
X-HS-W

X-HS-W - Wire Hanging System

Product data

Fasteners/Components Overview

Pre assembled

General information

Material specifications	
X-HS-W:	
Zinc coating	≥ 2.5 μm
Nail:	
Zinc coating	5–13 μm
Carbon steel shank:	HRC 58
	X-EGN, X-GHP, X-U

Fastening tools

DX 460-F8, DX 351-F8, GX 120-ME See fastener selection for more details.











X-EGN 14





Applications





Round Air Ducts

11/2009



Square Air Ducts



Light weight Cable Trays / Lights

2.187

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Load data

Design data

Recommended loads

Fastener designation	Nrec [kN]	V_{rec [kN]}	h_{ET} [mm]
X-HS-W U27	0.20	0.3	22
X-HS-W U22	0.15	0.2	18
X-HS-W with GHP20	0.05	0.1	14

Conditions:

• Minimum 5 fastenings per fastened unit (normal weight concrete).

• All visible failures must be replaced.

- Valid for masonry and concrete GHP20: $f_{cc} \le 55 \text{ N/mm}^2$
 - X-U: f_{cc} ≤ 45 N/mm²
- Predominantly static loading.
- Observance of all application limitations and recommendations.

DX Standard for steel

Fastener designation	Nrec	Vrec
X-HS-W U16	0.90	0.90
X-HS-W EGN14	0.45	0.45

Conditions:

• Predominantly static loading.

• Observance of all application limitations and recommendations.

Test data

Important note: test data are for information only and cannot be used for design. These data are examples and do not represent the whole range of applications and load cases. Design data for Hilti standard nails in concrete are based on a specific statistical evaluation method taking into consideration high variation coefficients. The evaluation procedure is described in the **Direct Fastening Principles and Technique** section of this manual. For more detailed information please contact Hilti.

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Load capacity of the nails (examples):

Fastenings to concrete

Nail	Average tensile failure load N_{u,m} [kN]	Scatter	Embedment depth h_{ET} [mm]	Concrete strength f _{cc} [N/mm²]
X-HS-W GHP 20 MX	1.83	47.5	15.7	33.0
X-HS-W U 27 P8	2.38	44.8	20.8	33.0

Application requirements

Thickness of base material

Concrete	
X-U:	h _{min} = 80 mm
X-GHP, X-GN:	h _{min} = 60 mm



Spacing and edge distances

Spacing and edge distances depending on job site requirements.

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.

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Application limits

Concrete

 $\frac{\text{X-GHP 20:}}{\text{concrete strength } f_{cc} \le 55 \text{ N/mm}^2}$



Steel



X-HS-W U16 P8



2.190

Fastener selection and system recommendation

Fastener selection: Possible combinations

Rase material	Hanger	Technology	Nail	Shank Ø	Shank length
Dase material	Designation	rechnology	Designation	us [mm]	⊑s [mm]
Concrete	X-HS-W	GX	X-GHP 20 MX	3.0	20
Concrete	X-HS-W	DX	X-U 22 P8	4.0	22
Concrete	X-HS-W	DX	X-U 27 P8	4.0	27
Steel	X-HS-W	GX	X-EGN 14 MX	3.0	14
Steel	X-HS-W	DX	X-U 16 MX	4.0	16

Fastener selection: Order information

Fastener		Designation	Item no.
X-HS-W	For DX tools	X-HS-W U16 P8 1m/3ft	387430
		X-HS-W U22 P8 1m/3ft	387431
		X-HS-W U27 P8 1m/3ft	387432
		X-HS-W U16 P8 2m/7ft	387919
		X-HS-W U22 P8 2m/7ft	387920
		X-HS-W U27 P8 2m/7ft	387921
		X-HS-W U16 P8 3m/10ft	387433
		X-HS-W U22 P8 3m/10ft	387434
		X-HS-W U27 P8 3m/10ft	387435
X-HS-W	For GX tools	X-HS-W MX 1m/3ft	387436
		X-HS-W MX 2m/7ft	387922
		X-HS-W MX 3m/10ft	387437

System recommendation

DX tools:	Steel:	6.8/11M red cartridge	for $t_{II} \ge 6$	
		6.8/11M green cartridge	for $t_{\parallel} < 6$	
	Concrete:	6.8/11M green or yellow cartridge on	young and standard concrete	
		6.8/11M red cartridge on pre-cast, old	and hard concrete	
GX 120-M	E tool:	gas can GC 22		
GX 100-E	tool:	gas can GC 11 (GC 12 in USA)		

Tool energy adjustment by setting tests on site.

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Fastening quality assurance

Installation





HKD stud







Quality assurance

X-HS-W

NO LIFTING

Do not use for lifting, such as in a crane or pully situation.



NO MOVEMENT

Hilti hangers are to be used to suspend stationary loads only. Do not use to suspend moving services, or services likely to be subject to movement.

NO JOINING

Hilti hangers must not be used as an in-line joint using a Hilti fastener, or any other joining device. A Hilti hanger assembly must comprise one length of cable and one Hilti fastener only. If a longer length is needed, do not join two assemblies together.