HILTI

X-EKB, X-ECH
DATA SHEET

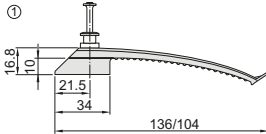**Electrical fastener**

X-EKB, X-ECH Electrical fastener

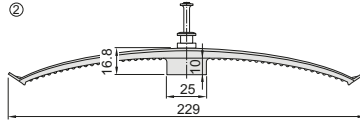## Product data

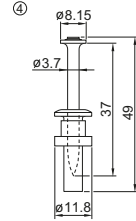### Dimensions

Single fastener

X-EKB 8/4-FR

①

X-EKB 16 (FR)

②

X-U 37 PH

④

X-ECH-S (FR)

⑤

X-ECH-M (FR)

⑥

X-ECH-L (FR)

⑦
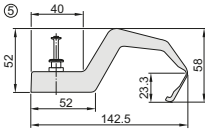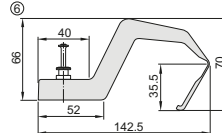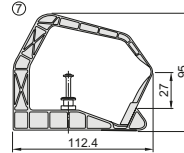
Magazine fastener

X-EKB 4 / 8 / 16 MX (FR)

⑧

X-EKB 4 MX (FR)

⑧
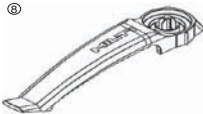
X-ECH-B MX
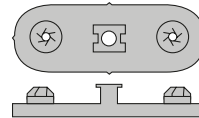
X-ECH-15/30 MX
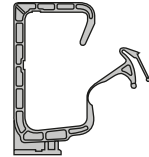
X-GHP 20/24

X-GN 27
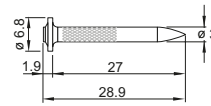
X-EGN 14
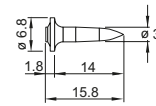
X-U 16/22/27
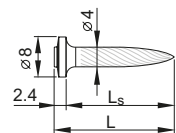
X-P 20/24 G3 MX
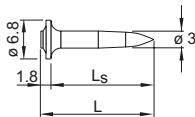
X-C 27 G3 MX
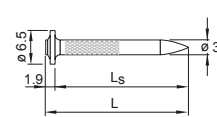
X-S 14 G3 MX
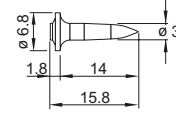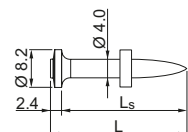
X-P 20/24 B3 MX

X-S 14 B3 MX

X-P 22
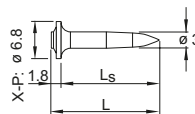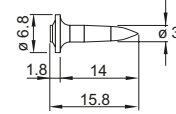
Material specifications

ⓘ • See fastener program in the next pages.
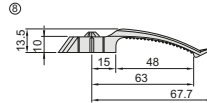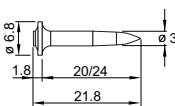
Recommended fastening tools

DX 6 MX, DX 5 MX, DX 460 MX, DX 351 MX,
DX 6 F8, DX 5 F8, DX 460-F8, DX 351 F8, DX 36, DX 2,
GX 120 ME, GX 3 ME, BX 3 ME

ⓘ • See fastener program in the next pages.

Approvals and certificates

UL (USA):   X-EKB MX, X-ECH / FR_U37
CSTB (France):   X-EKB_U 37, X-ECH_U37

ⓘ 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
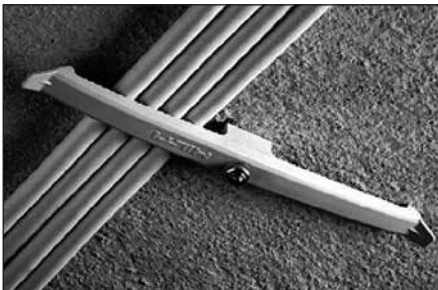
X-EKB for fastening cables

X-ECH for fastening bunched cables

Performance data

Fastener capacity for X-EKB: Securing electrical cables to concrete ceilings and walls

Designation	Number of wires/cables and wire sizes	
	NYM 3 x 1.5 mm² (Ø 8 mm)	NYM 5 x 1.5 mm² (Ø 10 mm)
X-EKB 4 __	4	3
X-EKB 8 __	8	5
X-EKB 16 __	16	10

ⓘ • Max. capacity (number of cables in one X-EKB) at spacing of 50–100 cm.

Fastener capacity for X-ECH: Securing electrical cable to ceilings and walls

Designation	No. of nails	Number of cables
X-ECH-S __ and X-ECH/FR-S __		max. 15 NYM 5x1.5^2 (Ø 10 mm)
X-ECH-M __ and X-ECH/FR-M __		max. 25 NYM 5x1.5^2 (Ø 10 mm)
X-ECH-L __ and X-ECH/FR-L __		max. 35 NYM 5x1.5^2 (Ø 10 mm)
X-ECH-15 MX and X-ECH-B	1 or 2	max. 15 NYM 3x1.5^2 (Ø 10 mm)
X-ECH-30 MX and X-ECH-B	1 or 2	max. 30 NYM 3x1.5^2 (Ø 10 mm)

Conditions

• Max. capacity at spacing of 60–80 cm.
• For concrete C12/15 to C45/55 (f_{cc} = 15 to 55 N/mm^2)
• All visible placing failures have to replaced
• Damaged X-ECH have to replaced

ℹ️ • 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		Steel
X-U, X-P:	h_{min} = 80 mm	$t_{\parallel} \geq 4$ mm
X-P G3 MX:	h_{min} = 60 mm	
X-P B3 MX:	h_{min} = 60 mm	
X-GHP MX, X-GN MX:	h_{min} = 60 mm	
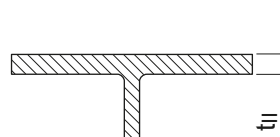
Fastened material thickness

ℹ️ • Fasteners recommended for cable Ø 8 mm and 10 mm.

Spacing and edge distances

X-EKB:	approximately 50–100 cm	(Adjust as necessary to control cable sag)
X-ECH:	approximately 60– 80 cm	(Adjust as necessary to limit sagging)

Corrosion information

ℹ️ • 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

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

Cartridge recommendation for fastening on concrete

Base material	Cartridge color (tool power level)	
	Tool type: DX 6 MX DX 6 F8	Tool type: DX 5 MX, DX 460 MX, DX 351 MX DX 5 F8, DX 460 F8, DX 351, DX 2
	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: DX 6 MX DX 6 F8	Tool type: DX 5 MX, DX 460 MX DX 5 F8, DX 460 F8, DX 351, DX 2
		Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
S235, S275, S355	$4 \leq t_{II} \leq 20\,mm$	titanium ■ (4-8)	red ■

ℹ • 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

X-EKB fastening quality
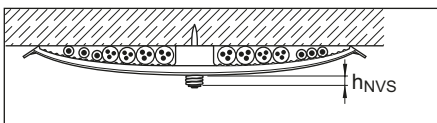
$h_{NVS} = 7 \pm 2$ mm

X-ECH fastening quality

$h_{NVS} = 7 \pm 2$ mm

Fastener program

Fastener with pre-mounted DX-nail: Technical information

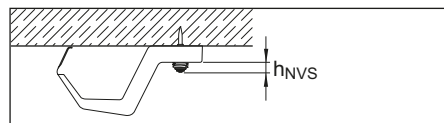|	Designation	Shank Ø d_s	Shank length L_s	Tools
①	X-EKB8 U 37	4.0 mm	37 mm	
②	X-EKB16 U 37	4.0 mm	37 mm	
⑤	X-ECH-S U 37	4.0 mm	37 mm	
⑥	X-ECH-M U 37	4.0 mm	37 mm	DX 6 F8,
⑦	X-ECH-L U 37	4.0 mm	37 mm	DX 5 F8,
①	X-EKB4-FR U 37	4.0 mm	37 mm	DX 460 F8,
①	X-EKB8-FR U 37	4.0 mm	37 mm	DX 351 F8,
②	X-EKB16-FR U 37	4.0 mm	37 mm	DX 36, DX 2
⑤	X-ECH/FR-S U 37	4.0 mm	37 mm	
⑥	X-ECH/FR-M U 37	4.0 mm	37 mm	
⑦	X-ECH/FR-L U 37	4.0 mm	37 mm	

③, ④ All nail shanks: carbon steel, HRC 58, galvanized 2–20 µm
Sleeve/thimble: carbon steel, not hardened, galvanized 5–13 µm

⑩–Δ See Product data in previous pages

Fastener with pre-mounted DX-nail: Order information

Designation	Item no.	Plastic material
X-EKB 4-FR U37	361581	Polyamide (PA)[2]
X-EKB 8 U37	386231	Polyamide (PA)[1]
X-EKB 8-FR U37	386233	Polyamide (PA)[2]
X-EKB 16 U37	386232	Polyamide (PA)[1]
X-EKB 16-FR U37	386234	Polyamide (PA)[2]
X-ECH-S U37	386235	Polyamide (PA)[1]
X-ECH-M U37	386236	Polyamide (PA)[1]
X-ECH-L U37	386237	Polyamide (PA)[1]
X-ECH/FR-S U37	386238	Polyamide (PA)[2]
X-ECH/FR-M U37	386239	Polyamide (PA)[2]
X-ECH/FR-L U37	386240	Polyamide (PA)[2]

[1] halogen and silicone free, light grey (RAL 7035)
[2] halogen and silicone free, flame retardant, stone grey (RAL 7030)

Fastener without pre-mounted nail: Technical information

Base material	Cable Holder	Fastening Technology	Nail
Concrete	X-EKB 4 MX X-EKB 8 MX X-EKB 16 MX X-EKB 4 FR MX X-EKB 8 FR MX X-EKB 16 FR MX X-ECH-15 MX* X-ECH-30 MX*	GX	X-P 20/24 G3 MX
		GX	X-C 27 G3 MX
		GX	X-GHP 20/24 MX
		GX	X-GN 27 MX
		BX	X-P 20/24 B3 MX
		DX	X-U 22/27 MX
		DX	X-P 22/27 MX
Steel		GX	X-S 14 G3 MX
		GX	X-EGN 14 MX
		BX	X-S 14 B3 MX
		DX	X-U 16 MX

* To be used with GX or BX technology ONLY

Fastener without pre-mounted nail: Order information

Designation	Item no.	Plastic material	Description
X-EKB 4 MX	285712	Polyamide (PA)[1]	Electrical Cable Holder
X-EKB 8 MX	285713	Polyamide (PA)[1]	
X-EKB 16 MX	285714	Polyamide (PA)[1]	
X-EKB 4 FR MX	285715	Polybutylenterephthalate (PBT)[2]	
X-EKB 8 FR MX	285716	Polybutylenterephthalate (PBT)[2]	
X-EKB 16 FR MX	285717	Polybutylenterephthalate (PBT)[2]	
X-ECH-15 MX	2018247	Polyamide (PA)[3]	
X-ECH-30 MX	2018248	Polyamide (PA)[3]	
X-ECH-15/B MX	2018729 (kit)	Polyamide (PA)[3]	
X-ECH-30/B MX	2018891 (kit)	Polyamide (PA)[3]	
X-ECH-B MX	2018391	Polyamide (PA)[3]	

[1] halogen free, light grey (RAL 7035)
[2] silicone free, stone grey (RAL 7030)
[3] halogen and silicone free, light grey (RAL 7035)