Deutsches Institut für Bautechnik

Public-law institution jointly founded by the federal states and the Federation

European Technical Assessment Body for construction products

Member of EOTA
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Designated in accordance with Article 39 of Regulation (EU) No 2024/3110 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment ETA-26/0596 of 6 November 2026

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	Fix master FIXCON PRO concrete screw
Product family to which the construction product belongs	Fasteners for use in concrete for redundant non-structural applications
Manufacturer	Ferrometal Oy Karhutie 9 FI-01900 NURMIJÄRVI FINNLAND
Manufacturing plant	Ferrometal plant 1
This European Technical Assessment contains	14 pages including 3 annexes which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Article 95(4) of Regulation (EU) 2024/3110, on the basis of	EAD 330747-00-0601

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Specific Part

1 Technical description of the product

The Fix master FIXCON PRO concrete screw of sizes 6 and 8 mm is an anchor made of galvanised or stainless steel. The anchor is screwed into a predrilled cylindrical drill hole. The special thread of the anchor cuts an internal thread into the member while setting. The anchorage is characterised by mechanical interlock in the special thread.

The product description is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	See Annex C3 and C4

3.2 Safety in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance to tension load (static and quasi-static loading)	See Annex B2 and C1
Characteristic resistance to shear load (static and quasi-static loading)	See Annex C2
Durability	See Annex B1

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with European Assessment Document EAD No. 330747-00-0601, the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

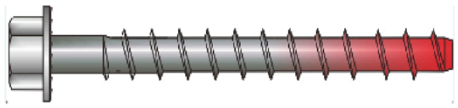
Issued in Berlin on 6 November 2026 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock
Head of Section

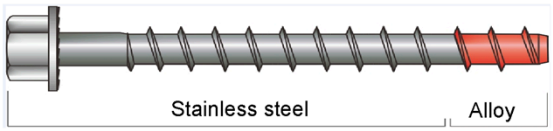
beglaubigt:
Tempel

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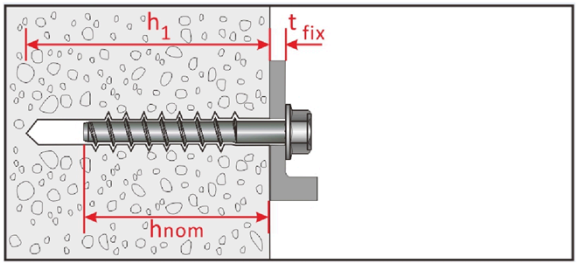
Product in the installed condition



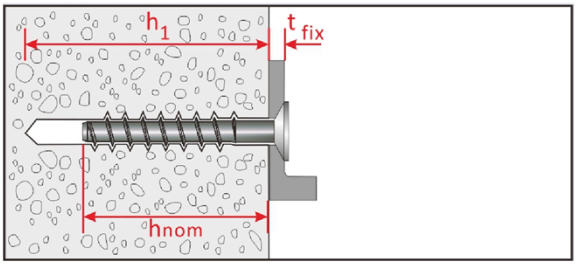
Steel 10B21



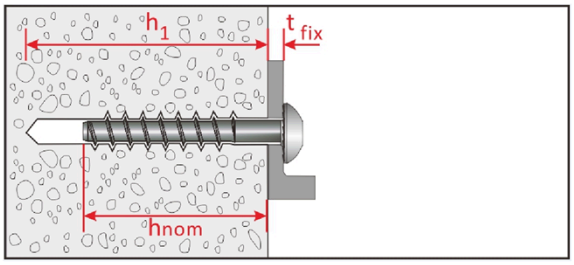
Stainless steel A2 /A4



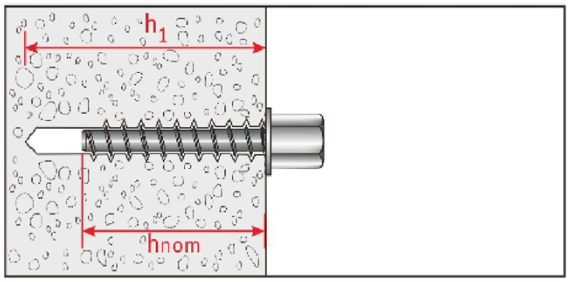
Hexagon Head : FM-HH,-HHF
10B21 (FM6)
A4 (FM6, FM8)
A2 (FM8)



Countersunk Head : FM-CH
10B21 (FM6)
A4 (FM6)



Pan Head : FM-PH
10B21 (FM6)
A4 (FM6)



Internal Thread : FM-IH
10B21 (FM6-M8, FM6-M10,
FM6-M8/M10

Fix master FIXCON PRO concrete screw	**Annex A1**
Product description Installed condition	

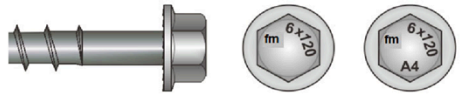
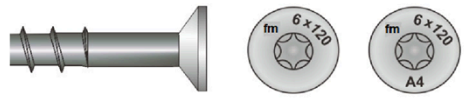
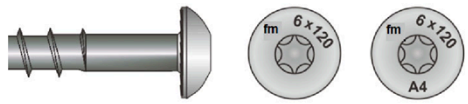
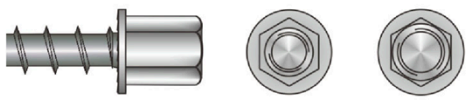
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Table A1: Materials and screw types

Name	Material
Screw anchor	

Head marking	Material
FM	Steel 10B21 acc. to SAE-J403 zinc coating: electro plated (> 5 µm) or mechanical plated (> 30 µm)
FM A4 FM A2	Stainless steel 1.4401, 1.4404 (both A4) Stainless steel 1.4301

Anchor size / head types			FM 6			FM 8	
			-HH -HHF -CH -PH -IH	-HH -HHF	-CH -PH	-HH	-HH
material			10B21	A4		A2	A4
Nominal value of the characteristic yield strength	f_{yk}	N/mm²	780	640	432	640	640
Nominal value of the characteristic tensile strength	f_{uk}	N/mm²	870	800	540	800	800
Elongation at rupture	As	[%]	≤ 8				

	Hexagon washer head 1) FM-HH size 6 (10B21 steel) 2) FM-HH A4 size 6,8 (stainless A4) 3) FM-HH A2 size 8 (stainless A2)
	Hexagon washer head 3) FM-HHF size 6 (10B21 steel) 4) FM-HHF A4 size 6 (stainless A4)
	Countersunk head 5) FM-CH size 6 (10B21 steel) 6) FM-CH A4 size 6 (stainless A4)
	Pan head 7) FM-PH size 6 (10B21 steel) 8) FM-PH A4 size 6 (stainless A4)
	Internal thread head (10B21 steel) 9) FM-IH size 6 with internal thread M8 or M10 10) FM-IH size 6 with internal thread M8 and M10

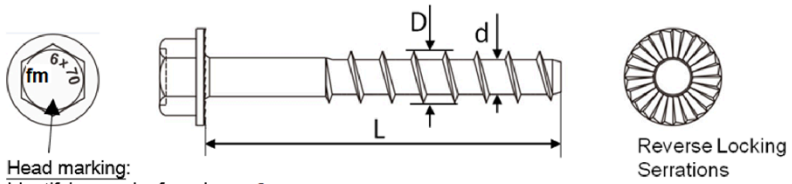
Fix master FIXCON PRO concrete screw	**Annex A2**
Product description Materials and screw types	

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Table A2: Dimensions and markings

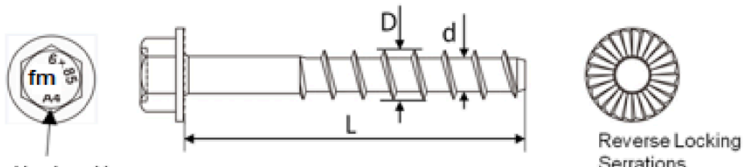
Anchor size			**FM 6**					**FM 8**	
Head type			**HH, HHF, PH**	**CH**	**HH, HHF, PH**	**CH**	**IH**	**HH**	**HH**
Material			**Steel 10B21**		**Stainless steel A4**		**Steel 10B21**	**Stainless steel A2**	**Stainless steel A4**
Nominal embedment depth	h_{nom}	[mm]	55		70		55	52	52
Length of anchor	min L	[mm]	60	65	75	80	57	55	55
	max L	[mm]	140				57	150	
Thread diameter	D	[mm]	7,5					9,9	
Shaft diameter	d	[mm]	5,5					7,4	
Thread pitch	p	[mm]	4,45					5,8	

Steel 10B21



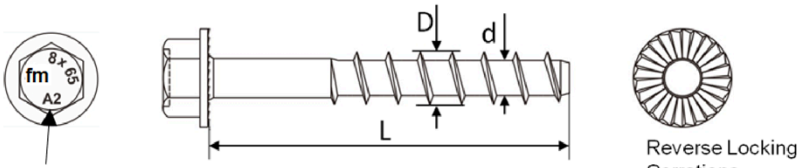
Head marking:
Identifying mark of producer: **fm**
Nominal size: e.g. 6mm
Length L: 70mm

Stainless Steel A4



Head marking:
Identifying mark of producer: **fm**
Nominal size: e.g. 6mm
Length L: 85mm
Material: A4

Stainless Steel A2



Head marking:
Identifying mark of producer: **fm**
Nominal size: e.g. 8mm
Length L: 65mm
Material: A2

Fix master FIXCON PRO concrete screw	**Annex A3**
Product description Dimensions and markings	

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Intended use

Anchorages subject to:

- Static and quasi-static loads,
- Only for redundant non-structural systems (multiple use) according to EN 1992-4:2018,
- Fire exposure.

Base materials:

- Compacted reinforced or unreinforced normal weight concrete without fibres according to EN 206:2013,
- Strength classes C20/25 to C50/60 according to EN 206:2013,
- Cracked and uncracked concrete.

Use conditions (Environmental conditions)

- Anchorages subject to dry internal conditions. All screw types.
- For all other conditions corresponding to corrosion resistance classes CRC according to EN 1993-1-4:2006 + A1:2015:
  - Stainless steel according to Annex A2, screw with marking A2: CRC II
  - Stainless steel according to Annex A2, screw with marking A4: CRC III

Design:

- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e. g. position of the anchor relative to reinforcement or to supports, etc.).
- Anchorages under static or quasi-static actions are designed for design method A in accordance with EN 1992-4:2018 and EOTA Technical Report TR 055, Edition February 2018

Installation:

- Hammer drilling only: all sizes and all embedment depths.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted hole is filled with high strength mortar and if under shear or oblique tension load it is not the direction of the load application.
- After installation further turning of the anchor shall not be possible.
- The head of the anchor must be fully engaged on the fixture and show no signs of damage.

Fix master FIXCON PRO concrete screw	Annex B1
Intended use Specifications	

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Table B1: Installation parameters

Anchor size			**FM 6**							**FM 8**	
Head type			**HH, HHF**	**PH**	**IH**	**CH**	**HH, HHF**	**PH**	**CH**	**HH**	**HH**
Material			**Steel 10B21**				**Stainless steel A4**			**Stainless steel A2**	**Stainless steel A4**
Nominal diameter of drill bit	d_0	[mm]	6							8	
Nominal embedment depth	h_{nom}	[mm]	55				70			52	
Min. hole depth in concrete	$h_1 \geq$	[mm]	64				80			65	
Effective anchorage depth	h_{ef}	[mm]	42,6				43,1			22,2	
Clearance hole	d_f	[mm]	9							11	
Thickness of fixture	t_{fix}	[mm]	5-85		-	10-85	5-70		10-70	3-98	
Installation torque[1)]	T_{inst}	[Nm]	20	-[1)]	20	-[1)]	-[1)]		-[1)]	31	
Wrench size	WS	[mm]	10	-	12,7	-	-		-	13	
Torx size	TX	-	-	40	-	40	-	40	40	-	
Max. power output, machine setting	$T_{max} \leq$	[Nm]	80				120	80	80	185	

1) Screws can only be set using a impact screw driver.

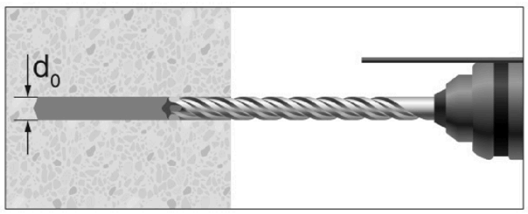
Table B2: Minimum thickness of member, minimum spacing and edge distance

Anchor size			**FM 6**		**FM 8**	
Head type			**HH, HHF, CH, PH, IH**	**HH, HHF, CH, PH**	**HH**	**HH**
Material			**Steel 10B21**	**Stainless steel A4**	**Stainless steel A2**	**Stainless steel A4**
Minimum member thickness	h_{min}	[mm]	100	110	100	
Minimum edge distance	c_{min}	[mm]	40	40	55	
Minimum spacing	s_{min}	[mm]	40	40	55	

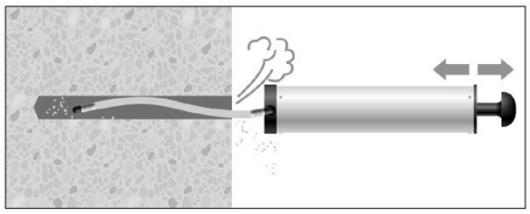
Fix master FIXCON PRO concrete screw	**Annex B2**
Intended use Installation parameters	

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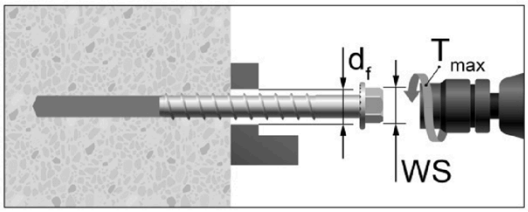
Installation instruction



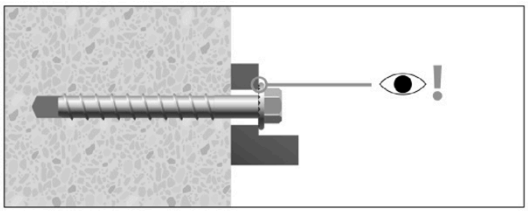
Drill the hole to the depth $\mathbf{h_1}$.



Clean the hole.



Screw in the anchor by using a torque wrench or an impact screw driver.
In case of using torque wrench: T_{inst} acc. to Table B1.
In case of using impact screw driver: T_{max} acc. to Table B1.
WS= Wrench Size



Control of complete setting, full contact of screw head with fixture part.

Fix master FIXCON PRO concrete screw	
Intended Use Installation Instruction	**Annex B3**

Deutsches Institut für Bautechnik DIBt

Table C1: Characteristic resistance under tension loading, Design method A

Anchor size			**FM 6**						**FM 8**	
Head type			**HH,HHF,IH**	**CH**	**PH**	**HH,HHF**	**CH**	**PH**	**HH**	**HH**
Material			**Steel 10B21**			**Stainless steel A4**			**Stainless steel A2**	**Stainless steel A4**
Steel failure										
Characteristic resistance	$N_{Rk,s}$	[kN]	19,7			18,1	12,2	12,2	33,0	33,0
Partial safety factor	$\gamma_{Ms,N}$ [2)]	[-]	1,4			1,5			1,5	
Pull-out failure										
Characteristic resistance in cracked and uncracked concrete C20/25	$N_{Rk,p}$	[kN]	5,0	5,0	4,0	5,0	3,5	2,5	2,0	
Increasing factors in cracked and uncracked concrete for $N_{Rk,p} = N_{Rk,p\,(C20/25)} \cdot \psi_c$	ψ_c	C30/37	1,22						1,20	
		C40/50	1,41						1,37	
		C50/60	1,58						1,51	
Installation factor	γ_{inst}	[-]	1,0							
Concrete cone failure										
Effective anchorage depth	h_{ef}	[mm]	42,6			43,1			22,2	
Characteristic edge distance	$c_{cr,N}$	[mm]	$1{,}5h_{ef}$							
Characteristic spacing	$s_{cr,N}$	[mm]	$3{,}0h_{ef}$							
Installation factor	γ_{inst}	[-]	1,0							
Factor for cracked concrete	k_{cr}	[-]	7,7							
Factor for uncracked concrete	k_{ucr}	[-]	11,0							
Splitting failure										
Characteristic edge distance for splitting	$c_{cr,sp}$	[mm]	$1{,}5h_{ef}$			$1{,}5h_{ef}$			$2{,}5h_{ef}$	
Characteristic anchor spacing for splitting	$s_{cr,sp}$	[mm]	$3{,}0h_{ef}$			$3{,}0h_{ef}$			$5{,}0h_{ef}$	
Resistance	$N^0_{Rk,Sp}$	[kN]	min ($N_{Rk,p}$; $N^0_{Rk,c}$)							
Installation factor	γ_{inst}	[-]	1,0							

Fix master FIXCON PRO concrete screw

Performance
Characteristic values under tension loading

Annex C1

Deutsches Institut für Bautechnik DIBt

Table C2: Characteristic resistance under shear loading, Design method A

Anchor size			**FM 6**						**FM 8**	
Head type			**HH,HHF,IH**	**CH**	**PH**	**HH,HHF**	**CH**	**PH**	**HH**	**HH**
Material			**Steel 10B21**			**Stainless steel A4**			**Stainless steel A2**	**Stainless steel A4**
Setting depth	h_{nom}	[mm]	55			70			52	
Effective embedment depth	h_{ef}	[mm]	42,6			43,1			22,2	
Steel failure without lever arm										
Characteristic resistance	$V_{Rk,s}$	[kN]	7,9			9,0	6,1	6,1	13,2	
Ductility factor	k_7	[-]	0,8							
Partial safety factor	$\gamma_{Ms,V}$	[-]	1,5			1,25			1,25	
Steel failure with lever arm										
Characteristic resistance	$M^0_{Rk,s}$	[Nm]	15,9			14,6	9,9	9,9	35,9	
Partial safety factor	$\gamma_{Ms,V}$	[-]	1,5			1,25			1,25	
Concrete pryout failure										
k-factor	k_8	[-]	1,0							
Installation factor	γ_{inst}	[-]	1,0							
Concrete edge failure										
Effective length of anchor in shear loading	ℓ_f	[mm]	42,6			43,1			22,2	
Effective diameter of anchor	d_{nom}	[mm]	5,37						7,4	

Fix master FIXCON PRO concrete screw	**Annex C2**
Performance Characteristic values under shear loading	

Deutsches Institut für Bautechnik DIBt

Table C3: Characteristic values (tension) for resistance to fire

Anchor size				**FM 6**						**FM 8**	
Head type				**HH,HHF,IH**	**CH**	**PH**	**HH,HHF**	**CH**	**PH**	**HH**	**HH**
Material				**Steel 10B21**			**Stainless steel A4**			**Stainless steel A2**	**Stainless steel A4**
Steel failure											
Characteristic resistance	R30	$N_{Rk,s,fi}$	[kN]	0,23			0,23			0,8	
	R60	$N_{Rk,s,fi}$	[kN]	0,20			0,20			0,7	
	R90	$N_{Rk,s,fi}$	[kN]	0,16			0,16			0,5	
	R120	$N_{Rk,s,fi}$	[kN]	0,11			0,11			0,4	
Pull-out failure											
Characteristic resistance	R30	$N_{Rk,p,fi}$	[kN]	1,3		1,0	1,3	0,9	0,6	0,5	
	R60										
	R90										
	R120	$N_{Rk,p,fi}$	[kN]	1,0		0,8	1,0	0,7	0,5	0,4	
Concrete cone failure											
Characteristic resistance	R30	$N^0_{Rk,c,fi}$	[kN]	2,0			2,1			0,4	
	R60										
	R90										
	R120	$N^0_{Rk,c,fi}$	[kN]	1,6			1,7			0,3	
Effective embedment depth		h_{ef}	[mm]	42,6			43,1			22,2	
Minimum member thickness		h_{min}	[mm]	100			110			100	
Spacing		$s_{cr,N,fi}$	[mm]	$4h_{ef}$							
		s_{min}	[mm]	40						55	
Edge distance		$c_{cr,N,fi}$	[mm]	$2h_{ef}$							
Fire exposure from one side only		c_{min}	[mm]	40						55	
Fire exposure from more than one side				≥ 300 mm							

Fix master FIXCON PRO concrete screw

Performance
Characteristic values for resistance to fire

Annex C3

Table C4: Characteristic values (shear) for resistance to fire

Anchor size				**FM 6**						**FM 8**	
Head type				**HH, HHF, IH**	**CH**	**PH**	**HH, HHF**	**CH**	**PH**	**HH**	**HH**
Material				**Steel 10B21**			**Stainless steel A4**			**Stainless steel A2**	**Stainless steel A4**
Steel failure without level arm											
Characteristic resistance	R30	$V^0_{Rk,s,fi}$	[kN]	0,23			0,23			0,8	
	R60	$V^0_{Rk,s,fi}$	[kN]	0,20			0,20			0,7	
	R90	$V^0_{Rk,s,fi}$	[kN]	0,16			0,16			0,5	
	R120	$V^0_{Rk,s,fi}$	[kN]	0,11			0,11			0,4	
Steel failure with level arm											
Characteristic resistance	R30	$M^0_{Rk,s,fi}$	[Nm]	0,18			0,18			0,9	
	R60	$M^0_{Rk,s,fi}$	[Nm]	0,16			0,16			0,7	
	R90	$M^0_{Rk,s,fi}$	[Nm]	0,13			0,13			0,5	
	R120	$M^0_{Rk,s,fi}$	[Nm]	0,09			0,09			0,4	
Pry-out failure											
Characteristic resistance	R30	$V^0_{Rk,cp,fi}$	[kN]	2,0			2,1			0,4	
	R60										
	R90										
	R120	$V^0_{Rk,cp,fi}$	[kN]	1,6			1,7			0,3	
Concrete edge failure											
Characteristic resistance	≤ R90	$V^0_{Rk,c,fi}$	[kN]	$V^0_{Rk,c,fi} = 0,25 * V^0_{Rk,c}$							
	R120	$V^0_{Rk,c,fi}$	[kN]	$V^0_{Rk,c,fi} = 0,20 * V^0_{Rk,c}$							

Fix master FIXCON PRO concrete screw

Performance
Characteristic values for resistance to fire

Annex C4