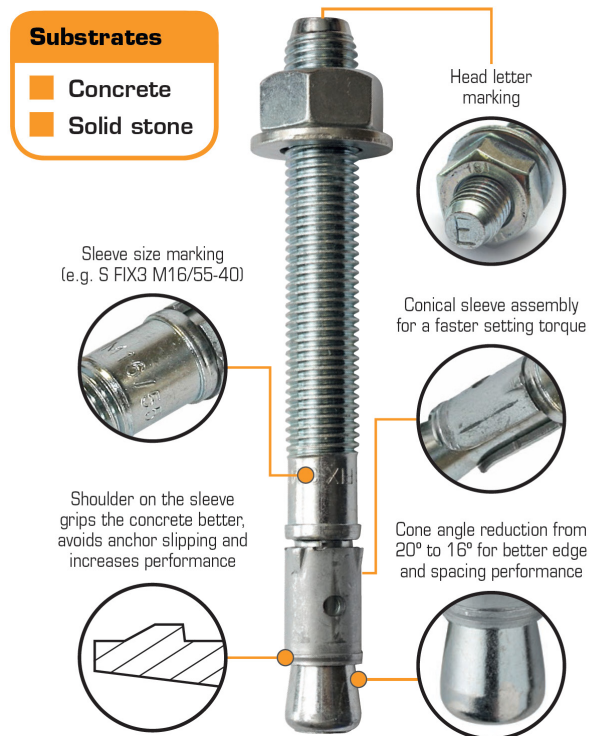


RAMSET FIX3 Stud Anchor

Fast and convenient the New FIX3 stud anchor is suitable for a broad range of applications in the compression zone of concrete, either pre-fastened or through fixed. This innovative new product has high load capacity, limited only to the concrete cone failure, plus excellent edge and spacing limitations.

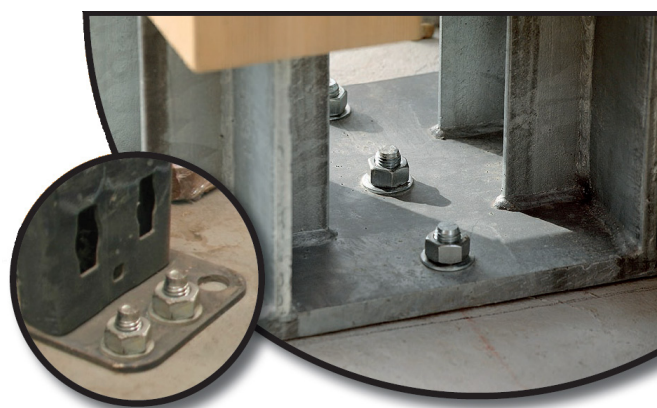
Product Advantages

- ✔ **Versatile anchor** for columns, beams, brackets and plates in concrete.
- ✔ Offers one of the **highest loads** of any ETA Option 7 approved anchor.
- ✔ **30% higher performance** - limited only by the type of concrete used.
- ✔ **Reduced edge and spacing distance.**
- ✔ **Clear sleeve and head marking** - offering pre-installation and post-installation guidance.



Typical Applications

- Curtain wall
- Guide rails / railings / machinery
- Industrial doors and gates
- Brickwork support angles
- Storage systems / pallet racking
- Stadium seating / fencing posts
- Steel and timber framework



Product Specifications

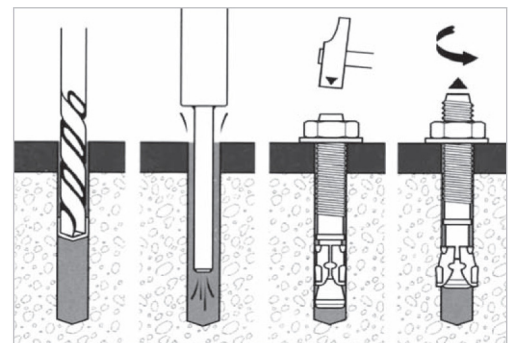
Material Bolt	Carbon Steel
Head Style	Hex Nut
Fixing Method	Through Fixture
Setting Method	Torque-Controlled
Anchoring Method	Expansion
Substrates	Concrete (non-cracked)

Description	Part No.	Qty/Bx
FIX3 M6x 45/ 5	7C-FIX3-645V	100
FIX3 M6x 55/20-10	7C-FIX3-655V	100
FIX3 M6x 85/50-40	7C-FIX3-685V	100
FIX3 M8x 55/ 5	7C-FIX3-855V	100
FIX3 M8x 70/20-10	7C-FIX3-870V	100
FIX3 M8x 90/40-30	7C-FIX3-890V	50
FIX3 M8x100/50-40	7C-FIX3-8100	50
FIX3 M8x115/65-55	7C-FIX3-8115	50
FIX3 M8x130/80-70	7C-FIX3-8130	50
FIX3 M8x160/110-90	7C-FIX3-8160	50
FIX3 M10x 65/ 5	7C-FIX3-1065	50
FIX3 M10x 75/ 15	7C-FIX3-1075	50
FIX3 M10x 85/ 25- 15	7C-FIX3-1085	50
FIX3 M10x 95/ 36- 26	7C-FIX3-1095	50
FIX3 M10x110/ 50- 40	7C-FIX3-1011-0V	25
FIX3 M10x125/ 65- 55	7C-FIX3-1012-5V	25
FIX3 M10x140/ 80- 70	7C-FIX3-1014-0V	25
FIX3 M10x160/100- 90	7C-FIX3-1016-0V	25

Description	Part No.	Qty/Bx
FIX3 M12x 80/ 5	7C-FIX3-1280	25
FIX3 M12x100/ 25-10	7C-FIX3-1210-0V	25
FIX3 M12x115/ 40-25	7C-FIX3-1211-5V	25
FIX3 M12x125/ 50-35	7C-FIX3-1212-5V	25
FIX3 M12x140/ 65-50	7C-FIX3-1214-0V	25
FIX3 M12x160/ 85-70	7C-FIX3-1216-0V	25
FIX3 M12x180/105-90	7C-FIX3-1218-0V	25
FIX3 M12x220/145-130	7C-FIX3-1222-0V	20
FIX3 M16x100/ 5	7C-FIX3-1610-0V	20
FIX3 M16x125/ 30-15	7C-FIX3-1612-5V	20
FIX3 M16x150/ 55-40	7C-FIX3-1615-0V	10
FIX3 M16x170/ 75-60	7C-FIX3-1617-0V	10
FIX3 M16x185/90-75	7C-FIX3-1618-5V	10
FIX3 M20x125/ 10	7C-FIX3-2012-5V	10
FIX3 M20x165/50-25	7C-FIX3-2016-5V	10
FIX3 M20x220/105-80	7C-FIX3-2022-0V	10

Installation Instructions

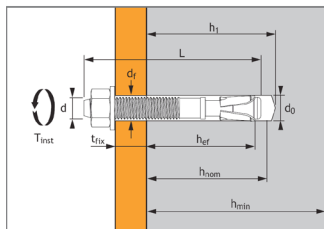
1. Drill the correct diameter hole to the same diameter as the Fix3 stud anchor selected.
2. Remove debris from hole by blowing out with compressed air or hand held blow out pump.
3. Install the anchor in the hole with a hammer until washer seats on fixture.
4. Tighten bolt with a torque wrench to recommended assembly torque.



FIX 3 Stud Anchors - Galvanized Steel



ETA Option 7
n° 13/0005



Pre-assembled anchor

→ Torque controlled expansion anchor, made of zinc coated steel for use in non cracked concrete

Technical data

Letter marking	Minimum anchor depth						Maximum anchor depth						Ø thread	Ø drill bit	Ø clearance	Total anchor length (mm)	Max. tighten torque (Nm)
	Min. anchor depth (mm)	Depth before expans (mm)	Max thick of part to be fixed (mm)	Drilling Depth (mm)	Min thick of base material (mm)	Max. anchor depth (mm)	Depth before expans (mm)	Max thick of part to be fixed (mm)	Drilling Depth (mm)	Min thick of base material (mm)							
	h _{6min}	h _{nom}	t _{fix}	h ₁	h _{min}	h _{efmax}	h _{nom}	t _{fix}	h ₁	h _{min}							
M6x45/5*			5													45	
M6x55/15*	25,6	35	20	41	100	35	45	10	51	100	6	6	8		55	10	
M6x85/45*			50					40							85		
M6x64 percée*			-					-							64		
M8x55/5	-		5												55		
M8x70/20-10	C		20					10							70		
M8x90/40-30	E		40					30							90		
M8x100/50-40	F	30	38	50	50	100	40	48	40	100	8	8	9	110	15		
M8x115/65-55	G			65				55							115		
M8x130/80-70	H			80				70							130		
M8x160/110-100	J			110				100							160		
M10x65/5	-		5												65		
M10x75/15-5	C			15				5							75		
M10x85/25-15	D			25				15							85		
M10x95/36-26	E			36				26							95		
M10x110/50-40	F	40	50	50	60	100	50	60	40	100	10	10	12	110	30		
M10x125/65-55	G			65				55							125		
M10x140/80-70	I			80				70							140		
M10x160/100-90	J			100				90							160		
M12x80/5	-		5												80		
M12x100/25-10	F			25				10							100		
M12x115/40-25	G			40				25							115		
M12x125/50-35	H			50				35							125		
M12x140/65-50	I	50	62	65	75	100	65	77	50	130	12	12	14	140	50		
M12x160/85-70	J			85				70							160		
M12x180/105-90	L			105				90							180		
M12x220/145-130	O			145				130							220		
M12x290/215-200*	-			215				200							290		
M16x100/5	-		5												100		
M16x125/30-15	G			30				15							125		
M16x150/55-40	I			55				40							150		
M16x170/75-60	K	65	80	75	95	130	80	95	60	110	16	16	18	170	100		
M16x185/90-75	L			90				75							185		
M16x235/140-125*	-			140				125							235		
M16x300/200*	-			200				178							300		
M20x125/10	-			10											125		
M20x165/50-25	J	75	93	50	110	150	100	118	25	135	20	20	22	165	160		
M20x220/105-80	N			105				80							220		

APPLICATION

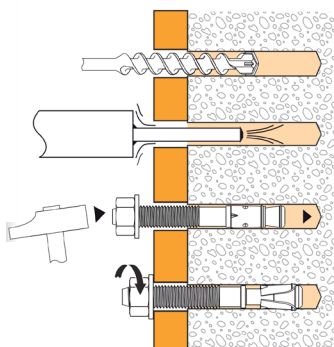
- Steel and timber framework and beams
- Lift guide rails
- Industrial doors and gates
- Brickwork support angles
- Storage systems

MATERIAL

- Bolt M8-M20: Cold formed NFA 35-053 / Zinc electroplates (5 µm)
- Sleeve: Cold formed, NFA 35-231
- Washer: NF E25 513
- Hexagonal nut: Steel strength grade 6 or 8, ISO 898-2

* do not belongs to ETA

INSTALLATION



Anchor mechanical properties

		M6	M8	M10	M12	M16	M20
Cross-section above cone							
f _{uk} (N/mm ²)	Min. tensile strength	700	750	750	750	700	600
f _{yk} (N/mm ²)	Yield strength	580	600	600	600	570	570
A _s (mm ²)	Stressed cross-section	-	23,8	34,7	56,1	103,9	172
Threaded part							
f _{uk} (N/mm ²)	Min. tensile strength	600	650	650	650	600	580
f _{yk} (N/mm ²)	Yield strength	480	520	520	520	480	480
A _s (mm ²)	Stressed cross-section	20,1	36,6	58	84,3	157	245
W _{el} (mm ³)	Elastic section modulus	12,71	31,23	62,3	109,17	277,47	540,9
M ⁰ _{Rk,s} (Nm)	Characteristic bending moment	9	24	49	85	200	376
M (Nm)	Recommended bending moment	3,7	9,8	20,0	34,7	81,6	153,5

FIX 3 Stud Anchors - Galvanized Steel

The loads specified on this page allow judging the product's performances, but cannot be used for the designing. The data given in the pages "CC method" have to be applied.

Ultimate ($N_{Ru,m}$, $V_{Ru,m}$) / characteristic loads (N_{Rk} , V_{Rk}) in kN

Mean Ultimate loads are derived from test results in admissible service conditions, and characteristic loads are statistically determined.

TENSILE

Anchor size	M6	M8	M10	M12	M16	M20
Minimum anchorage depth						
h_{ef}	25	30	40	50	65	75
$N_{Ru,m}$	0,6	10,3	15,5	23,3	39,0	40,6
N_{Rk}	4,5	7,8	11,0	19,2	31,4	33,7
Maximum anchorage depth						
h_{ef}	35	40	50	65	80	100
$N_{Ru,m}$	9,4	15,6	22,0	33,8	47,1	69,0
N_{Rk}	7,0	14,0	18,0	28,3	42,0	56,1

SHEAR

Anchor size	M6	M8	M10	M12	M16	M20
$V_{Ru,m}$	6,8	14,3	22,6	32,8	56,5	85,2
V_{Rk}	2,9	9,9	13,7	29,4	36,5	62,2

Design Loads (N_{Rd} , V_{Rd}) for one anchor without edge or spacing influence in kN

$$N_{Rd} = \frac{N_{Rk}^*}{\gamma_{Mc}}$$

*Derived from test results

$$V_{Rd} = \frac{V_{Rk}^*}{\gamma_{Ms}}$$

TENSILE

Anchor size	M6	M8	M10	M12	M16	M20
Minimum anchorage depth						
h_{ef}	25	30	40	50	65	75
N_{Rd}	2,5	5,2	7,3	12,8	20,9	22,5
Maximum anchorage depth						
h_{ef}	35	40	50	65	80	100
N_{Rd}	3,8	9,3	12,0	18,9	28,0	37,4

$\gamma_{Mc} = 1,5$

SHEAR

Anchor size	M6	M8	M10	M12	M16	M20
V_{Rd}	2,3	7,9	11,0	23,5	29,2	41,5

$\gamma_{Ms} = 1,25$ (M6-M16)
 $\gamma_{Ms} = 1,5$ (M20)

Recommended loads (N_{Rec} , V_{Rec}) for one anchor without edge or spacing influence in kN

$$N_{Rec} = \frac{N_{Rk}^*}{\gamma_M \cdot \gamma_F}$$

*Derived from test results

$$V_{Rec} = \frac{V_{Rk}^*}{\gamma_M \cdot \gamma_F}$$

TENSILE

Anchor size	M6	M8	M10	M12	M16	M20
Minimum anchorage depth						
h_{ef}	25	30	40	50	65	75
N_{Rec}	1,7	3,7	5,2	9,1	15,0	16,0
Maximum anchorage depth						
h_{ef}	35	40	50	65	80	100
N_{Rec}	2,7	6,7	8,6	13,5	20,0	26,7

$\gamma_F = 1,4$; $\gamma_{Mc} = 1,5$

SHEAR

Anchor size	M6	M8	M10	M12	M16	M20
V_{Rec}	1,7	5,7	7,8	16,8	20,9	29,6

$\gamma_{Ms} = 1,25$