

KWIK Bolt 3 Expansion Anchor 3.3.6

3.3.6.1 Product Description

The KWIK Bolt 3 (KB3) is a torque controlled expansion anchor, which provides consistent performance for a wide range of mechanical anchor applications. This anchor series is available in carbon steel with zinc electroplated coating, carbon steel with hot-dip galvanized coating, 304 stainless steel and 316 stainless steel versions. The threaded stud version of the anchor is available in a variety of diameters ranging from 1/4-in. to 1-in. depending on the steel and coating type. Applicable base materials include normal-weight concrete, structural lightweight concrete, lightweight concrete over metal deck, and grout filled concrete masonry.

Guide Specifications

Torque controlled expansion anchors shall be KWIK Bolt 3 supplied by Hilti meeting the description in Federal Specification A-A 1923A, Type 4. The anchor bears a length identification mark embossed into the impact section (dog point) of the anchor identifying the anchor as a Hilti KWIK Bolt 3 in the installed condition. Anchors are manufactured to meet one of the following conditions:

1. The carbon steel anchor body, nut and washer have an electroplated zinc coating conforming to ASTM B 633 to a minimum thickness of 5 µm.
2. The carbon steel hot-dip galvanized anchor body, nut, and washer conform to ASTM A 153. The stainless steel expansion elements conform to either type 304 or type 316.
3. The stainless steel anchor body, nut, and washer conform to type 304. The stainless steel expansion elements conform to either type 304 or type 316.
4. The stainless steel anchor body, nut, and washer conform to type 316. The stainless steel expansion elements conform to type 316.

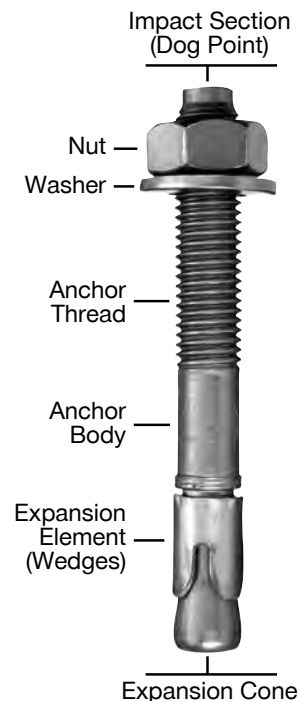
Product Features

- Length identification code facilitates quality control and inspection after installation.
- Through fixture installation and variable thread lengths improve productivity and accommodate various base plate thicknesses.
- Raised impact section (Dog Point) prevents thread damage during installation.
- Anchor size is same as drill bit size for easy installation. For temporary applications anchors may be driven into drilled holes after usage.
- Mechanical expansion allows immediate load application.

Installation

Drill hole in concrete, structural lightweight concrete, or grout filled concrete masonry using a Hilti carbide tipped drill bit and a Hilti rotary hammer drill. Remove dust from the hole with oil free compressed air or vacuum. Alternately for 1/2-, 5/8-, 3/4- and 1-inch diameter KWIK Bolt 3 anchors, the hole may be drilled using a matched tolerance Hilti DD-C wet diamond core bit for anchoring applications. The slurry must be flushed from the diamond cored hole prior to anchor installation. The minimum hole depth must exceed the anchor embedment prior to torquing by at least by one hole diameter. Drive the anchor into the hole using a hammer. A minimum of six threads must be below the surface of the fixture. Tighten the nut to the installation torque.

3.3.6.1	Product Description
3.3.6.2	Material Specifications
3.3.6.3	Strength Design (LRFD)
3.3.6.4	Allowable Stress Design (ASD)
3.3.6.5	Installation Instructions
3.3.6.6	Ordering Information



Listings/Approvals

ICC-ES (International Code Council)
ESR-2302

ICC-ES ESR-1385
Grout filled concrete masonry
City of Los Angeles
Research Report No. 25577
Research Report No. 25577M
for masonry

FM (Factory Mutual)
Pipe Hanger Components for
Automatic Sprinkler (3/8" - 3/4")

UL (Underwriters Laboratories)
UL 203 Pipe Hanger Equipment for Fire
Protection Services (3/8" - 3/4")

Miami-Dade County
NOA No. 06-0810.13
Qualified under an NQA-1 Nuclear
Quality Program



*Please refer to the reports to verify that the type and diameter specified is included

Independent Code Evaluation

IBC® / IRC® 2009
(AC 193 / ACI 355.2, AC 01)
IBC® / IRC® 2006
(AC 193 / ACI 355.2, AC 01)
IBC® / IRC® 2003
(AC 193 / ACI 355.2)

3.3.6 KWIK Bolt 3 Expansion Anchor

3.3.6.2 Material Properties

Carbon Steel with Electroplated Zinc

All Carbon Steel KWIK Bolt 3 and Rod Coupling Anchors, excluding the 3/4 x 12 and 1-inch diameter sizes, have the tensile bolt fracture loads shown in Table 5.

All carbon steel 3/4 x 12 and 1 inch diameter sizes and carbon steel countersunk KWIK Bolt 3 anchor bodies have mechanical properties as listed in Table 5.

Carbon steel anchor components plated in accordance with ASTM B633 to a minimum thickness of 5 µm.

Nuts conform to the requirements of ASTM A 563, Grade A, Hex.

Washers meet the requirements of ASTM F 844.

Expansion elements (wedges) are manufactured from carbon steel, except the following anchors have stainless steel wedges:

- All 1/4-inch diameter anchors
 - KB3 3/4x12
 - All 1-inch diameter anchors
 - All countersunk KWIK Bolt 3
-

Carbon Steel with Hot-Dip Galvanized Coating

Anchor bodies manufactured from carbon steel have the tensile bolt fracture loads shown in Table 5.

Carbon steel anchor components hot-dip galvanized according to ASTM A 153, Class C (43 µm min.).

Nuts conform to the requirements of ASTM A 563, Grade A, Hex.

Washers meet the requirements of ASTM F 844.

Stainless steel expansion elements (wedges) are manufactured from either type 304 or type 316.

Stainless Steel

Anchor bodies smaller than 3/4-inch, excluding all Countersunk KWIK Bolt 3 anchors, are produced from type 304 or type 316 stainless steel having the bolt fracture loads shown in Table 5.

Anchor bodies 3/4-inch and larger, and all stainless steel Countersunk KWIK Bolt 3 anchor bodies, are produced from AISI 304 or 316 stainless steel having the mechanical properties shown in Table 5.

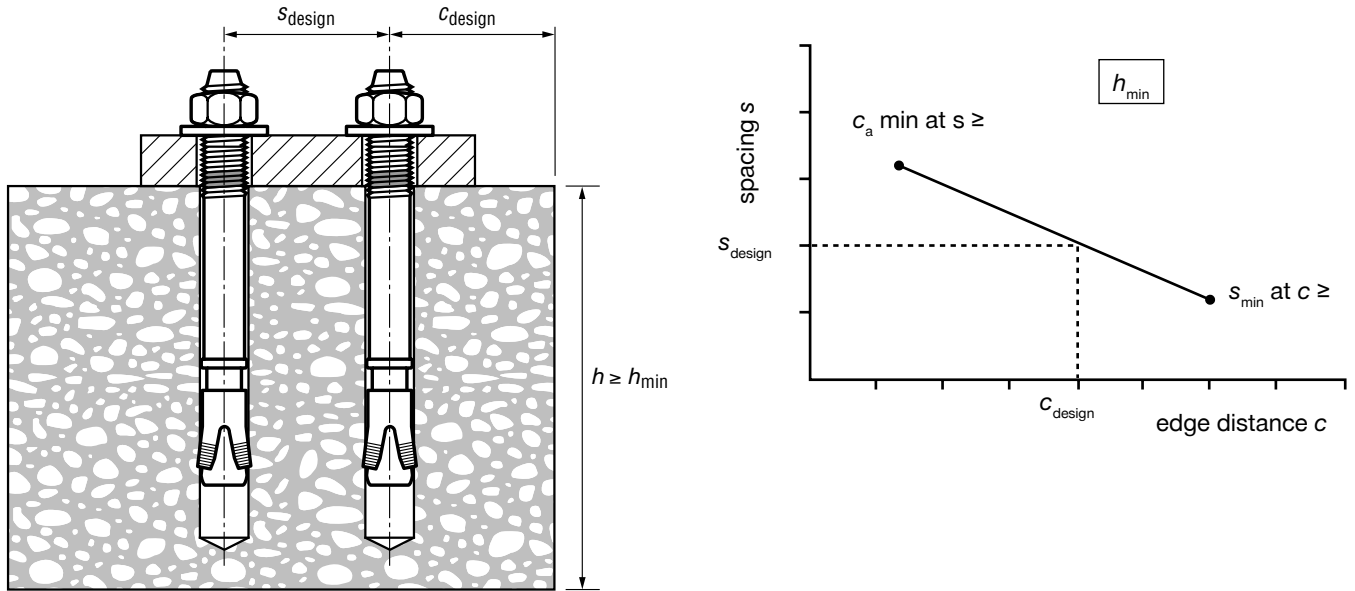
Nuts meet the dimensional requirements of ASTM F 594.

Washers meet the dimensional requirements of ANSI B18.22.1, Type A, plain.

Stainless steel expansion elements for type 304 anchors are made from either type 304 or type 316. Stainless steel expansion elements for type 316 anchors are made from type 316. All stainless steel nuts and washers for type 304 and type 316 anchors are manufactured from type 304 and type 316, respectively.

KWIK Bolt 3 Expansion Anchor 3.3.6

Figure 2 - Interpolation of Minimum Edge Distance and Anchor Spacing



Length Identification System

Length ID marking on bolt head	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Length of anchor, (in.)	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	12
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	13



Length Identification Mark