



X-EKB, X-ECH DATA SHEET

Electrical fastener



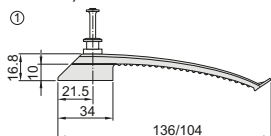
X-EKB, X-ECH Electrical fastener

Product data

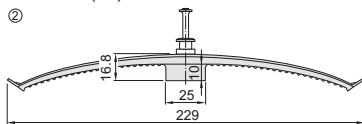
Dimensions

Single Fastener

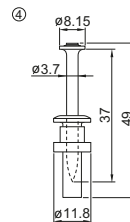
X-EKB 8/4-FR



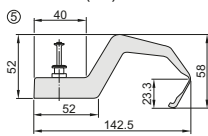
X-EKB 16 (FR)



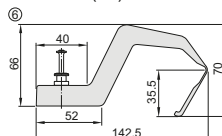
X-U 37 PH



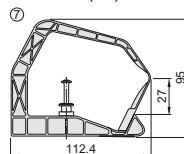
X-ECH-S (FR)



X-ECH-M (FR)



X-ECH-L (FR)

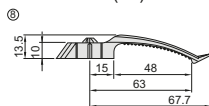


Magazine fastener

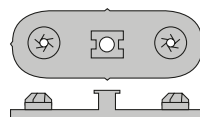
X-EKB 4 / 8 / 16 MX (FR)



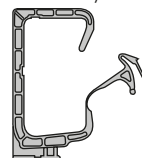
X-EKB 4 MX (FR)



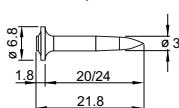
X-ECH-B MX



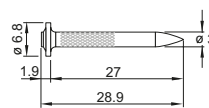
X-ECH-15/30 MX



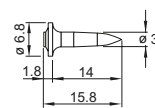
X-GHP 20/24



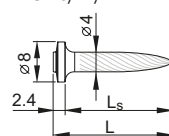
X-GN 27



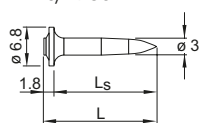
X-EGN 14



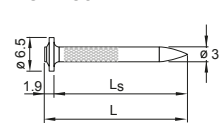
X-U 16/22/27



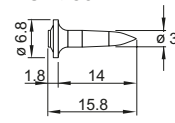
X-P 20/24 G3 MX



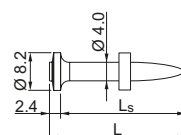
X-C 27 G3 MX



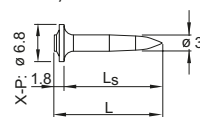
X-S 14 G3 MX



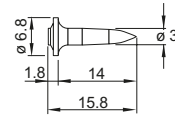
X-P 22



X-P 20/24 B3 MX



X-S 14 B3 MX



General information

Material specifications

See Fastener selection

Recommended fastening tools

DX 460-F8, DX 460 MX, DX 5 F8, DX 5 MX, DX 351-F8, DX 351 MX, DX36, DX 2, GX 120 ME, GX 3 ME, BX 3 ME

See **X-EKB, X-ECH fastener program** in the next pages and **Tools and equipment chapter** for more details.

Approvals

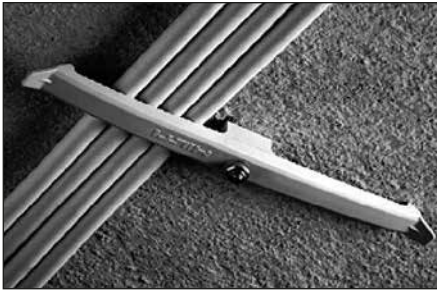
UL (USA): X-EKB MX, X-ECH / FR_U37

CSTB (France): X-EKB_U 37, X-ECH_U37

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



X-EKB for fastening cables



X-ECH for fastening bunched cables

Load data

Fastener capacity

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

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

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

X-ECH: Securing electrical cable to ceilings and walls

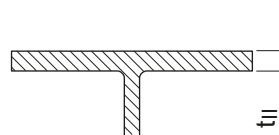
Max. capacity at spacing of 60–80 cm		
Designation	No. of nails	Number of cables
X-ECH-S __ and X-ECH/FR-S __		max. 15 NYM 5x1.5 ² (Ø 10 mm)
X-ECH-M __ and X-ECH/FR-M __		max. 25 NYM 5x1.5 ² (Ø 10 mm)
X-ECH-L __ and X-ECH/FR-L __		max. 35 NYM 5x1.5 ² (Ø 10 mm)
X-ECH-15 MX and X-ECH-B	1 or 2	max. 15 NYM 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:

- For concrete C12/15 to C45/55 ($f_{cc} = 15$ to 55 N/mm²)
- All visible placing failures have to be replaced
- Damaged X-ECH have to be replaced

Application requirements
Thickness of base material
Concrete
X-U, X-P: $h_{min} = 80$ mm

X-P G3 MX, X-P B3 MX,
X-GHP MX, X-GN MX $h_{min} = 60$ mm

Steel
 $t_{II} \geq 4$ mm

Thickness of fastened material

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

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.

Fastener program
Fastener with pre-mounted DX-nail: Technical information

Fastener Designation	Shank		Tools
	Ø d_s [mm]	length L_s [mm]	
① X-EKB8 U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
② X-EKB16 U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
⑤ X-ECH-S U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
⑥ X-ECH-M U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
⑦ X-ECH-L U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
① X-EKB4-FR U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
① X-EKB8-FR U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
② X-EKB16-FR U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
⑤ X-ECH/FR-S U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
⑥ X-ECH/FR-M U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2
⑦ X-ECH/FR-L U 37	4.0	37	DX 460-F8, DX 5 F8, DX351-F8, DX36, DX 2

③, ④ All nail shanks: carbon steel, HRC 58, galvanized 2–20 µm

Sleeve/thimble: carbon steel, not hardened, galvanized 5–13 µm

Ⓜ–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 ²⁾
X-EKB 8 U37	386231	Polyamide ¹⁾
X-EKB 8-FR U37	386233	Polyamide ²⁾
X-EKB 16 U37	386232	Polyamide ¹⁾
X-EKB 16-FR U37	386234	Polyamide ²⁾
X-ECH-S U37	386235	Polyamide ¹⁾
X-ECH-M U37	386236	Polyamide ¹⁾
X-ECH-L U37	386237	Polyamide ¹⁾
X-ECH/FR-S U37	386238	Polyamide ²⁾
X-ECH/FR-M U37	386239	Polyamide ²⁾
X-ECH/FR-L U37	386240	Polyamide 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 (FR) 4 MX X-EKB (FR) 8 MX X-EKB (FR) 16 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	X-ECH-30 MX*	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

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

¹⁾ halogen and silicone free, light grey RAL 7035

²⁾ halogen and silicone free, flame retardant, stone grey RAL 7030

System recommendation

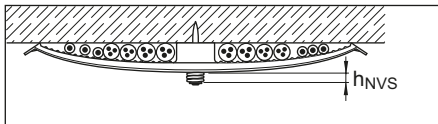
DX tools: Steel: **6.8/11M red cartridge**
 Concrete: **6.8/11M yellow cartridge** on soft and tough concrete
6.8/11M red cartridge on very tough concrete
 Masonry: **6.8/11M yellow or green cartridge, green for MX Fastener**

GX 120-ME tool: **Gas can GC 20, GC21 and GC22**

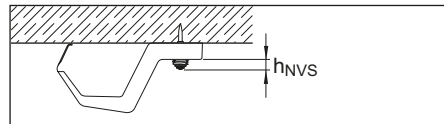
GX 3 ME tool: **Gas can GC 40, GC 41 and GC 42**

BX 3-ME tool: **no gas can required**

Tool energy adjustment by setting tests on site.

Fastening quality assurance
X-EKB fastening quality


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

X-ECH fastening quality


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