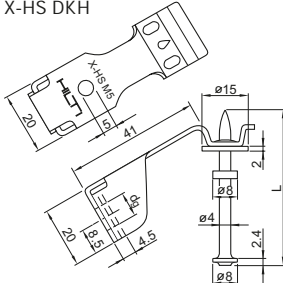
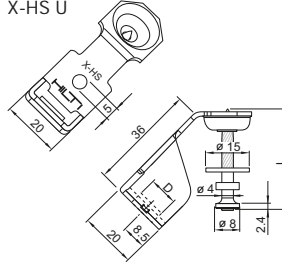
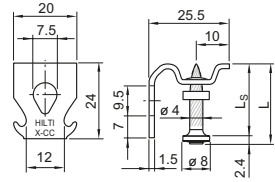
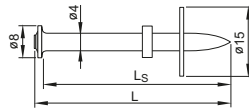
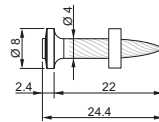
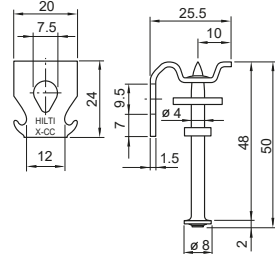
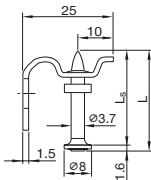
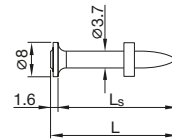


# X-HS and X-CC Threaded hanger and loop hanger system

## Product data

### Dimensions

**X-HS DKH**

**X-HS U**

**X-CC U**

**DKH 48 P8S15**

**X-U\_P8**

**X-CC DKH 48P8S15**

**X-CC CS**

**X-CS\_P8**


### Material specifications

Carbon steel shank: HRC 58 X-HS M \_ DKH, X-HS M/W\_U, X-CC\_U  
 HRC 56 X-CC\_CS

X-HS: Zinc coating: 10  $\mu$ m

X-CC U: Zinc coating: 2.5  $\mu$ m

X-CC CS : Zinc coating: 5  $\mu$ m

X-U / DKH Nail: Zinc coating: 5–20  $\mu$ m

X-CS Nail: Zinc coating: 5–20  $\mu$ m

### Recommended fastening tools

DX 6 F8, DX 5 F8, DX 460-F8, DX 351-F8, DX 36, DX 2, DX E72



• See system recommendation in the next pages.

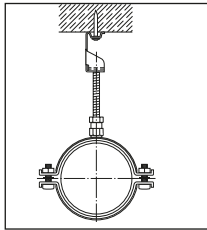
## Approvals and certificates

Lloyds Register: X-HS  
 ICC, UL, FM: X-HS W6/10

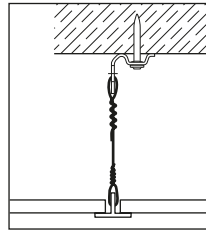
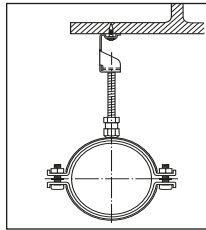
Not all information presented in this product data sheet might be subject to approval / certificate content. Please refer to approval / certificate for further information.

## Applications

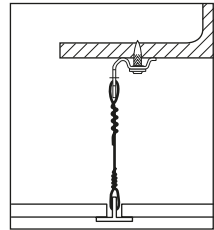
### Examples



Threaded rod attachments to concrete and steel



Wire attachments to concrete and steel

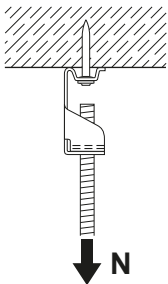


## Performance data

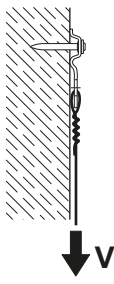
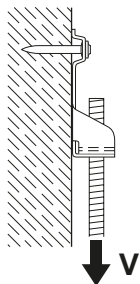
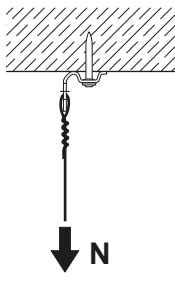
Recommended resistance under tension and shear load

Concrete (DX-Kwik with pre-drilling) or steel

X-HS



X-CC



Designation

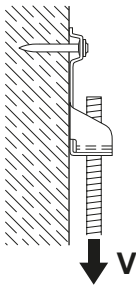
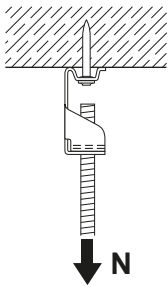
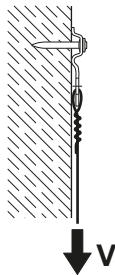
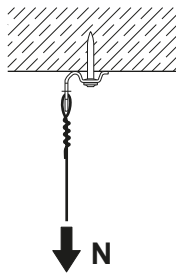
$N_{rec} = V_{rec}$

Base material

|                |        |          |
|----------------|--------|----------|
| X-HS __ DKH 48 | 0.9 kN | Concrete |
| X-HS __ U19    | 0.9 kN | Steel    |
| X-CC DKH 48    | 0.9 kN | Concrete |
| X-CC U16       | 0.9 kN | Steel    |

### Conditions

- Predominantly static loading.
- Concrete C20/25–C50/60
- Strength of fastened material is not limiting.
- Observance of all application limitations and recommendations (especially pre-drilling requirements).

**Concrete (DX Standard without pre-drilling)**
**X-HS**

**X-CC**


| Designation | $N_{rec}$ | $V_{rec}$ | $h_{ET}$ |
|-------------|-----------|-----------|----------|
| X-HS_U32    | 0.4 kN    | 0.4 kN    | 27 mm    |
| X-HS_U27    | 0.3 kN    | 0.3 kN    | 22 mm    |
| X-HS_U22    | 0.2 kN    | 0.2 kN    | 18 mm    |
| X-CC_U27    | 0.2* kN   | 0.3 kN    | 22 mm    |
| X-CC_U22    | 0.15* kN  | 0.2 kN    | 18 mm    |
| X-CC_CS27   | 0.2 kN    | 0.3 kN    | 22 mm    |
| X-CC_CS22   | 0.15 kN   | 0.2 kN    | 18 mm    |

\*) eccentric loading considered

**Conditions**

- Minimum 5 fasteners per fastened unit (normal weight concrete).
- All visible failures must be replaced.
- With lightweight concrete base material and appropriate washers, greater loading may be possible, please contact Hilti.
- Predominantly static loading.
- Observance of all application limitations and recommendations.



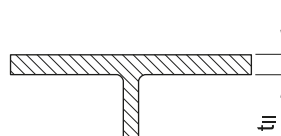
- For more details in relation to base material properties, please refer to the chapter **Fastener selection guide** in the Direct Fastening Manual (DFTM).

**Application recommendation**
**Base material thickness**
**Concrete**

DX-Kwik

 (with pre-drilling)  $h_{min} = 100 \text{ mm}$ 

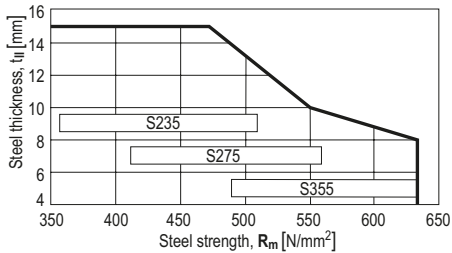
DX Standard

 (w/o pre-drilling)  $h_{min} = 80 \text{ mm}$ 
**Steel**
 $t_{II} \geq 4 \text{ mm}$ 

**Fastener positioning**

Minimum spacing and edge distances: See corresponding nail data sheet of X-U and X-DKH.

## Application limits

### Fastening to steel – X-HS U19 with DX351



Application limit may increase in case of specific applications, like the fastening of wire mesh to steel, which is connected with X-CC U16 P8 fasteners. That wire mesh acts as reinforcement for fire protective sprayed coating. In such cases also different fastener stand-offs apply. Inquire at Hilti related with the use of X-CC U16 P8 in that specific application.

## Corrosion information



- These zinc-coated fasteners are not suitable for long-term service outdoors or in otherwise corrosive environments.
- For more details, please refer to following technical document: Hilti Corrosion Handbook.

### System recommendation



• For more details, please refer to the chapter **Accessories and consumables compatibility** in the Direct Fastening Technology Manual (DFTM).

### Technical information

| Designation        | Shank diameter<br>$d_s$ | Shank length<br>$L_s$ | Fastener length<br>$L$ | Base material        | Tools                             |
|--------------------|-------------------------|-----------------------|------------------------|----------------------|-----------------------------------|
| X-HS_ DKH 48 P8S15 | 4.0 mm                  | 48 mm                 | 50.0 mm                | Concrete pre-drilled | DX 6 F8, DX 5 F8, DX 460-F8       |
| X-HS_ U 32 P8S15   | 4.0 mm                  | 32 mm                 | 34.4 mm                | Concrete             | DX 6 F8,                          |
| X-HS_ U 27 P8S15   | 4.0 mm                  | 27 mm                 | 29.4 mm                | Concrete             | DX 5 F8,                          |
| X-HS_ U 22 P8S15   | 4.0 mm                  | 22 mm                 | 24.4 mm                | Concrete             | DX 460-F8,                        |
| X-HS_ U 19 P8S15   | 4.0 mm                  | 19 mm                 | 21.4 mm                | Steel                | DX 351-F8, DX 36, DX 2            |
| X-CC DKH 48 P8S15  | 4.0 mm                  | 48 mm                 | 50.0 mm                | Concrete pre-drilled | DX 6 F8, DX 5 F8, DX 460-F8       |
| X-CC U 27 P8       | 4.0 mm                  | 27 mm                 | 29.4 mm                | Concrete             | DX 6 F8,                          |
| X-CC U 22 P8       | 4.0 mm                  | 22 mm                 | 24.4 mm                | Concrete             | DX 5 F8,                          |
| X-CC U 16 P8       | 4.0 mm                  | 16 mm                 | 18.4 mm                | Steel                | DX 460-F8, DX 351-F8, DX 36, DX 2 |

### Cartridge recommendation for fastening on concrete

| Base material        | Cartridge color (tool power level) |  |
|----------------------|------------------------------------|--|
|                      | Tool type:<br>DX 6 F8              | Tool type:<br>DX 5 F8, DX 460 F8, DX 2,<br>DX 351 F8 |
|                      | Cartridge type: 6.8/11 M           | Cartridge type: 6.8/11 M                             |
| Soft/medium concrete | titanium (2-5)                     | yellow , red   |
| Tough concrete       | titanium (4-8)                     | yellow , red   |

### Cartridge recommendation for fastening on steel

| Base material |                   | Cartridge color (tool power level) |  |
|---------------|-------------------|------------------------------------|--|
|               |                   | Tool type:<br>DX 6 F8              | Tool type:<br>DX 5 F8, DX 460 F8, DX 2,<br>DX 351 F8 |
|               |                   | Cartridge type: 6.8/11 M           | Cartridge type: 6.8/11 M                             |
| S235,         | 4 $t_{  }$ 6mm    | titanium (1-3)                     | green  |
| S275,         | 6 < $t_{  }$ 14mm | titanium (4-8)                     | red  |
| S355          |                   |                                    |  |

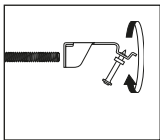


- Tool power level adjustment by setting tests on site.
- Start tool energy selection with lowest recommended tool power level.
- Correct according requirement from chapter quality assurance.

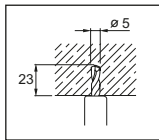
### Quality assurance

#### Installation

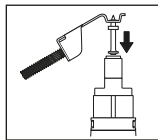
##### X-HS



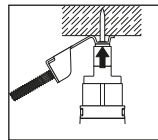
1. Attach the threaded rod to the X-HS before fastening



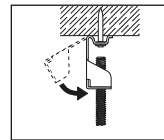
2. For DKH 48 pre-drill ( $\varnothing$  5 x 23)



3. Load the assembly into the tool

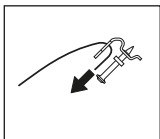


4. Locate the nail, compress the tool, pull the trigger and the fastening is complete

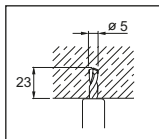


5. Bend the X-HS assembly down to the vertical position

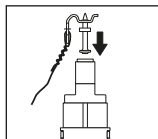
##### X-CC



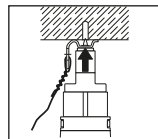
1. Assemble the wire with the X-CC



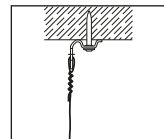
2. For DKH 48 pre-drill ( $\varnothing$  5 x 23)



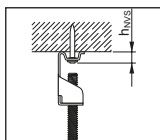
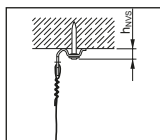
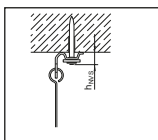
3. Load the assembly into the tool



4. Locate the nail, compress the tool, pull the trigger and the fastening is complete



5. Adjust the wire as required

**Setting depth control**
**X-HS**

 $h_{NVS} = 6-10 \text{ mm}$ 
**X-CC**

 $h_{NVS} = 4-7 \text{ mm}$ 
**X-CC DKH48 P8 S15**

 $h_{NVS} = 6-10 \text{ mm}$ 

These are abbreviated instructions which may vary by application.

**ALWAYS** review/follow the instructions accompanying the product.

**Fastener program**

Item no. and description

**X-HS order information**

| Item no. | Designation         | Item no. | Designation         |
|----------|---------------------|----------|---------------------|
| 361788   | X-HS M6 U32 P8 S15  | 386214   | X-HS M8 U19 P8 S15  |
| 386223   | X-HS M6 U27 P8 S15  | 386215   | X-HS M10 U19 P8 S15 |
| 361789   | X-HS M8 U32 P8 S15  | 386217   | X-HS W10 U19 P8 S15 |
| 386224   | X-HS M8 U27 P8 S15  | 386218   | X-HS M6 U22 P8 S15  |
| 361790   | X-HS M10 U32 P8 S15 | 386219   | X-HS M8 U22 P8 S15  |
| 386225   | X-HS M10 U27 P8 S15 | 386222   | X-HS W10 U22 P8 S15 |
| 386226   | X-HS W6 U27 P8 S15  | 386216   | X-HS W6 U19 P8 S15  |
| 386227   | X-HS W10 U27 P8 S15 | 386220   | X-HS M10 U22 P8 S15 |
| 386213   | X-HS M6 U19 P8 S15  | 386221   | X-HS W6 U22 P8 S15  |



• Type of threading: M = metric; W6, W10 = Whitworth 1/4"; 3/8"

**X-CC order information**

| Item no. | Designation     |
|----------|-----------------|
| 386229   | X-CC U22 P8     |
| 386230   | X-CC U27 P8     |
| 299937   | X-CC DKH P8 S15 |
| 386228   | X-CC U16 P8     |
| 2006454  | X-CC CS22 P8    |
| 2005065  | X-CC CS27 P8    |