



# KWIK-CON II+ CONCRETE AND MASONRY SCREW

3/16" diameter anchor data is bubbled  
for convenience

\*See Pages 3-6

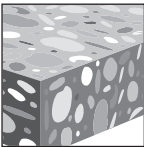


# KWIK-CON II+ CONCRETE AND MASONRY SCREW

## PRODUCT DESCRIPTION

### KWIK-CONN II+ concrete and masonry screw anchors

| Anchor System                                                                                                                                                                                                                                                                                                                                                                 | Features and Benefits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div data-bbox="305 407 415 1083" data-label="Image"> </div> <div data-bbox="644 735 898 762" data-label="Caption"> <p>KWIK-CON II+ fastener</p> </div> <div data-bbox="201 1142 511 1417" data-label="Image"> </div> <div data-bbox="644 1241 963 1331" data-label="Caption"> <p>KWIK-CON II+ drive tool, and a Hilti matched tolerance carbide-tipped drill bit.</p> </div> | <ul style="list-style-type: none"> <li>• Improved silver KWIK Cote finish that exceeds 1000 hours of protection from red rust in ASTM B117</li> <li>• Salt spray testing</li> <li>• More durable than zinc plating</li> <li>• Zinc electroplating and passivation with chromate require toxic chemicals. The KWIK Cote zinc rich organic finish is easy on the environment</li> <li>• Zinc electroplating and passivation with chromate require toxic chemicals. The KWIK Cote zinc rich organic finish is easy on the environment</li> <li>• Applicable specific carbide tipped bits optimize performance in concrete or masonry</li> <li>• Torx Hex washer head for fast secure driving</li> <li>• Torx or Phillips flat head for countersunk</li> </ul> |



Uncracked concrete

| Approvals/Listings |                |
|--------------------|----------------|
| Metro-Dade County  | NOA 12-0625.05 |

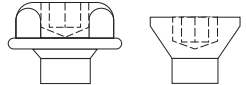
## MATERIAL SPECIFICATIONS

Carbon steel expansion sleeves and spacer sleeves are manufactured from cold rolled steel.

Carbon steel anchors are zinc plated in accordance with ASTM B633, SC 1, Type III.

Stainless steel anchor components are manufactured from AISI Type 304 stainless steel.

## MATERIAL SPECIFICATIONS

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Carbon Steel with Kwik Cote<sup>1</sup></b>   | <ul style="list-style-type: none"> <li>Screws manufactured from 1018 to 1022 cold rolled steel case hardened to HRC 45 minimum</li> <li>Minimum tensile strength and yield strength for the 1/4-in. is 138 ksi and 137 ksi, respectively</li> <li>Minimum tensile strength and yield strength for the 3/16-in. is 138 ksi and 137 ksi, respectively</li> </ul>                                                                                   |
| <b>Kwik Cote corrosion resistant coating</b>     | <ul style="list-style-type: none"> <li>Kwik Cote is a zinc-rich basecoat with an aluminum-rich topcoat.</li> </ul>                                                                                                                                                                                                                                                                                                                               |
| <b>AISI Type 410 stainless steel<sup>1</sup></b> | <ul style="list-style-type: none"> <li>Screws manufactured from AISI Type 410 stainless steel. Minimum tensile strength and yield strength for the 1/4-in. is 184ksi and 157 ksi, respectively</li> <li>Minimum tensile strength and yield strength for the 3/16-in. is 194 ksi and 170 ksi, respectively</li> </ul>                                                                                                                             |
| <b>Head Styles</b>                               | <ul style="list-style-type: none"> <li>Tapered flat head with #3 Phillips recess for 3/16- and 1/4-in. anchors</li> <li>Tapered flat head with T-25 TORX recess for 3/16-in. anchor</li> <li>Tapered flat head with T-27 TORX recess for 1/4-in. anchor</li> <li>5/16-in. hex washer with internal T-25 TORX recess for 3/16- and 1/4-in. anchors</li> </ul>  |
| <b>Head diameter</b>                             | <ul style="list-style-type: none"> <li>Maximum 0.507 in. for 3/16- and 1/4-in. tapered Phillips flat head and 1/4-in. tapered T-27 TORX flat head anchors</li> <li>Maximum 0.385 in. for 3/16-in. tapered T-25 TORX flat head anchor</li> <li>Maximum 0.432 in. maximum for 3/16- and 1/4-in. T-25 TORX hex washer head anchors</li> </ul>                                                                                                       |
| <b>Thread diameter</b>                           | <ul style="list-style-type: none"> <li>Nominal 3/16-in., Major dia. is 0.217 inches, Minor<sup>2</sup> is 0.145 inches</li> </ul>                                                                                                                                                                                                                                                                                                                |
| <b>Shank diameter</b>                            | <ul style="list-style-type: none"> <li>Nominal 3/16-in. is 0.170 inches</li> <li>Nominal 1/4-in. is 0.224 inches</li> </ul>                                                                                                                                                                                                                                                                                                                      |
| <b>Lengths (in.)</b>                             | <ul style="list-style-type: none"> <li>1-1/4, 1-3/4, 2-1/4, 2-3/4, 3-1/4, 3-3/4, 4 (See ordering information section)</li> </ul>                                                                                                                                                                                                                                                                                                                 |
| <b>Thread design</b>                             | <ul style="list-style-type: none"> <li>Trilobular, cold formed.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Threads per inch</b>                          | <ul style="list-style-type: none"> <li>Nominal 3/16-in. have 8 tpi.</li> <li>Nominal 1/4-in. have 8 tpi.</li> <li><b>Inches of thread per fastener</b><br/>1.875 inches maximum</li> </ul>                                                                                                                                                                                                                                                       |
| <b>Bending capacity</b>                          | <ul style="list-style-type: none"> <li>Ductility at 10° minimum</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |

<sup>1</sup> Minimum tensile and yield strength are the average of strength measurement of (30) tested samples. These are not minimum steel properties or minimum manufacturing specifications.

<sup>2</sup> Minor diameter is the average measurement taken from (30) samples. This is not a controlled dimension.

# DESIGN INFORMATION IN CONCRETE PER ALLOWABLE STRESS DESIGN

**Table 1 — Tension and shear allowable loads in concrete** <sup>1,2</sup>

| Nominal anchor diameter<br>(in.) | Nominal embedment<br>in. (mm) | $f'_c = 2,000$ psi |                  | $f'_c = 4,000$ psi |                  | $f'_c = 6,000$ psi |                  |
|----------------------------------|-------------------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
|                                  |                               | Tension<br>lb (kN) | Shear<br>lb (kN) | Tension<br>lb (kN) | Shear<br>lb (kN) | Tension<br>lb (kN) | Shear<br>lb (kN) |
| 3/16                             | 1<br>(25)                     | 100<br>(0.44)      | 260<br>(1.16)    | 125<br>(0.56)      | 260<br>(1.16)    | 185<br>(0.82)      | 280<br>(1.25)    |
| 3/16                             | 1-3/4<br>(44)                 | 275<br>(1.22)      | 260<br>(1.16)    | 295<br>(1.31)      | 265<br>(1.18)    | 325<br>(1.45)      | 300<br>(1.33)    |
| 1/4                              | 1<br>(25)                     | 190<br>(0.85)      | 325<br>(1.45)    | 240<br>(1.07)      | 390<br>(1.73)    | 275<br>(1.22)      | 540<br>(2.40)    |
| 1/4                              | 1-3/4<br>(44)                 | 425<br>(1.89)      | 560<br>(2.49)    | 475<br>(2.1)       | 600<br>(2.82)    | 525<br>(2.3)       | 600<br>(2.67)    |

<sup>1</sup> Screws installed in holes drilled with Hilti TKC carbide bits.

<sup>2</sup> Allowable loads are based on a safety factor of 4.

**Table 2 — Tension and shear ultimate loads in concrete** <sup>1</sup>

| Nominal anchor diameter<br>(in.) | Nominal embedment<br>in. (mm) | $f'_c = 2,000$ psi |                  | $f'_c = 4,000$ psi |                  | $f'_c = 6,000$ psi |                  |
|----------------------------------|-------------------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
|                                  |                               | Tension<br>lb (kN) | Shear<br>lb (kN) | Tension<br>lb (kN) | Shear<br>lb (kN) | Tension<br>lb (kN) | Shear<br>lb (kN) |
| 3/16                             | 1<br>(25)                     | 400<br>(1.78)      | 1,050<br>(4.67)  | 500<br>(2.22)      | 1,050<br>(4.67)  | 750<br>(3.34)      | 1,150<br>(5.12)  |
| 3/16                             | 1-3/4<br>(44)                 | 1,100<br>(4.89)    | 1,050<br>(4.67)  | 1,180<br>(5.25)    | 1,070<br>(4.76)  | 1,300<br>(5.78)    | 1,200<br>(5.34)  |
| 1/4                              | 1<br>(25)                     | 760<br>(3.38)      | 1,300<br>(5.78)  | 970<br>(4.31)      | 1,575<br>(7.01)  | 1,100<br>(4.89)    | 2,175<br>(9.68)  |
| 1/4                              | 1-3/4<br>(44)                 | 1,700<br>(7.56)    | 2,250<br>(10.0)  | 1,900<br>(8.5)     | 2,400<br>(10.7)  | 2,100<br>(9.3)     | 2,400<br>(10.7)  |

<sup>1</sup> Screws installed in holes drilled with TKC bits.

**Table 3 — Tension and shear allowable loads in hollow block** <sup>1,2,3,4</sup>

| Nominal anchor diameter<br>(in.) | Nominal embedment<br>in. (mm) | Tension<br>lb (kN) | Shear<br>lb (kN) |
|----------------------------------|-------------------------------|--------------------|------------------|
| 3/16                             | 1<br>(25)                     | 150<br>(0.67)      | 225<br>(1.00)    |
| 3/16                             | 1-3/4<br>(44)                 | 290<br>(1.29)      | 300<br>(1.33)    |
| 1/4                              | 1<br>(25)                     | 165<br>(0.73)      | 275<br>(1.22)    |
| 1/4                              | 1-3/4<br>(44)                 | 310<br>(1.38)      | 400<br>(1.78)    |

<sup>1</sup> All values for anchors installed in hollow concrete masonry with a minimum prism strength of 1,500 psi. Concrete block may be lightweight, medium-weight or normal-weight conforming to ASTM C90.

<sup>2</sup> Screws installed in holes drilled with TKB bits.

<sup>3</sup> Allowable loads calculated using a factor of safety of 4.

<sup>4</sup> Installation in the mortar joints is outside the scope of the published data.

**Table 4 — Tension and shear allowable loads in red brick** <sup>1,2,3</sup>

| Nominal anchor diameter<br>(in.) | Nominal embedment<br>in. (mm) | Tension<br>lb (kN) | Shear<br>lb (kN) |
|----------------------------------|-------------------------------|--------------------|------------------|
| 3/16                             | 1<br>(25)                     | 125<br>(0.56)      | 235<br>(1.05)    |
| 3/16                             | 1-3/4<br>(44)                 | 350<br>(1.56)      | 300<br>(1.33)    |
| 1/4                              | 1<br>(25)                     | 205<br>(0.91)      | 415<br>(1.85)    |
| 1/4                              | 1-3/4<br>(44)                 | 350<br>(1.56)      | 500<br>(2.22)    |

<sup>1</sup> This test was performed on individual specimens of ASTM C62 common red brick. Due to the wide variations encountered in the compressive strength of brick, these values should be considered guide values.

<sup>2</sup> Allowable loads are based on a safety factor of 4.

<sup>3</sup> Installation in the mortar joints is outside the scope of the published data.

Load values are for anchors installed a minimum of sixteen diameters on center and a minimum edge distance of sixteen diameters. Anchor spacing may be reduced to twelve diameters provided loads are reduced by 20 percent. Edge distance may be reduced to six diameters provided loads are reduced by 20 percent in tension and 70 percent in shear.

## Combined shear and tension loading

$$\left( \frac{N_d}{N_{rec}} \right) + \left( \frac{V_d}{V_{rec}} \right) \leq 1.0$$

## INSTALLATION INSTRUCTIONS

Installation Instructions For Use (IFU) / Operating Instructions (OI) throughout the document are included with each product package. They can also be viewed or downloaded online at [www.hilti.com](http://www.hilti.com). Because of the possibility of changes, always verify that downloaded IFU are current when used. Proper installation is critical to achieve full performance. Training is available on request. Contact Hilti Technical Services for applications and conditions not addressed in the (IFU)/Operating Instructions (OI).

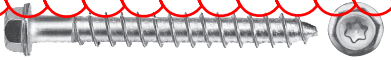
ORDERING INFORMATION<sup>1</sup>

## KWIK-CON II+ fasteners



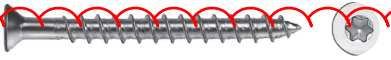
5/16 - in. Magnetic nut setter or T-25 TORX bit

| Description                    | Diameter | Total length | Thread length | Shank length |
|--------------------------------|----------|--------------|---------------|--------------|
| KWIK-CON II+ 316-114 THWH      | 3/16     | 1-1/4        | 1-1/4         | 0            |
| KWIK-CON II+ 316-114 THWH Bulk | 3/16     | 1-1/4        | 1-1/4         | 0            |
| KWIK-CON II+ 316-134 THWH      | 3/16     | 1-3/4        | 1-3/4         | 0            |
| KWIK-CON II+ 316-134 THWH Bulk | 3/16     | 1-3/4        | 1-3/4         | 0            |
| KWIK-CON II+ 316-214 THWH      | 3/16     | 2-1/4        | 1-3/4         | 1/2          |
| KWIK-CON II+ 316-234 THWH      | 3/16     | 2-3/4        | 1-3/4         | 1            |
| KWIK-CON II+ 316-234 THWH Bulk | 3/16     | 2-3/4        | 1-3/4         | 1            |
| KWIK-CON II+ 316-314 THWH      | 3/16     | 3-1/4        | 1-3/4         | 1-1/2        |
| KWIK-CON II+ 316-334 THWH      | 3/16     | 3-3/4        | 1-3/4         | 2            |
| KWIK-CON II+ 316-4 THWH        | 3/16     | 4            | 1-3/4         | 2-1/4        |



5/16 - in. Magnetic nut setter or T-25 bit

| Description                              | Diameter | Total length | Thread length | Shank length |
|------------------------------------------|----------|--------------|---------------|--------------|
| KWIK-CON II+ 14-114 THWH                 | 1/4      | 1-1/4        | 1-1/4         | 0            |
| KWIK-CON II+ 14-114 THWH Bulk            | 1/4      | 1-1/4        | 1-1/4         | 0            |
| KWIK-CON II+ 14-134 THWH                 | 1/4      | 1-3/4        | 1-3/4         | 0            |
| KWIK-CON II+ 14-134 THWH Bulk            | 1/4      | 1-3/4        | 1-3/4         | 0            |
| KWIK-CON II+ 14-214 THWH                 | 1/4      | 2-1/4        | 1-3/4         | 1/2          |
| KWIK-CON II+ 14-234 THWH                 | 1/4      | 2-3/4        | 1-3/4         | 1            |
| KWIK-CON II+ 14-234 THWH Bulk            | 1/4      | 2-3/4        | 1-3/4         | 1            |
| KWIK-CON II+ 14-314 THWH                 | 1/4      | 3-1/4        | 1-3/4         | 1-1/2        |
| KWIK-CON II+ 14-334 THWH                 | 1/4      | 3-3/4        | 1-3/4         | 2            |
| KWIK-CON II+ 14-334 THWH Bulk            | 1/4      | 3-3/4        | 1-3/4         | 2            |
| KWIK-CON II+ 14-4 THWH                   | 1/4      | 4            | 1-3/4         | 2-1/4        |
| KWIK-CON II+ 14-114 THWH Stainless Steel | 1/4      | 1-1/4        | 1-1/4         | 0            |
| KWIK-CON II+ 14-234 THWH Stainless Steel | 1/4      | 2-3/4        | 1-3/4         | 1            |



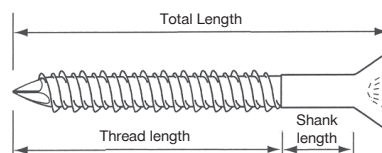
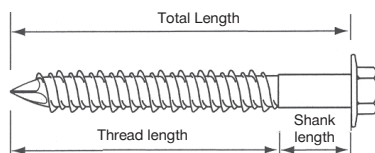
T-25 TORX bit

| Description                   | Diameter | Total length | Thread length | Shank length |
|-------------------------------|----------|--------------|---------------|--------------|
| KWIK-CON II+ 316-114 TFH      | 3/16     | 1-1/4        | 1-1/8         | 0            |
| KWIK-CON II+ 316-134 TFH      | 3/16     | 1-3/4        | 1-5/8         | 0            |
| KWIK-CON II+ 316-134 TFH Bulk | 3/16     | 1-3/4        | 1-5/8         | 0            |
| KWIK-CON II+ 316-214 TFH      | 3/16     | 2-1/4        | 1-3/4         | 3/8          |
| KWIK-CON II+ 316-234 TFH      | 3/16     | 2-3/4        | 1-3/4         | 7/8          |
| KWIK-CON II+ 316-234 TFH Bulk | 3/16     | 2-3/4        | 1-3/4         | 7/8          |
| KWIK-CON II+ 316-314 TFH      | 3/16     | 3-1/4        | 1-3/4         | 1-3/8        |
| KWIK-CON II+ 316-334 TFH      | 3/16     | 3-3/4        | 1-3/4         | 1-7/8        |
| KWIK-CON II+ 316-334 TFH Bulk | 3/16     | 3-3/4        | 1-3/4         | 1-7/8        |
| KWIK-CON II+ 316-4 TFH        | 3/16     | 4            | 1-3/4         | 2-1/8        |



T-27 TORX bit

| Description                  | Diameter | Total length | Thread length | Shank length |
|------------------------------|----------|--------------|---------------|--------------|
| KWIK-CON II+ 14-114 TFH      | 1/4      | 1-1/4        | 1-1/16        | 0            |
| KWIK-CON II+ 14-134 TFH      | 1/4      | 1-3/4        | 1-9/16        | 0            |
| KWIK-CON II+ 14-134 TFH Bulk | 1/4      | 1-3/4        | 1-9/16        | 0            |
| KWIK-CON II+ 14-214 TFH      | 1/4      | 2-1/4        | 1-3/4         | 5/16         |
| KWIK-CON II+ 14-234 TFH      | 1/4      | 2-3/4        | 1-3/4         | 13/16        |
| KWIK-CON II+ 14-314 TFH      | 1/4      | 3-1/4        | 1-3/4         | 1-5/16       |
| KWIK-CON II+ 14-314 TFH Bulk | 1/4      | 3-1/4        | 1-3/4         | 1-5/16       |
| KWIK-CON II+ 14-334 TFH      | 1/4      | 3-3/4        | 1-3/4         | 1-13/16      |
| KWIK-CON II+ 14-4 TFH        | 1/4      | 4            | 1-3/4         | 2-1/16       |

<sup>1</sup> All dimensions in inches

## KWIK-CON II+ fasteners



#3 Phillips bit

| Description                              | Diameter | Total length | Thread length | Shank length |
|------------------------------------------|----------|--------------|---------------|--------------|
| KWIK-CON II+ 316-114 PFH                 | 3/16     | 1-1/4        | 1-1/16        | 0            |
| KWIK-CON II+ 316-134 PFH                 | 3/16     | 1-3/4        | 1-9/16        | 0            |
| KWIK-CON II+ 316-214 PFH                 | 3/16     | 2-1/4        | 1-3/4         | 5/16         |
| KWIK-CON II+ 316-234 PFH                 | 3/16     | 2-3/4        | 1-3/4         | 13/16        |
| KWIK-CON II+ 316-314 PFH                 | 3/16     | 3-1/4        | 1-3/4         | 1-5/16       |
| KWIK-CON II+ 316-334 PFH                 | 3/16     | 3-3/4        | 1-3/4         | 1-13/16      |
| KWIK-CON II+ 316-4 PFH                   | 3/16     | 4            | 1-3/4         | 2-1/16       |
| KWIK-CON II+ 316-114 PFH Stainless Steel | 3/16     | 1-1/4        | 1-1/16        | 0            |
| KWIK-CON II+ 316-234 PFH Stainless Steel | 3/16     | 2-3/4        | 1-3/4         | 13/16        |



#3 Phillips bit

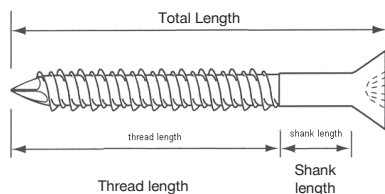
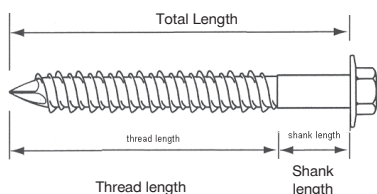
| Description             | Diameter | Total length | Thread length | Shank length |
|-------------------------|----------|--------------|---------------|--------------|
| KWIK-CON II+ 14-114 PFH | 1/4      | 1-1/4        | 1-1/16        | 0            |
| KWIK-CON II+ 14-134 PFH | 1/4      | 1-3/4        | 1-9/16        | 0            |
| KWIK-CON II+ 14-214 PFH | 1/4      | 2-1/4        | 1-3/4         | 5/16         |
| KWIK-CON II+ 14-234 PFH | 1/4      | 2-3/4        | 1-3/4         | 13/16        |
| KWIK-CON II+ 14-314 PFH | 1/4      | 3-1/4        | 1-3/4         | 1-5/16       |
| KWIK-CON II+ 14-334 PFH | 1/4      | 3-3/4        | 1-3/4         | 1-13/16      |
| KWIK-CON II+ 14-4 PFH   | 1/4      | 4            | 1-3/4         | 2-1/16       |

## KWIK-CON II+ hex driver system

| Description                           | Qty / pack |
|---------------------------------------|------------|
| KWIK-CON Hex Driver Deluxe Kit        | 1          |
| KWIK-CON Hex Driver                   | 1          |
| 5/16-in. Hex Driver for all THWH      | 1          |
| 5/16-in. Hex Nut Setter/Depth Locator | 1          |
| Insert Bit Holder/Depth Locator       | 1          |
| #3 Phillips Driver for all PFH        | 1          |
| T-25 TORX Driver for 3/16-in. TFH     | 1          |
| T-27 TORX Driver for 1/4-in. TFH      | 1          |

## KWIK-CON II+ matched tolerance drill bits

| Description                                                                           |
|---------------------------------------------------------------------------------------|
| <b>For 1/4-in. KWIK-CON II+ Applications in normal-weight concrete</b>                |
| TKC Large Concrete Bit SDS+ Hex                                                       |
| TKC Large Concrete Bit Smooth Shank                                                   |
| <b>For 1/4-in. KWIK-CON II+ Applications in lightweight concrete, brick or block</b>  |
| TKB Large Block Bit SDS+ Hex                                                          |
| TKB Large Block Bit Smooth Shank                                                      |
| <b>For 3/16-in. KWIK-CON II+ Applications in normal-weight concrete</b>               |
| TKC Small Concrete Bit SDS+ Hex                                                       |
| TKC Small Concrete Bit Smooth Shank                                                   |
| <b>For 3/16-in. KWIK-CON II+ Applications in lightweight concrete, brick or block</b> |
| TKB Small Block Bit SDS+ Hex                                                          |
| TKB Small Block Bit Smooth Shank                                                      |



1 All dimensions in inches.



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