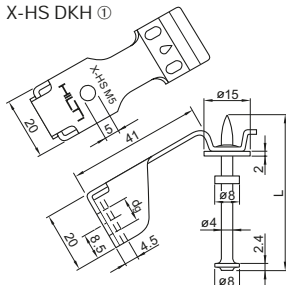
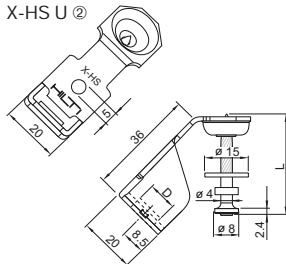
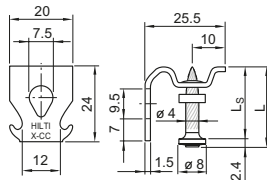
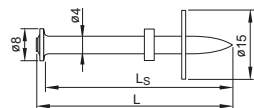
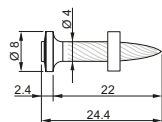
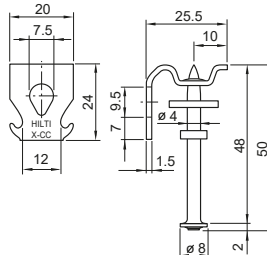
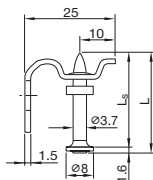
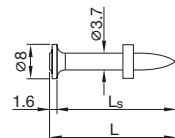


X-HS and X-CC Threaded hanger and loop hanger system

Product data

Dimensions

X-HS DKH ①

X-HS U ②

X-CC U ③

DKH 48 P8S15

X-U_P8

X-CC DKH 48 P8 S15 ③

X-CC CS

X-CS_P8


General information

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 µm

X-CC U: Zinc coating: 2.5 µm

X-CC CS : Zinc coating: ≥ 5 µm

X-U / DKH Nail: Zinc coating: 5–20 µm

X-CS Nail: Zinc coating: 5–20 µm

Recommended fastening tools

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

See **X-HS and X-CC fastener program** in the next pages and **Tools and equipment** chapter for more details.

Approvals

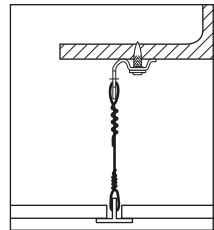
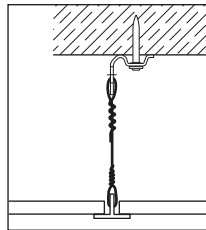
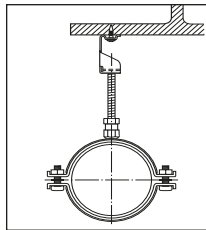
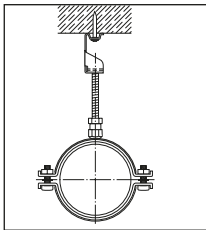
Lloyds Register: X-HS

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

Note: technical data presented in these approvals and design guidelines reflect specific local conditions and may differ from those published in this handbook.

Applications

Examples



Threaded rod attachments to concrete and steel

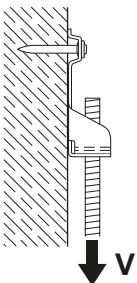
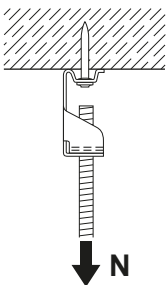
Wire attachments to concrete and steel

Load data

Recommended loads

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

X-HS

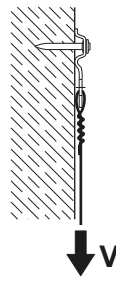
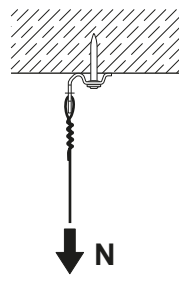


Fastener designation	$N_{rec} = V_{rec}$ [kN]	Base material
X-HS __ DKH 48	0.9	Concrete
X-HS __ U19	0.9	Steel
X-CC DKH 48	0.9	Concrete
X-CC U16	0.9	Steel

Conditions:

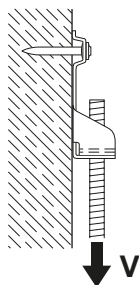
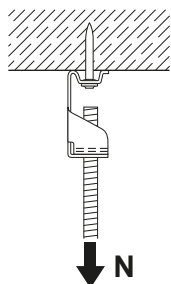
- Predominantly static loading.
- Concrete C20/25–C50/60
- Strength of fastened material is not limiting.
- Observance of all application limitations and recommendations (especially pre-drilling requirements).

X-CC



Concrete (DX Standard without pre-drilling)

X-HS



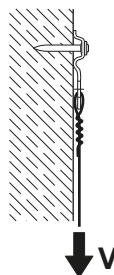
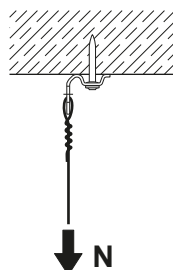
Fastener designation	N_{rec} [kN]	V_{rec} [kN]	h_{ET} [mm]
X-HS_U32	0.4	0.4	27
X-HS_U27	0.3	0.3	22
X-HS_U22	0.2	0.2	18
X-CC_U27	0.2*	0.3	22
X-CC_U22	0.15*	0.2	18
X-CC_CS27	0.2	0.3	22
X-CC_CS22	0.15	0.2	18

*) eccentric loading considered

Conditions:

- Minimum 5 fastenings 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.

X-CC



Application requirements

Thickness of base material

Concrete

DX-Kwik

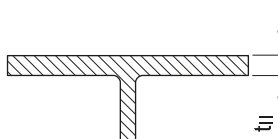
(with pre-drilling) $h_{min} = 100 \text{ mm}$

DX Standard

(w/o pre-drilling) $h_{min} = 80 \text{ mm}$

Steel

$t_{fl} \geq 4 \text{ mm}$



Spacing and edge distances

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

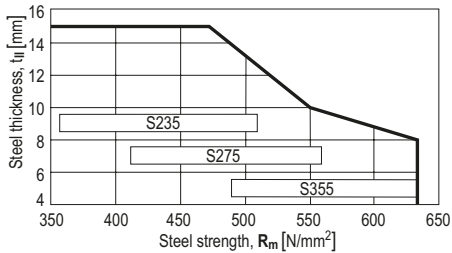
Corrosion information

These zinc-coated fasteners are not suitable for long-term service outdoors or in otherwise corrosive environments.

For further detailed information on corrosion see relevant chapter in **Direct Fastening Principles and Technique** section.

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.

Fastener selection

Program, technical information

Base material	Fastener Designation	Shank Ø d_s [mm]	Shank length L_s [mm]	L [mm]	Tools
① Concrete pre-drilled	X-HS_ DKH 48 P8S15	4.0	48	50.0	DX 460-F8, DX 5 F8
② Concrete	X-HS_ U 32 P8S15	4.0	32	34.4	DX 460-F8, DX 5 F8
	X-HS_ U 27 P8S15	4.0	27	29.4	DX 351-F8,
	X-HS_ U 22 P8S15	4.0	22	24.4	DX 36, DX 2
Steel	X-HS_ U 19 P8S15	4.0	19	21.4	
③ Concrete pre-drilled	X-CC DKH 48 P8S15	4.0	48	50.0	DX 460-F8, DX 5 F8
③ Concrete	X-CC U 27 P8	4.0	27	29.4	DX 460-F8, DX 5 F8
	X-CC U 22 P8	4.0	22	24.4	DX 351-F8,
	X-CC U 16 P8	4.0	16	18.4	DX 36, DX 2
Steel					

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

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

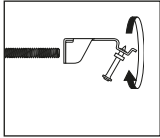
Item no.	Designation
386229	X-CC U22 P8
386230	X-CC U27 P8
299937	X-CC DKH P8 S15
386228	X-CC U16 P8
2006454	X-CC CS22 P8
2005065	X-CC CS27 P8

Cartridge selection

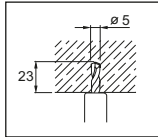
Cartridge recommendation:

Steel:	6.8/11M red cartridge	$t_{II} \geq 6 \text{ mm}$
	6.8/11M green cartridge	$t_{II} < 6 \text{ mm}$
Concrete:	6.8/11M yellow cartridge	on soft and tough concrete
	6.8/11M red cartridge	on very tough concrete

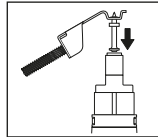
Tool energy adjustment by setting tests on site.

Fastening quality assurance
Installation
X-HS


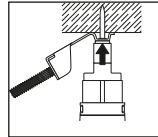
1. Attach the threaded rod to the X-HS before fastening



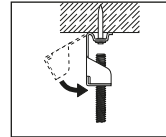
2. For **DKH 48** pre-drill ($\varnothing 5 \times 23$)



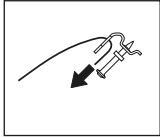
3. Load the assembly into the tool



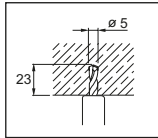
4. Locate the nail, compress the tool, pull the trigger and the fastening is complete



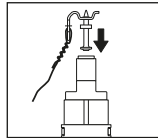
5. Bend the X-HS assembly down to the vertical position

X-CC


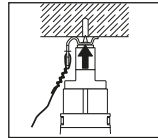
1. Assemble the wire with the **X-CC**



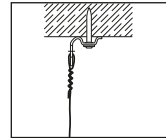
2. For **DKH 48** pre-drill ($\varnothing 5 \times 23$)



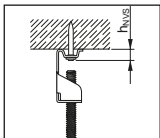
3. Load the assembly into the tool



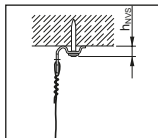
4. Locate the nail, compress the tool, pull the trigger and the fastening is complete



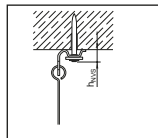
5. Adjust the wire as required

Quality assurance
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.