KERNOW FIXINGS KFX

TECHNICAL DATA SHEET

KFX Anchor Fixing M8 Flush Insert Socket - M10x40

Female Threaded Screw for Various Substrates

Easy Installation

Easy, fast and safe installation using an impact screwdriver, making overhead work much simpler.

Flush Head

Flush surface installation creates a clean appearance without any protruding elements.

Internal Thread

The internal thread allows use in a wide range of applications.

High Load Values

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

Small Edge Distances

Allows installation closer to the edge of the substrate as well as enabling anchors to be placed closer together.

Order Code 03731

APPROVALS

Approvals

ETA Approval ETA-23/0542.

- For use cracked and un-cracked concrete
- For multiple use in concrete for non-structural applications.

Base Material

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

Cracked and non-cracked concrete.

Suitable for masonry and wood.

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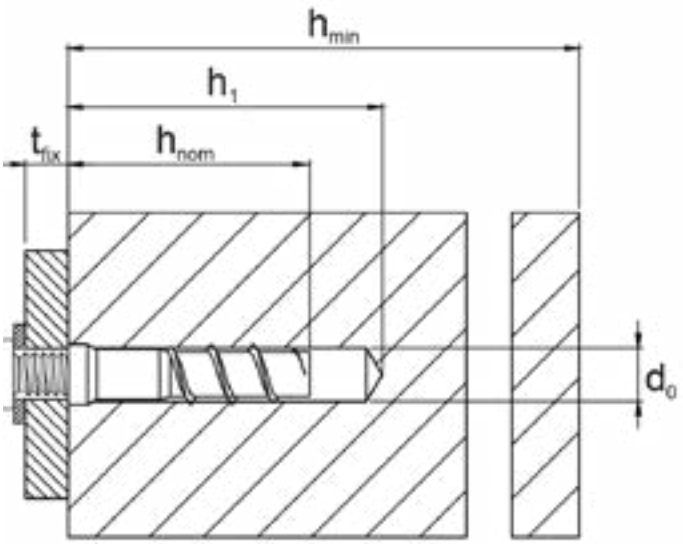
Product Overview

Steel - Zinc plated
Ø Male Thread Size - 10mm
Ø Internal Female Thread - TX55 / M8



Order Code	Product Reference	Dimensions	Depth of drill hole h_1	Embedment depth h_{nom}	Length of female thread L_{Gew}	Packing Unit
03731	KFX FIZ-10040	M10x40 / (i)*M8x10 | TX55	50mm	40mm	10mm	100

*(i) = Internal thread dimesions

Accessories

1/2“ Impact Socket TX

Order Code	Product Reference	For KFX Anchor:	Description	Size	TX	Packing Unit
03741	KFX IST-00055	03731	1/2“ Impact Socket TX	10	55	1

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Technical Characteristics

Multiple fastening without fire exposure (steel)

Screw size:				M10 / (i)M8
Nominal embedment depth	h_{nom}		[mm]	40
Nominal diameter of drill bit	d_0		[mm]	10
Depth of drill hole	h_1 min		[mm]	50
Effective anchorage depth	h_{ef}		[mm]	31
Diameter of clearance hole in the fixture	d_f max		[mm]	9
Minimum edge distance	C_{min}		[mm]	40
Minimum spacing	S_{min}		[mm]	40
Minimum base material thickness	h_{min}		[mm]	80
Installation torque (for metrical thread)	T_{inst}		[Nm]	8
Minimum screw-in depth metrical thread			[mm]	8
Maximum torque (with impact screwdriver)			[Nm]	180
Permissible load for metrical thread of tension class 4.8				
Permissible tension load in cracked concrete [1) 3)]	N_{per}	4.8	[kN]	2,8
Permissible shear load in cracked concrete [2) 3)]	V_{per}	4.8	[kN]	2,8
Persmissible tension load in uncracked concrete [1) 3)]	N_{per}	4.8	[kN]	3,8
Persmissible shear load in uncracked concrete [2) 3)]	V_{per}	4.8	[kN]	4,0
Persmissible bending moment [2) 3)]	M_{per}	4.8	[kN]	7,1
Permissible load for metrical thread of tension class 5.8				
Permissible tension load in cracked concrete [1) 3)]	N_{per}	5.8	[kN]	2,8
Permissible shear load in cracked concrete [2) 3)]	V_{per}	5.8	[kN]	2,8
Persmissible tension load in uncracked concrete [1) 3)]	N_{per}	5.8	[kN]	3,8
Persmissible shear load in uncracked concrete [2) 3)]	V_{per}	5.8	[kN]	4,0
Persmissible bending moment [2) 3)]	M_{per}	5.8	[kN]	8,8
Permissible load for metrical thread of tension class 8.8				
Permissible tension load in cracked concrete [1) 3)]	N_{zul}	8.8	[kN]	2,8
Permissible shear load in cracked concrete [2) 3)]	V_{zul}	8.8	[kN]	2,8
Persmissible tension load in uncracked concrete [1) 3)]	N_{zul}	8.8	[kN]	3,8
Persmissible shear load in uncracked concrete [2) 3)]	V_{zul}	8.8	[kN]	4,0
Persmissible bending moment [2) 3)]	M_{zul}	8.8	[kN]	8,8

[1)] For the determination of the approved loads, the partial safety factor from the approval γM=1,5 was taken into account for material resistance and a partial safety factor of γF=1,4 for load actions.

[2)] For the determination of the approved loads, the partial safety factor from the approval γM=1,25 was taken into account for material resistance and a partial safety factor of γF=1,4 for load actions.

[3)] These values apply without influence of the spacing and edge distances.

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Multiple fastening under fire exposure, steel

Screw size				M10 / (i)M8
Nominal embedment depth		h_{nom}	[mm]	40
Permissible load under tensile and shear use ($F_{per,fi} = N_{per,fi} = V_{per,fi}$) [1) 2)]				
Fire resistance class				
R 30	Approved load	$F_{per,fi\ 30}$	[kN]	0,9
R 60		$F_{per,fi\ 60}$	[kN]	0,9
R 90		$F_{per,fi\ 90}$	[kN]	0,9
R 120		$F_{per,fi\ 120}$	[kN]	0,7
R 30		$M_{per,fi\ 30}$	[Nm]	1,81
R 60		$M_{per,fi\ 60}$	[Nm]	1,36
R 90		$M_{per,fi\ 90}$	[Nm]	0,91
R 120		$M_{per,fi\ 120}$	[Nm]	0,68
Edge distance				
R 30 to R 120		$C_{cr,fi}$	[mm]	$2 \times h_{ef}$
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]	$4 \times h_{ef}$
Concrete pry-out failure				
R 30 to R 120		k	[-]	1,0
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 of γF=1,0 for load actions.

[2)] These values apply without influence of the spacing and edge distances.

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Technical Characteristics For Wood

Recommended loads for pure tensile stress

Screw size			M10 / (i)M8		
KLED *			Perm.	Medium	**Short**
k_{mod} *			0,6	0,8	**1**
VH *	BSH *	pk [kg/m³]	Recommended loads for NKL1 and NKL2 $F_{ax,zul}$ [kN] [1) 2) 3)]		
C16		310	0,8	1,0	1,2
C20		330	0,8	1,0	1,3
C22	GL20h	340	0,9	1,1	1,3
C24		350	0,9	1,1	1,3
	GL20c	355	0,9	1,1	1,3
	GL24c	365	0,9	1,1	1,4
C30		380	0,9	1,1	1,4
	GL24h	385	1,0	1,1	1,4
C35	GL28c	390	1,0	1,2	1,5
C40	GL32c	400	1,0	1,2	1,5
	GL28h	425	1,0	1,2	1,6
	GL32h	440	1,1	1,3	1,6

* According to DIN EN 1995-1-1
1) A reference bulk density of pa= 350 kg/m³ was used to determine the recommended loads.
2) The specified values apply regardless of center and edge distances and for a fixing point n_{ef} = 1.
3) To determine the recommended loads, the partial safety factor γ_M = 1.3 was used on the resistance side and a partial safety factor γ_F = 1.35 for permanent and γ_F = 1.5 for medium/short KLED.

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Technical Characteristics For Wood

Recommended loads for pure shear force loading for a load-fibre angle of 0°

Screw size			M10 / (i)M8		
KLED *			Perm.	Medium	Short
k_{mod} *			0,6	0,8	1
VH *	BSH *	pk [kg/m³]	Recommended loads for NKL1 and NKL2 with load-fiber angle 0° $F_{v,zul}$ [kN] 1) 2) 3)		
C16		310	1,5	1,8	2,3
C20		330	1,6	1,9	2,4
C22	GL20h	340	1,7	2,2	2,8
C24		350	1,7	2,0	2,5
	GL20c	355	1,7	2,1	2,6
	GL24c	365	1,8	2,1	2,7
C30		380	1,9	2,2	2,8
	GL24h	385	1,9	2,3	2,8
C35	GL28c	390	1,9	2,3	2,9
C40	GL32c	400	1,9	2,4	2,9
	GL28h	425	2,1	2,5	3,1
	GL32h	440	2,2	2,6	3,2

* According to DIN EN 1995-1-1
1) A reference bulk density of pa= 350 kg/m³ was used to determine the recommended loads.
2) The specified values apply regardless of center and edge distances and for a fixing point n_{ef} = 1.
3) To determine the recommended loads, the partial safety factor γ_M = 1.3 was used on the resistance side and a partial safety factor γ_F = 1.35 for permanent and γ_F = 1.5 for medium/short KLED. The loads were determined with a k_{90} coefficient in accordance with DIN EN 1995-1-1.

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Technical Characteristics For Wood

Recommended loads for pure shear force loading for a load-fiber angle of 90°

Screw size			M10 / (i)M8		
KLED *			Perm.	Medium	Short
k_{mod} *			0,6	0,8	1
VH *	BSH *	pk [kg/m³]	Recommended loads for NKL1 and NKL2 with load-fiber angle 90° $F_{v,zul}$ [kN] 1) 2) 3)		
C16		310	1,0	1,2	1,5
C20		330	1,1	1,3	1,6
C22	GL20h	340	1,1	1,3	1,6
C24		350	1,1	1,3	1,7
	GL20c	355	1,1	1,4	1,7
	GL24c	365	1,2	1,4	1,7
C30		380	1,2	1,5	1,8
	GL24h	385	1,2	1,5	1,8
C35	GL28c	390	1,2	1,5	1,9
C40	GL32c	400	1,3	1,5	1,9
	GL28h	425	1,4	1,6	2,0
	GL32h	440	1,4	1,7	2,1

* According to DIN EN 1995-1-1
1) A reference bulk density of pa= 350 kg/m³ was used to determine the recommended loads.
2) The specified values apply regardless of center and edge distances and for a fixing point $n_{ef} = 1$.
3) To determine the recommended loads, the partial safety factor $\gamma_M = 1.3$ was used on the resistance side and a partial safety factor $\gamma_F = 1.35$ for permanent and $\gamma_F = 1.5$ for medium/short KLED. The loads were determined with a k_{90} coefficient in accordance with DIN EN 1995-1-1.

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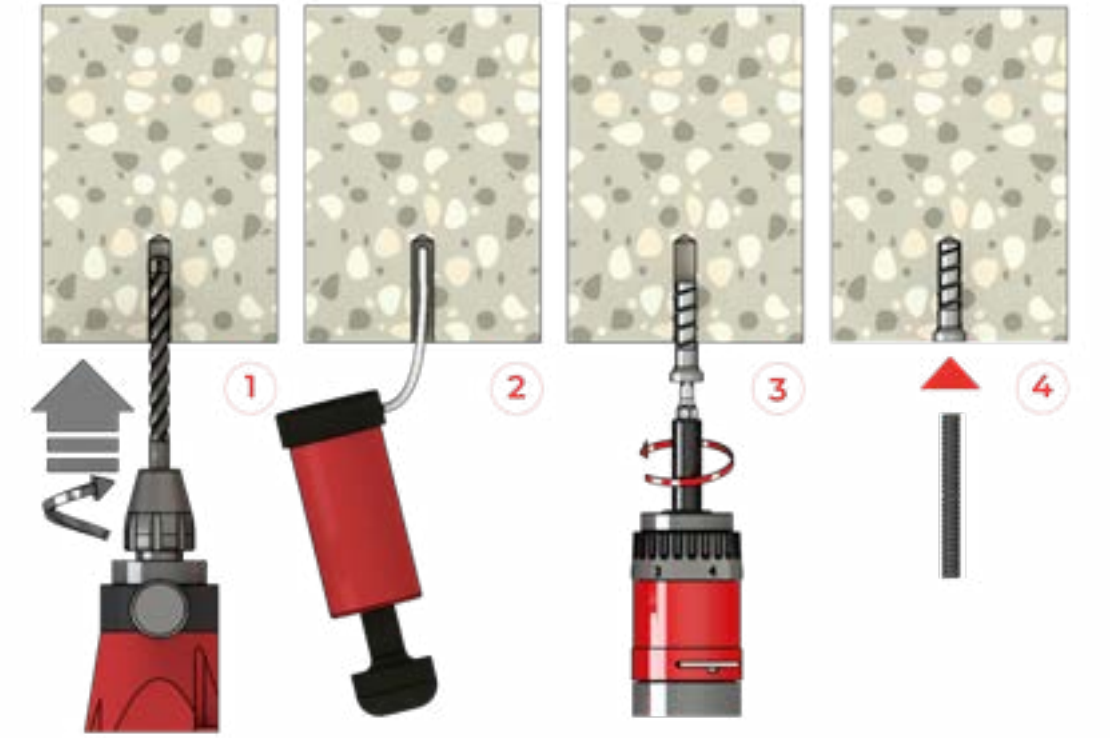
Installation Instructions



1) Create drill hole with hammerdrill or hollow drill bit.

2) Thoroughly clean drill hole.

3) Screw in with impact screwdriver or wrench.

4) Screw must be screwed in flush with the surface of the concrete. The attachment part is fastened with a standard metric screw or

* The illustration shows the concrete substrate as an example. However, it applies equally to wooden or masonry substrates.