KERNOW FIXINGS KFX

TECHNICAL DATA SHEET

KFX Concrete Screw Bolt - Hex Head (M10x100)

High Performance Concrete Anchor

Fast & Easy Installation

Optimised thread enables fast cutting into concrete, further speeding up the installation process.

Non-Expansion

Allows for installation closer to the substrate edge, as well as closer distances between anchors.

Easily Adjusted & Removed

Can be adjusted twice during installation. Once installed can be easily removed suiting temporary applications.

Extreme Hold in Concrete

Special thread geometry offers extreme hold in concrete. for both tensile & shear loads.

Order Code 03611

APPROVALS

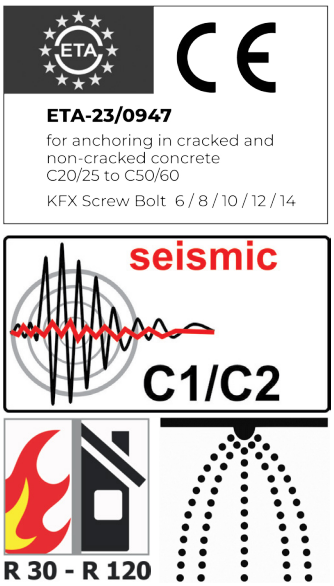
Approvals

ETA Approval ETA-23/0947:
- Mechanical anchors for use in concrete.

Base Material

Approved for concrete strength classes from C20/25 to C50/60.

Cracked and non-cracked concrete.



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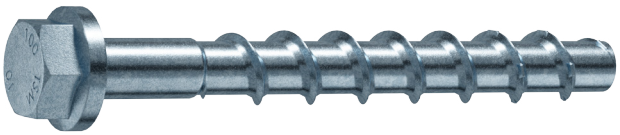
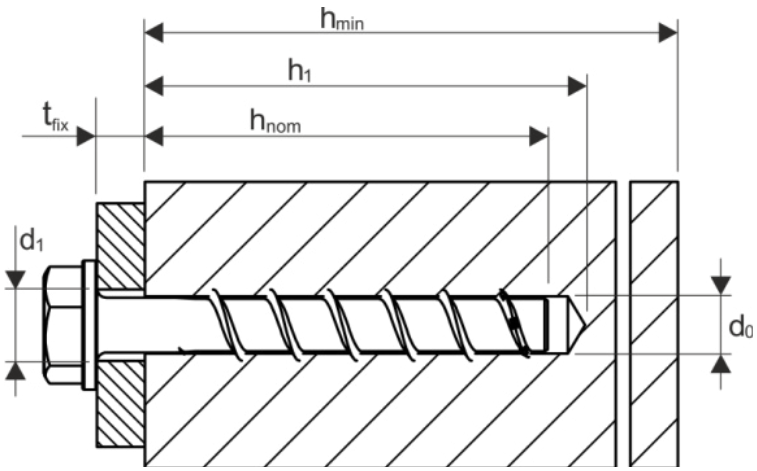
Product Overview

Steel - Zinc plated
Hexagon head with pressed on-washer
Washer Ø - 20.0mm
Head Ø - 15mm





Order Code	Product Reference	Dimensions	Depth of drill hole h_{01} / h_{02} / h_{03}	Embedment depth of anchor h_{nom1} / h_{nom2} / h_{nom3}	Max. thickness of fixture t_{fix1} / t_{fix2} / t_{fix3}	Packing Unit
03611	KFX BXZ-10100	M10x100	65mm / 85mm / 95mm	55mm / 75mm / 85mm	45mm / 25mm / 15mm	50

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Technical Characteristics

Single fastening without fire exposure (steel)

Screw size M10			M10		
Nominal embedment depth	h_{nom} [mm]		h_{nom1}	h_{nom2}	h_{nom3}
			55	75	85
Nominal diameter of drill bit	d_0	[mm]	10		
Depth of drill hole	h_0 min	[mm]	65	85	95
Effective anchorage depth	h_{ef}	[mm]	43	60	68
Diameter of clearance hole in the fixture	d_f max	[mm]	14		
Approved tension load in cracked concrete [1) 2)]	N_{zul}	[kN]	4,3	7,6	9,2
Approved shear load in cracked concrete [1) 2)]	V_{zul}	[kN]	4,6	15,2	18,4
Approved tension load in non-cracked concrete [1) 2)]	N_{zul}	[kN]	5,7	9,5	12,4
Approved shear load in non-cracked concrete [1) 2)]	V_{zul}	[kN]	6,6	19,4	19,4
Approved bending resistance	M_{zul}	[kN]	32,0		
Minimum egde distance	c_{min}	[mm]	50		
Minimum spacing	s_{min}	[mm]	50		
Minimum base material thickness	h_{min}	[mm]	100	130	
Installation torque (with metric connection thread)	T_{inst}	[Nm]	40		
Maximum torque (with impact screw driver)		[Nm]	400		
ETA Seismic C1	C1		Yes	x	Yes
ETA Seismic C2 [3)]	C2		x		Yes

Single fastening under fire exposure (steel)

Screw size M10				M10		
Nominal embedment depth		h_{nom} [mm]		h_{nom1}	h_{nom2}	h_{nom3}
				55	75	85
Approved load under tensile and shear use ($F_{zul,fi} = N_{zul,fi} = V_{zul,fi}$)						
Fire resistance class						
R 30	Approved load	$F_{zul,fi\,30}$	[kN]	2,1	4,0	4,4
R 60		$F_{zul,fi\,60}$	[kN]	2,1	3,3	
R 90		$F_{zul,fi\,90}$	[kN]	2,1	2,3	
R 120		$F_{zul,fi\,120}$	[kN]	1,7		
R 30		$M_{zul,fi\,30}$	[Nm]	5,9		
R 60		$M_{zul,fi\,60}$	[Nm]	4,5		
R 90		$M_{zul,fi\,90}$	[Nm]	3,0		
R 120		$M_{zul,fi\,120}$	[Nm]	2,3		
Edge distance						
R 30 to R 120		$C_{cr,fi}$	[mm]			
The edge distance must be at least 300 mm if the fire load attacks from more than one side.						
Spacing						
R 30 to R 120		$S_{cr,fi}$	[mm]			
Concrete pry-out failure						
R 30 to R 120		k	[-]	1,0	2,0	
In wet concrete, the embedment depth must be increased by at least 30 mm.						

[1)] For the determination of the approved loads, the partial safety factor from the approval γM=1,0 was taken into account for material resistance and a partial safety factor γF=1,4 for load actions.

[2)] These values apply without influence of the spacing and edge distances. [3)] C2 only for version zinc plated.

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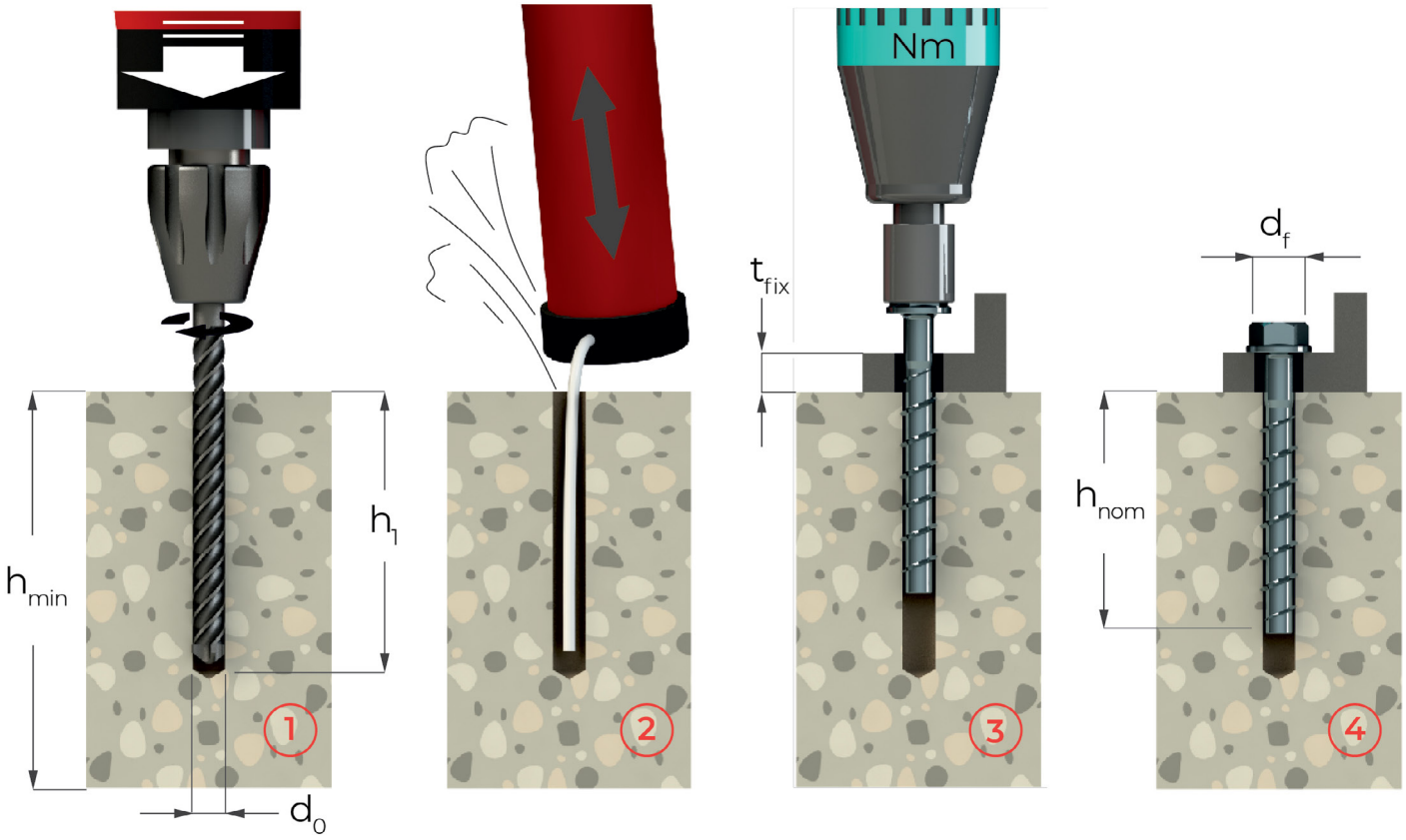
Installation Instructions

Installation instructions for concrete



1. Drill the hole to required depth using with rotary hammer drill.
2. Thoroughly clean the hole using blow out hand pump (min 4 pumps).
3. Screw in the KFX Concrete Screw Bolt and tighten to the correct torque using a calibrated torque wrench.
4. Once installed, the screwhead must be secure and completely flush with the undamaged substrate surface.

Tools Required:

- SDS drill with 10mm drill bit
- Blow out pump
- Torque controlled impact driver
- 15mm socket (impact socket required if installing with impact driver)
- Torque wrench

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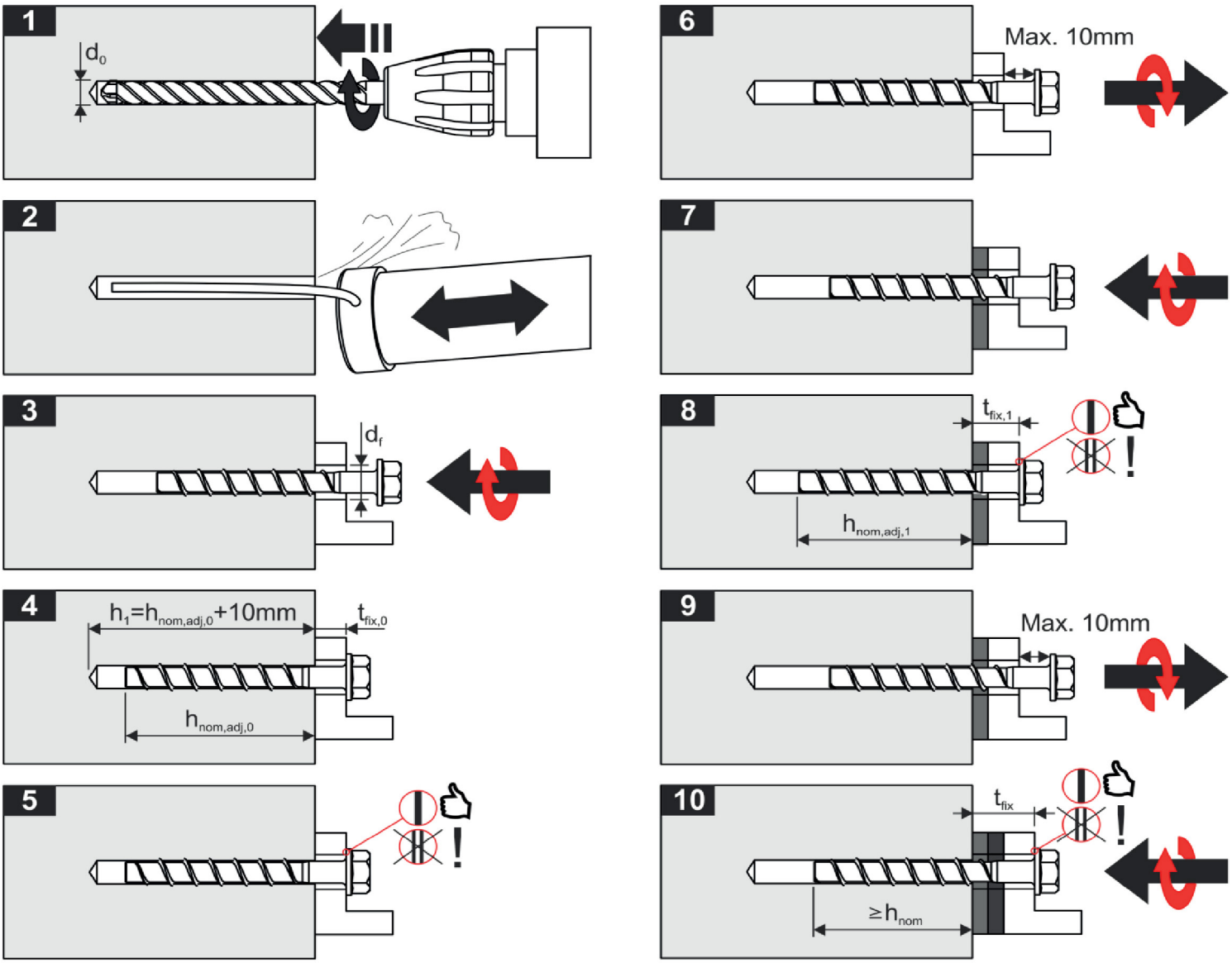
Installation instructions with adjustment for M10 screws



Important - please note during adjustment:

- The anchor may be adjusted no more than twice, whilst the anchor may be unscrewed a maximum of 10mm.
- The total allowed thickness of shims added during the adjustment process is 10mm.
- The final embedment depth after adjustment process must be equal or longer than h_{nom}.