



The following excerpt are pages from the North American Product Technical Guide, Volume 2: Anchor Fastening, Edition 17.

Please refer to the publication in its entirety for complete details on this product including data development, product specifications, general suitability, installation, corrosion and spacing and edge distance guidelines.

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To consult directly with a team member regarding our anchor fastening products, contact Hilti's team of technical support specialists between the hours of 7:00am – 6:00pm CST.

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## 3.2.8 HAS/HIT-V threaded rods and HIS-N inserts

### 3.2.8.1 Material specifications

#### HIT-Z carbon steel material specifications

3/8-, 1/2- and 5/8-in. HIT-Z rods are manufactured from AISI 1038 with a minimum tensile strength of 94.2 ksi (650 MPa) and a minimum yield strength of 75.3 ksi (520 MPa).

3/4-in. HIT-Z rods are manufactured from either AISI 1038 or 18MnV5 with a minimum tensile strength of 94.2 ksi (650 MPa) and a minimum yield strength of 75.3 ksi (520 MPa).

HIT-Z rods have a electroplate zinc coating with a minimum thickness of 5 µm.

Carbon steel nuts conform to ASTM A563 and ANSI B18.2.2.

Carbon steel washers conform to ASTM F844.

#### HIT-Z-R stainless steel material specifications

HIT-Z-R rods are manufactured from AISI Type 316 stainless steel minimum tensile strength of 94.2 ksi (650 MPa) and a minimum yield strength of 75.3 ksi (520 MPa).

Stainless steel nuts conform with ASTM F594 and ANSI B18.2.2.

Stainless steel washers are manufactured from AISI Type 316 stainless steel and conform to ASTM A240.

#### HIT-V carbon steel rod specifications

Carbon Steel conforms to ultimate strength of ASTM A307 Grade A of 60,000 psi (414 MPa) but do not meet the minimum elongation ductility requirement.

HIT-V nuts conform to SAE J995 Grade 5.

HIT-V washers conform to ASTM F594 and ANSI B18.2.2

HIT-V rod, nut and washer have an electroplated zinc coating conforming to ASTM B633, SC 1

#### HAS-E carbon steel threaded rod specifications

Carbon steel rods conform to ISO 898 class 5.8 with a minimum tensile strength of 72.5 ksi (500 MPa) and a minimum yield strength of 58 ksi (400 MPa) but do not meet the minimum elongation ductility requirement.

HAS-E nuts conform to SAE J995 Grade 5.

HAS-E washers conform to ASTM F844, HV, and ANSI B18.22.1 Type A Plain.

HAS-E rod, nut and washer have an electroplated zinc coating conforming to ASTM B633, SC 1.

#### HAS-E-B high strength threaded rod specifications

Carbon steel rods manufactured from ASTM A193, Grade B7, with a minimum tensile strength of 125 ksi (862 MPa) and a minimum yield strength of 105 ksi (724 MPa).

HAS-E-B nuts conform to ASTM A 194, Grade 2H, Heavy.

HAS-E-B washers conform to ASTM F844, HV, and ANSI B18.22.1 Type A Plain.

HAS-E-B rods, nuts and washers, except the 7/8-in. diameter, have an electroplated zinc coating conforming to ASTM B633, SC1.

HAS-E-B HDG rods, nuts and washers are hot-dip galvanized in accordance with ASTM A153.

#### HAS-R 304 stainless steel

3/8-, 1/2- and 5/8-in. rods manufactured from AISI Type 304 stainless steel with a minimum tensile strength of 100 ksi (689 MPa) and a minimum yield strength of 65 ksi (448 MPa).

3/4-, 1- and 1 1/4-in. rods are manufactured from AISI Type 304 stainless steel conforming to ASTM F593 Condition CW or cold worked.

AISI Type 304 stainless steel nuts conform to ASTM F594.

AISI Type 304 stainless steel washers conform to ASTM A240 and ANSI B18.22.1 Type A Plain.

#### HAS-R 316 stainless steel

3/8-, 1/2- and 5/8-in. rods manufactured from AISI Type 316 stainless steel with a minimum tensile strength of 100 ksi (689 MPa) and a minimum yield strength of 65 ksi (448 MPa).

3/4-, 1- and 1 1/4-in. rods are manufactured from AISI Type 316 stainless steel conforming to ASTM F593 Condition CW.

AISI Type 316 stainless steel nuts conform to ASTM F594.

AISI Type 316 stainless steel washers conform to ASTM A240 and ANSI B18.22.1 Type A Plain.

#### HIS-N and HIS-RN internally threaded insert specifications

3/8-in. HIS-N is manufactured from 11MnPb30+C carbon steel conforming to DIN 10277-3 with a minimum tensile strength of 71.1 ksi (490 MPa) and a minimum yield strength of 59.5 ksi (410 MPa).

1/2-, 5/8- and 3/4-in. HIS-N is manufactured from 11MnPb30+C carbon steel conforming to DIN 10277-3 with a minimum tensile strength of 66.7 ksi (460 MPa) and a minimum yield strength of 54.4 ksi (375 MPa).

HIS-RN is manufactured from X5CrNiMo17+12+2+2 stainless steel conforming to DIN EN 10088-3 with a minimum tensile strength of 101.5 ksi (700 MPa) and a minimum yield strength of 50.8 ksi (350 MPa).

## HAS/HIT-V threaded rods and HIS-N inserts 3.2.8

### 3.2.8.2 Ordering information

#### HIT-V and HAS Threaded Anchor Rods for Hilti Chemical Anchoring Systems



| HIT-V, A307 Steel |     | HAS-E, 5.8 Steel |     | HAS-E-B High Str. Steel |     | HAS-E-B HDG High Str. Hot Dipped Galvanized |     | HAS-R 304 Stainless Steel |     | HAS-R 316 Stainless Steel |     |
|-------------------|-----|------------------|-----|-------------------------|-----|---|-----|---------------------------|-----|---------------------------|-----|
| Description       | Qty | Description      | Qty | Description             | Qty | Description                                 | Qty | Description               | Qty | Description               | Qty |
| -                 | -   | 3/8" x 3"        | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 3/8" x 4-1/2"     | 10  | 3/8" x 4-3/8"    | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 3/8" x 5-1/2"     | 20  | 3/8" x 5-1/8"    | 20  | 3/8" x 5-1/8"           | 20  | -   | -   | 3/8" x 5-1/8"             | 20  | 3/8" x 5-1/8"             | 20  |
| 3/8" x 8"         | 10  | 3/8" x 8"        | 10  | -                       | -   | -   | -   | 3/8" x 8"                 | 10  | 3/8" x 8"                 | 10  |
| -                 | -   | 3/8" x 12"       | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| -                 | -   | 1/2" x 3-1/8"    | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 1/2" x 4-1/2"     | 10  | 1/2" x 4-1/2"    | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 1/2" x 6-1/2"     | 20  | 1/2" x 6-1/2"    | 20  | 1/2" x 6-1/2"           | 20  | -   | -   | 1/2" x 6-1/2"             | 20  | 1/2" x 6-1/2"             | 20  |
| 1/2" x 8"         | 10  | 1/2" x 8"        | 10  | -                       | -   | 1/2" x 8"                                   | 10  | 1/2" x 8"                 | 10  | 1/2" x 8"                 | 10  |
| -                 | -   | 1/2" x 10"       | 10  | -                       | -   | -   | -   | 1/2" x 10"                | 10  | 1/2" x 11"                | 10  |
| -                 | -   | 1/2" x 12"       | 10  | -                       | -   | -   | -   | -                         | -   | 1/2" x 12"                | 10  |
| 5/8" x 6"         | 10  | 5/8" x 6"        | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 5/8" x 8"         | 20  | 5/8" x 8"        | 20  | 5/8" x 7-5/8"           | 20  | 5/8" x 8"                                   | 20  | 5/8" x 7-5/8"             | 20  | 5/8" x 7-5/8"             | 20  |
| 5/8" x 10"        | 10  | 5/8" x 9"        | 10  | -                       | -   | -   | -   | 5/8" x 10"                | 10  | 5/8" x 9"                 | 10  |
| 5/8" x 12"        | 10  | 5/8" x 12"       | 10  | -                       | -   | 5/8" x 12"                                  | 10  | -                         | -   | 5/8" x 12"                | 10  |
| -                 | -   | 5/8" x 17"       | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 3/4" x 6"         | 10  | 3/4" x 6"        | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 3/4" x 8"         | 10  | 3/4" x 8"        | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| 3/4" x 10"        | 10  | 3/4" x 10"       | 10  | 3/4" x 9-5/8"           | 10  | 3/4" x 10"                                  | 10  | 3/4" x 9-5/8"             | 10  | 3/4" x 9-5/8"             | 10  |
| -                 | -   | 3/4" x 11"       | 10  | -                       | -   | -   | -   | -                         | -   | 3/4" x 10"                | 10  |
| 3/4" x 12"        | 10  | 3/4" x 12"       | 10  | -                       | -   | -   | -   | 3/4" x 12"                | 10  | -                         | -   |
| -                 | -   | 3/4" x 14"       | 10  | 3/4" x 14"              | 10  | 3/4" x 14"                                  | 10  | 3/4" x 14"                | 10  | -                         | -   |
| 3/4" x 16"        | 10  | 3/4" x 17"       | 10  | -                       | -   | -   | -   | 3/4" x 16"                | 10  | 3/4" x 16"                | 10  |
| -                 | -   | 3/4" x 19"       | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| -                 | -   | 3/4" x 21"       | 10  | -                       | -   | 3/4" x 20"                                  | 10  | -                         | -   | -                         | -   |
| -                 | -   | 3/4" x 25"       | 10  | -                       | -   | -   | -   | -                         | -   | -                         | -   |
| -                 | -   | 7/8" x 10"       | 10  | -                       | -   | -   | -   | 7/8" x 10"                | 10  | 7/8" x 10"                | 10  |
| -                 | -   | 7/8" x 13"       | 10  | -                       | -   | 7/8" x 10"                                  | 10  | -                         | -   | -                         | -   |
| -                 | -   | -                | -   | -                       | -   | 7/8" x 12"                                  | 10  | -                         | -   | 7/8" x 16"                | 10  |
| 1" x 12"          | 4   | 1" x 12"         | 4   | 1" x 12"                | 4   | 7/8" x 16"                                  | 10  | 1" x 12"                  | 4   | 1" x 12"                  | 4   |
| -                 | -   | 1" x 14"         | 2   | 1" x 14"                | 2   | -   | -   | -                         | -   | -                         | -   |
| -                 | -   | 1" x 16"         | 2   | 1" x 16"                | 2   | -   | -   | -                         | -   | 1" x 16"                  | 2   |
| -                 | -   | 1" x 20"         | 2   | 1" x 20"                | 2   | 1" x 16"                                    | 2   | -                         | -   | 1" x 20"                  | 2   |
| -                 | -   | 1-1/4" x 16"     | 4   | 1-1/4" x 16"            | 4   | -   | -   | -                         | -   | -                         | -   |
| -                 | -   | 1-1/4" x 22"     | 4   | 1-1/4" x 22"            | 4   | 1" x 21"                                    | 2   | -                         | -   | -                         | -   |
| -                 | -   | -                | -   | -                       | -   | 1-1/4" x 16"                                | 4   | -                         | -   | -                         | -   |

1 Hot Dip Galvanized



#### HIS-N carbon steel and HIS-RN stainless steel internally threaded inserts<sup>1</sup>

| Description | Useable thread length (in) | Qty |
|-------------|----------------------------|-----|
| 3/8 x 4-1/4 | 1                          | 10  |
| 1/2 x 5     | 1-3/16                     | 5   |
| 5/8 x 6-5/8 | 1-1/2                      | 5   |
| 3/4 x 8-1/4 | 2                          | 5   |

1 All dimensions in inches.

Hilti Rods are now stamped on the end to show grade of steel and overall anchor length!



E = ISO 898 Class 5.8 Steel

B = ASTM A 193, Grade B7 Steel

R1 = AISI 304 Stainless Steel

R2 = AISI 316 Stainless Steel