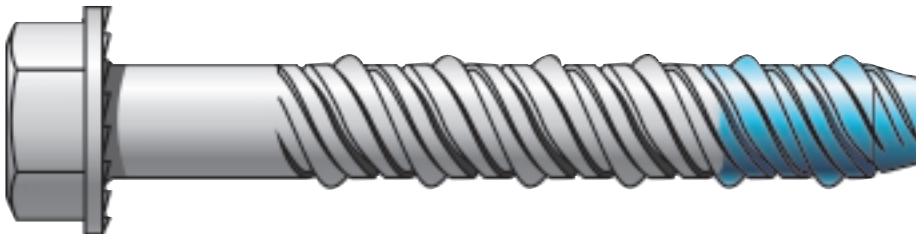


Wedge-Bolt®



PRODUCT SUBMITTAL (Wedge-Bolt)

RE: COMPANY AND PRODUCT NAME CHANGES

To our valued customers:

Please be advised that our company's name has been changed from "The Rawlplug Company, Inc." to "Powers Fasteners, Inc." Our corporate address is as follows:

Powers Fasteners, Inc. 2 Powers Square New Rochelle, NY 10801

Phone: (914) 235-6300 Fax: (914) 576-6483

The product name changes noted below were made due to marketing considerations only. This letter certifies that the products themselves have not changed in any way and are identical to those sold under their former name. Please use this information to update your records.

Product - New Name	Formerly Known As
Power-Bolt	Rawl-Bolt
Power-Stud	Rawl-Stud
DRIVE	Rawl DRIVE
Fiberplug	Rawlplug
Polly	Rawly
Power-Fast Epoxy Injection Gel	Foil-Fast Epoxy Injection Gel
Hammer-Capsule	Rawl Hammer-Capsule
Chem-Fast II	Rawl Chem-Fast
Powerlite	Rawlite

Should you have any questions or require further information, please feel free to contact our

Customer Service Department at (914) 235-6300. Thank you for your interest in Powers Fasteners.



PRODUCT SUBMITTAL (Wedge-Bolt)

Wedge-Bolt® Anchoring System

PROJECT SUBMITTAL

Anchoring into Concrete and Masonry Substrates

Suitable for Solid and Hollow Base Materials

A Unique One Piece Self-tapping Screw Style Mechanical Anchor

Vibration Resistant and Completely Removable

Reusable in the Same Anchor Hole or in a Fresh Anchor Hole



Outperforms Traditional Wedge Style Mechanical Anchors

Does not Exert Expansion Forces into Base Material

Available in Carbon Steel and Mechanically Galvanized Steel

POWERS FASTENERS, INC.

Product Description

General Information

Installation Procedures

Engineering Data

Specifications

PRODUCT APPROVALS

International Conference of Building Officials (ICBO) ER #5788

City of Los Angeles (COLA) RR #25415

Southern Building Code Conference International (SBCCI) #2124

Meets AC01 Criteria for Mechanical Anchors

Approved for High Seismic and Wind Applications

Acceptable for Applications in DOT Projects

PRODUCT SUBMITTAL (Wedge-Bolt)

WWW.POWERS.COM

PRODUCT SUBMITTAL / SUBSTITUTION REQUEST

TO:

PROJECT:

SPECIFIED ITEM:

Section

Page

Paragraph

Description

PRODUCT SUBMITTAL / SUBSTITUTION REQUESTED :

The attached submittal package includes the product description, specifications, drawings, and performance data for use in the evaluation of the request.

SUBMITTED BY:

Name:

Signature:

Company:

Address:

Date:

Telephone:

Fax:

FOR USE BY THE ARCHITECT AND/OR ENGINEER

Approved **Approved as Noted** **Not Approved**

(Please briefly explain why the product was not approved.)

By:

Date:

Remarks:

PRODUCT SUBMITTAL (Wedge-Bolt)



Wedge-Bolt®

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

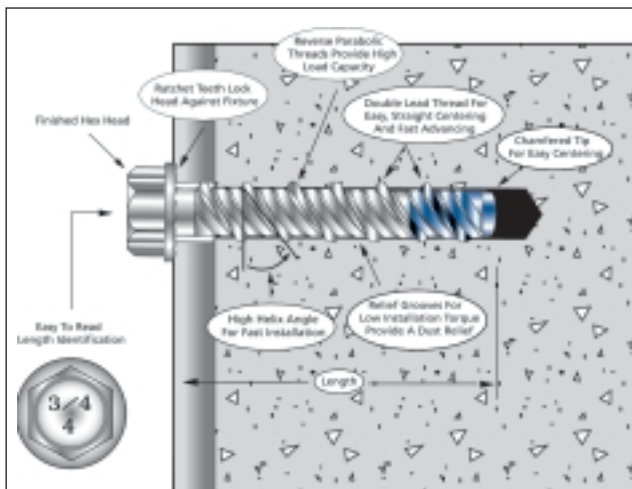
3/16" x 1-1/4" to 3/4" x 8"

ANCHOR MATERIAL

Heat Treated, High Strength Carbon Steel

PRODUCT DESCRIPTION

The Wedge-Bolt anchor is a one piece, heavy duty anchor with either a finished hex head or countersunk Phillips flat head. It is easy to identify, removable and vibration resistant. The Wedge-Bolt anchor also has many unique features and benefits that make it well suited for almost every application. Optimum performance is obtained using a combination of patented design concepts. The benefit to the designer is higher load capacities while the benefit to the user is ease of installation.

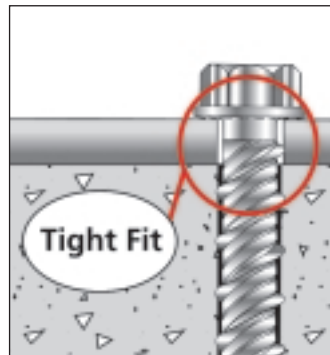


ONE-PIECE DESIGN



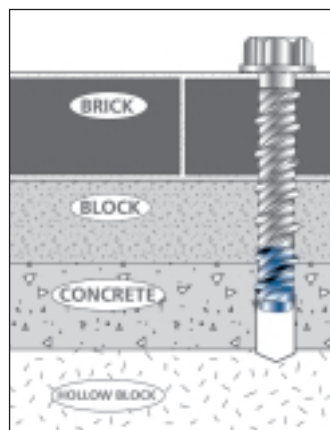
The Wedge-Bolt anchor is a one-piece unit which features a finished hex head formed with an integral washer, a patented dual lead thread, and a chamfered tip. A one-piece design eliminates the possibility of lost anchor parts or improper assembly.

MATCHES STANDARD FIXTURE HOLES



The Wedge-Bolt anchor is designed to match standard fixture clearance holes that are 1/16" over nominal to provide a secure fit. Since the Wedge-Bolt is specially matched to the clearance hole, the need for layout or hole spotting is eliminated.

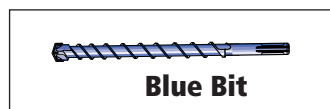
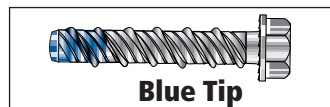
WORKS IN MOST BASE MATERIALS



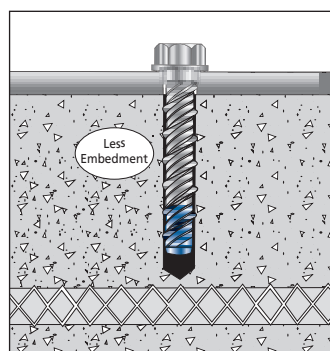
The Wedge-Bolt anchor is versatile and can be used in a variety of base materials. This reduces the need to stock assorted anchor types and learn a variety of installation procedures. A function test (i.e. trial installation) in the actual base material is recommended for high density precast concrete and slabs with compressive strengths greater than 5,000 psi.

MATCHED TOLERANCE SYSTEM

The Wedge-Bolt anchor is designed to be used with a matched tolerance Wedge-Bit for optimum performance. This high performance bit has a special tolerance range to ensure optimum results. Remember ... Blue tip, Blue bit!



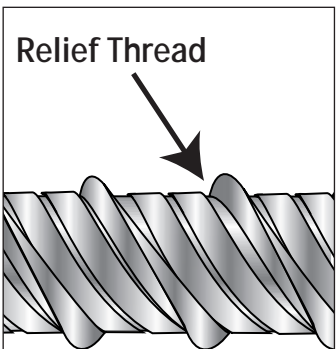
SHALLOW EMBEDMENT DEPTH



The Wedge-Bolt anchor can be installed at shallower embedment depths than traditional wedge or sleeve anchors reducing the chance of striking reinforcing bars or embedded cables. Drilling time and bit wear can be reduced resulting in significant savings.

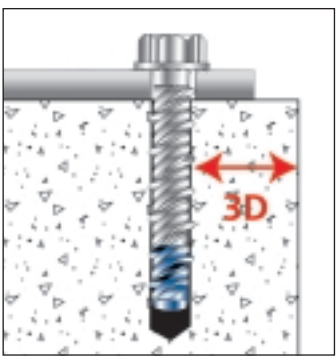
PRODUCT SUBMITTAL (Wedge-Bolt)

LOW INSTALLATION TORQUE



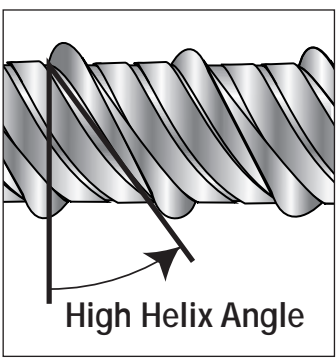
A specially designed relief thread formed in the body of the anchor allows easy tightening at a reduced torque level and provides dust relief to help reduce jamming of the anchor.

CLOSE TO EDGE INSTALLATION



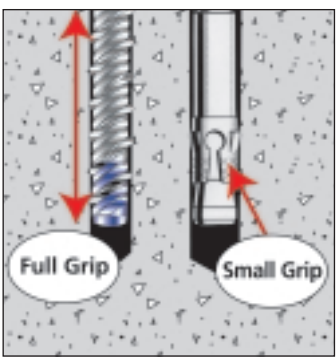
The Wedge-Bolt anchor cuts a thread into the base material. Since there are no expansion forces, the Wedge-Bolt anchor can be installed closer to the edge than traditional mechanical anchors without damaging the base material.

FAST, EASY, SAFE, HIGH SPEED INSTALLATION



The Wedge-Bolt anchor is fast, easy and safe to install. A chamfer on the working end quickly centers the anchor and a high 30° helix angle allows it to be tightened quickly. The controlled "screw-in" method is safer than the hammer driving method used with traditional anchor types.

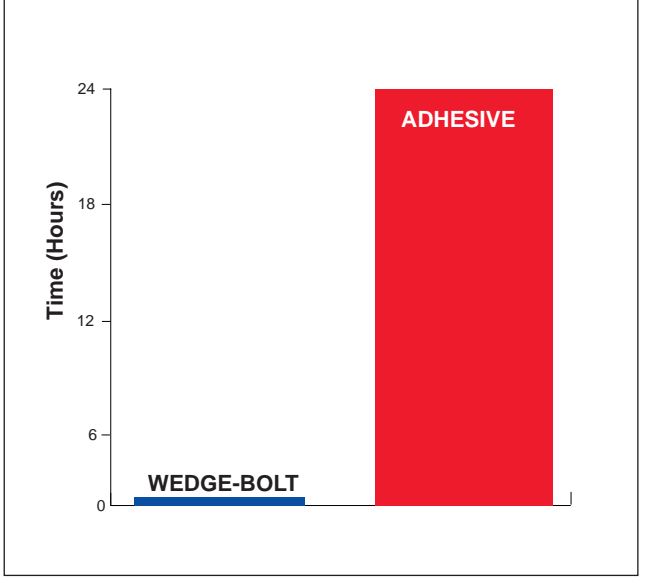
WON'T SPIN IN THE HOLE



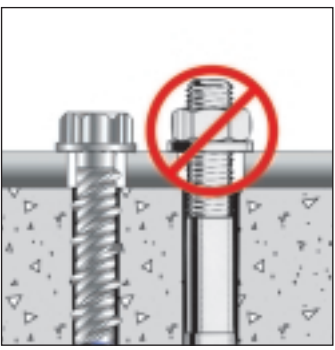
The Wedge-Bolt anchor has specially designed dual threads that engage the base material immediately upon tightening. Unlike traditional wedge or sleeve type anchors, they will not spin in the hole when attempting to tighten.

IMMEDIATE, HIGH STRENGTH LOADING

The Wedge-Bolt anchor can be loaded immediately. Unlike adhesive anchors, there is no lengthy curing time.

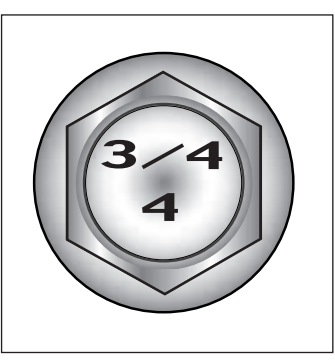


FINISHED APPEARANCE



The Wedge-Bolt anchor has a finished hex washer head that provides an attractive appearance. They are safer than traditional mechanical anchors where exposed thread above the nut creates a tripping hazard.

EASY TO READ LENGTH IDENTIFICATION

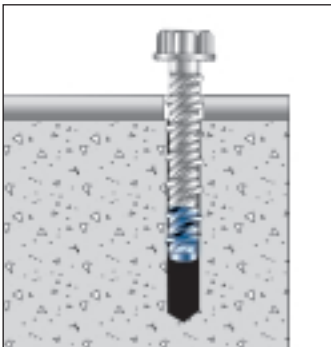


The Wedge-Bolt anchor has both the diameter and length clearly stamped on the head. Inspection is easy since there are no complicated letter codes to memorize.

PRODUCT SUBMITTAL (Wedge-Bolt)

REMOVABLE AND RE-USABLE

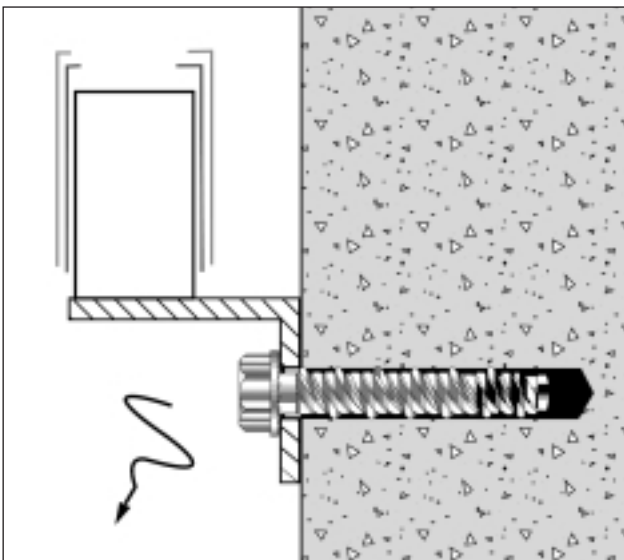
The Wedge-Bolt anchor is easy to remove, leaving a neat clean hole. Unlike traditional anchor types, Wedge-Bolt anchors can be removed to correct installation errors such as improperly drilled or unclean anchor holes. Once removed, no components that will corrode remain in the base material. When re-used in the same anchor hole, advance the anchor with a handheld socket, locating the tracks cut into the wall of the anchor hole by the double lead thread during its original installation. Do not use an electric impact wrench when re-using in the same hole.



When re-used to pilot a new anchor hole, 1 or 2 additional applications or re-uses are possible. The high double lead thread should be checked for excessive wear. Base material conditions (hardness and density) will affect re-usability.

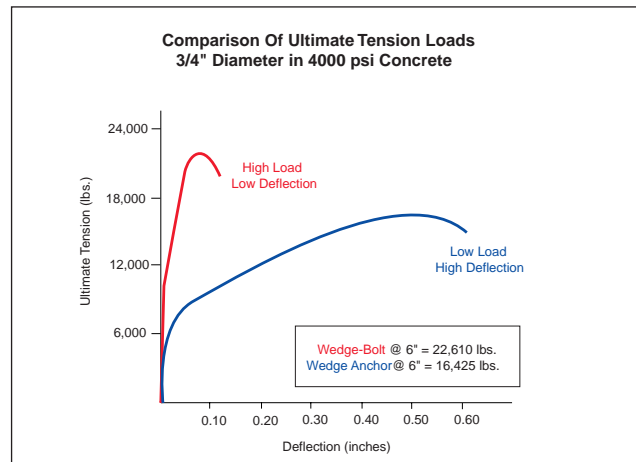
VIBRATION RESISTANT

The Wedge-Bolt anchor is vibration resistant. Unlike traditional anchors that have a small expansion mechanism, the double lead threads grip a large portion of the embedment length and there are no expansion forces to pulverize the concrete. For additional vibration resistance, the ratchet teeth on the underside of the hex washer head lock against the fixture. Factors of safety greater than 4 may be required to compensate for excessive vibration. The design professional in charge of the actual product installation should determine an appropriate factor of safety.



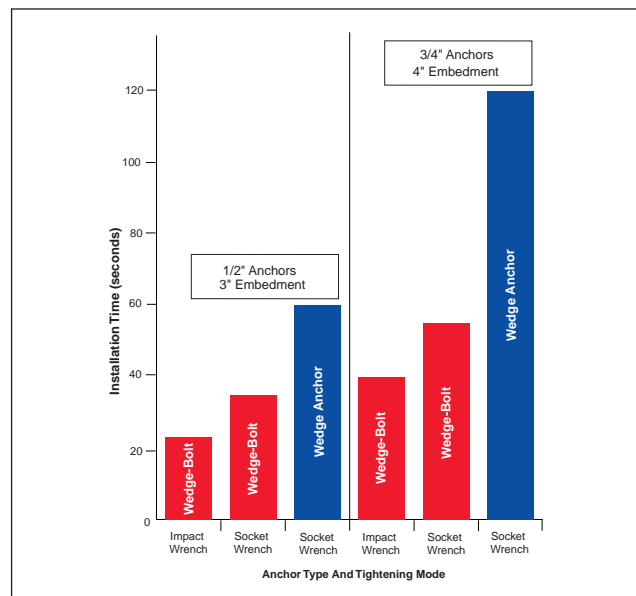
HIGH STRENGTH

The Wedge-Bolt anchor is typically stronger than a traditional wedge or sleeve type anchor. They have the low slip and close edge characteristics of adhesive anchors. A combination of a patented dual lead thread and high strength steel material provide excellent performance. High tension loads often allow the Wedge-Bolt to be used at a shallower embedment while high shear loads allow use of smaller diameters. Knowledge of an application's load requirements is the key to selecting a proper size and embedment depth.



COST EFFECTIVE

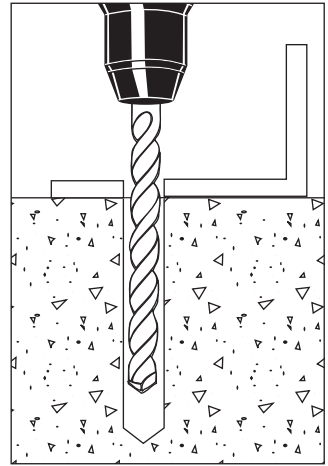
The Wedge-Bolt anchor saves time and money. It is faster to install and easier to use. This helps to increase productivity while reducing worker fatigue. Installation time is decreased up to 70%. For fast, easy, cost effective, high performance installations, the innovative Wedge-Bolt anchor is the one product that does it all.



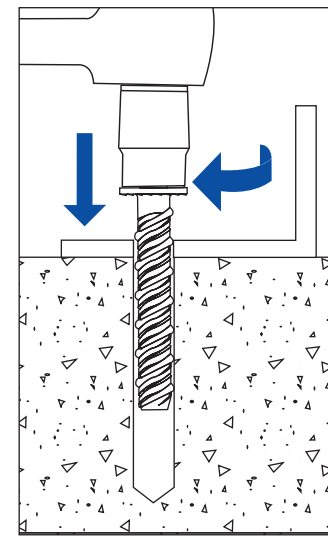
Note: Electric impact wrenches are available in different sizes (e.g. 1/2" drive or 3/4" drive) providing different torque capacities. Anchor size and base material conditions will determine the appropriate size electric impact wrench.

PRODUCT SUBMITTAL (Wedge-Bolt)

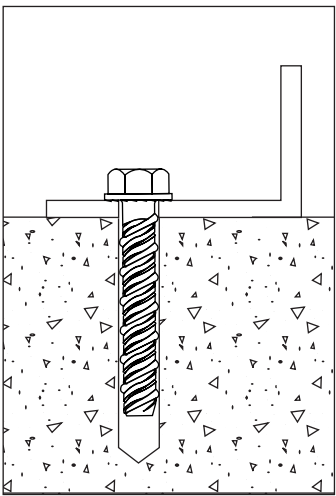
INSTALLATION PROCEDURE FOR BLUE-TIPPED WEDGE-BOLTS



Using the proper diameter **Wedge-Bit**, drill a hole into the base material to a depth of at least 1/2" or one anchor diameter deeper than the embedment required. Be sure to use a **Wedge-Bit**. Blow the hole clean of dust and other material. (When attaching to hollow base material, insert the appropriate Block Plug into the anchor hole).

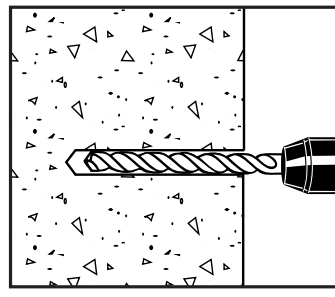


Insert the anchor through the fixture into the anchor hole. Begin tightening the anchor by rotating clockwise and applying pressure in toward the base material. This will engage the first few threads as the anchor begins to advance.

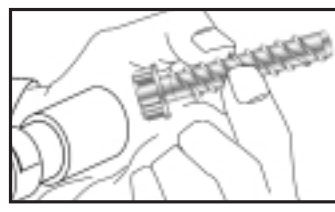


Continue tightening the anchor until the head is firmly seated against the fixture while achieving the required embedment depth. In extremely dense materials, use of an impact wrench is recommended.

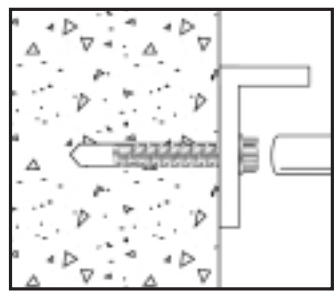
INSTALLATION PROCEDURES FOR 3/16" WEDGE-BOLT



Using a 3/16" diameter bit, drill a hole into the base material to a depth of at least 1/2" deeper than the embedment required. A **TAPPER** drill bit must be used. Blow the hole clean of dust and other material.



Using the Combo 3/16" Wedge-Bolt / TAPPER Tool and the appropriate driver, insert the head of the 3/16" Wedge-Bolt anchor. The drill motor should be set to "rotation only" mode.



Place the chamfered end of the 3/16" Wedge-Bolt through the fixture into the pre-drilled hole and drive the anchor in one steady continuous motion until it is fully seated at the proper embedment. The driver will automatically disengage from the head of the Wedge-Bolt.

ANCHOR SIZES

The following tables list the sizes of hex head Wedge-Bolt anchors. The anchor length published is measured from below the hex washer head to the end of the anchor. To select the proper length, determine the embedment depth required to obtain the desired load capacity. Then add the thickness of the fixture, including any spacers or shims, to the embedment depth.

CARBON STEEL HEX HEAD WEDGE-BOLT

Wedge-Bolt anchors are manufactured from heat treated carbon steel that is plated with commercial bright zinc and a supplementary chromate treatment in accordance with ASTM Specification B 633, SC1, Type III (Fe / Zn 5).

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./100
7000*	3/16" x 1-1/4"	1"	1-3/8"	100	500	1-3/4
7002*	3/16" x 1-3/4"	1"	1-5/8"	100	500	2-1/4
7004*	3/16" x 2-1/4"	1"	2"	100	500	2-1/2
7006*	3/16" x 2-3/4"	1"	2-1/2"	100	500	3
7204	1/4" x 1-1/4"	1"	1-1/8"	100	500	2-1/2
7206	1/4" x 1-3/4"	1"	1-5/8"	100	500	3-1/4
7208	1/4" x 2-1/4"	1"	2"	100	500	4-1/4
7210	1/4" x 3"	1"	2-3/4"	100	500	5-1/2
7220	3/8" x 1-3/4"	1-1/2"	1-1/2"	50	250	8
7222	3/8" x 2-1/2"	1-1/2"	2-1/4"	50	250	11
7224	3/8" x 3"	1-1/2"	2-3/4"	50	250	12
7226	3/8" x 4"	1-1/2"	3-3/4"	50	250	15
7240	1/2" x 2"	1-3/4"	1-3/4"	50	200	14

PRODUCT SUBMITTAL (Wedge-Bolt)



ICBO Evaluation Service, Inc.

5360 WORKMAN MILL ROAD • WHITTIER, CALIFORNIA 90601-2299

A subsidiary corporation of the International Conference of Building Officials

Accredited by the
American National Standards Institute

EVALUATION REPORT

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ER-5788

Issued August 1, 2000

Filing Category: FASTENERS—Concrete and Masonry Anchors (066)

POWERS WEDGE-BOLT ANCHOR
POWERS FASTENERS, INC.
2 POWERS SQUARE
NEW ROCHELLE, NEW YORK 10801

1.0 SUBJECT

Powers Wedge-Bolt Anchor.

2.0 DESCRIPTION

2.1 General:

The Powers Wedge-Bolt is a concrete screw anchor manufactured from heat-treated carbon steel complying with AISI 1020/1040 designed for use in normal-weight concrete. The anchor is formed with a hex head, an integral washer, a dual lead thread, and a chamfered tip, and is zinc plated. The Wedge-Bolt anchor is available in nominal diameters ranging from $1/4$ to $3/4$ inch (6.4 to 19.1 mm), in various lengths.

2.2 Installation:

A pilot hole is predrilled using a carbide-tipped Wedge-Bit, supplied by Powers Fasteners, with bit diameter matched to the anchor size. The drill bit size range corresponding to each anchor size is shown in Table 4. The hole must be drilled to a minimum depth $1/2$ inch (12.7 mm) deeper than the required embedment. After the dust is removed from the drilled hole, the Wedge-Bolt anchor is installed per the manufacturer's instructions to the specified embedment depth.

2.3 Design:

The allowable tension and shear loads are indicated in Tables 1 and 2. The allowable loads are based on the anchor spacing and edge distances as shown in Table 3. Allowable loads for anchors subjected to combined shear and tension loads are determined by the following equation:

$$(P_s/P_t) + (V_s/V_t) \leq 1$$

where:

- P_s = Applied tension load.
- P_t = Allowable tension load in Table 1.
- V_s = Applied shear load.
- V_t = Allowable shear load in Table 2.

2.4 Special Inspection:

Where special inspection is required under Section 1701 of the *Uniform Building Code*™ (UBC), as noted in Tables 1 and 2 of this report, the inspector must be on the jobsite continuously during anchor installation to verify the screw anchor type, dimensions, concrete type and compressive strength, drill bit size, hole dimensions, screw anchor spacing and edge distance, slab thickness, and anchor embedment.

2.5 Identification:

The Powers Wedge-Bolt anchor head is marked with anchor diameter and length as noted in Figure 1. Each package contains a label bearing the manufacturer's name (Powers Fasteners, Inc.) and address, the anchor type and size, and the evaluation report number (ICBO ES ER-5788).

3.0 EVIDENCE SUBMITTED

Reports of load tests, and installation instructions.

4.0 FINDINGS

The Powers Wedge-Bolt Anchor described in this report complies with the 1997 *Uniform Building Code*™, subject to the following conditions:

- 4.1 The Wedge-Bolt anchor is installed in accordance with this report and the manufacturer's instructions.
- 4.2 Wedge-Bolt anchor sizes and dimensions, and allowable loads, are as set forth in this report.
- 4.3 Calculations demonstrating that the applied loads comply with this report must be submitted to the building official for approval.
- 4.4 The Wedge-Bolt anchors are limited to nonfire-resistant construction unless substantiating data, demonstrating that the anchor performance is maintained in fire-resistant situations, are submitted to the building official for approval.
- 4.5 Special inspection, when required, is provided in accordance with Section 2.4 of this report.
- 4.6 When the Wedge-Bolt anchors are installed without special inspection, the installer must certify to the building official that the screw anchors were installed in accordance with this report and the manufacturer's instructions.
- 4.7 Wedge-Bolt anchors are not subjected to vibratory or shock loads, such as those encountered by supports for reciprocating engines or crane rails, unless adequacy is determined to the building official's satisfaction.
- 4.8 The allowable tension loads in Table 1 may be adjusted in accordance with Section 1612.3 of the code for short-term loading due to seismic or wind forces.
- 4.9 Anchors are manufactured by Powers Fasteners, Inc., Two Powers Square, New Rochelle, New York, with quality control inspections by CEL Consulting (AA-639).

This report is subject to re-examination in one year.

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