

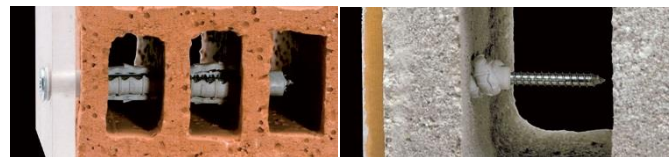
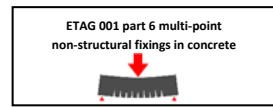
## NYLON FRAME ANCHOR MULTI-EXPANSION TNFAM

### Usage:

- fastening window frames, door frames and square timbers
- fixing facade systems
- fixing terrace bars

### Advantages:

- Multi-point unstructured fastening
- Possibility of using in cracked and non-cracked concrete from Class C12/15
- Can be used in a variety of masonry substrates
- R90 Fire Resistance for size 10
- Installation of facade systems
- Univeral anchor for mounting in various substrates



Method of determining TNFAM anchors			
Product Code	Hole Diameter d [mm]	Anchor Length L [mm]	Screw head version
TNFAM08100	8	100	countersunk head
TNFAM10120F	10	120	F hexagon with flange
TNFAM10140H	10	140	H hex head
TNFAM10160SS	10	160	SS countersunk head, A4 steel

### Plug Material:

The expansion sleeve is made of nylon and the screws are made of ordinary 5.8 grade carbon steel and are covered with a galvanic zinc layer not less than 5µm thick according to PN-EN ISO 4042 or hot-dip galvanized with a thickness of not less than 40µm according to PN-EN ISO 10684 or made of acid-resistant stainless steel, grade A ISI 316 A4; 1.4401

### Substrate material:

Cracked and non-cracked concrete class min. C12 / 15 acc. EN 2016: 2000-12, stone for turning, full clay brick, full silicate brick, clay knit raw brick and hollow silicate brick

### Technical parameters of TNFAM anchors - countersunk head version

Product Code	Sleeve / Hole Diameter	Minimum Hole Depth	Effective Anchor Depth	Sleeve Length	Max. thickness of fixed element	Min. Hole diameter in fixture	Screw diameter	Screw length	Thread length	PZ3 TORX40	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	$d_v$	$L_v$
TNFAM08080	8	80	70	80	10	8,5	5,5	85	55	x	
TNFAM08100	8	80	70	100	30	8,5	5,5	105	55	x	
TNFAM08120	8	80	70	120	50	8,5	5,5	125	55	x	
TNFAM08140	8	80	70	140	70	8,5	5,5	145	55	x	
TNFAM10080	10	80	70	80	10	10,5	7,0	85	58-85		x
TNFAM10100	10	80	70	100	30	10,5	7,0	105	63-85		x
TNFAM10120	10	80	70	120	50	10,5	7,0	125	63-85		x
TNFAM10140	10	80	70	140	70	10,5	7,0	145	63-85		x
TNFAM10160	10	80	70	160	90	10,5	7,0	165	63-85		x
TNFAM10200	10	80	70	200	130	10,5	7,0	205	63-85		x
TNFAM10240	10	80	70	240	170	10,5	7,0	245	80-85		x
TNFAM10260	10	80	70	260	190	10,5	7,0	265	80-85		X

The entire European Technical Assessment ETA-13/0030 should be taken into account when designing

### Technical parameters of TNFAM anchors F - hexagon version with flange

Product Code	Sleeve / Hole Diameter	Minimum Hole Depth	Effective Anchor Depth	Sleeve Length	Max. thickness of fixed element	Min. Hole diameter in fixture	Screw diameter	Screw length	Thread length	HEX TORX40	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	$d_v$	$L_v$
TNFAM10080F	10	80	70	80	10	10,5	7,0	85	58-85	x	x
TNFAM10100F	10	80	70	100	30	10,5	7,0	105	63-85	x	x
TNFAM10120F	10	80	70	120	50	10,5	7,0	125	63-85	x	x
TNFAM10140F	10	80	70	140	70	10,5	7,0	145	63-85	x	x
TNFAM10160F	10	80	70	160	90	10,5	7,0	165	63-85	x	x
TNFAM10200F	10	80	70	200	130	10,5	7,0	205	63-85	x	x
TNFAM10240F	10	80	70	240	170	10,5	7,0	245	80-85	x	x
TNFAM10260F	10	80	70	260	190	10,5	7,0	260	80-85	X	X

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## Technical parameters of TNFAM H anchors - hexagon version

Product Code	Sleeve / Hole Diameter	Minimum Hole Depth	Effective Anchor Depth	Sleeve Length	Max. thickness of fixed element	Min. Hole diameter in fixture	Screw diameter	Screw length	Thread length	HEX	TORX40
	[mm] d / d <sub>o</sub>	[mm] h <sub>1</sub>	[mm] h <sub>nom</sub>	[mm] L <sub>t</sub>	[mm] t <sub>fix</sub>	[mm] d <sub>r</sub>	[mm] d <sub>v</sub>	[mm] L <sub>v</sub>	[mm] L <sub>g</sub>		
TNFAM10080H	10	80	70	80	10	10,5	7,0	85	58-85	x	
TNFAM10100H	10	80	70	100	30	10,5	7,0	105	63-85	x	
TNFAM10120H	10	80	70	120	50	10,5	7,0	125	63-85	x	
TNFAM10140H	10	80	70	140	70	10,5	7,0	145	63-85	x	
TNFAM10160H	10	80	70	160	90	10,5	7,0	165	63-85	x	
TNFAM10200H	10	80	70	200	130	10,5	7,0	205	63-85	x	
TNFAM10240H	10	80	70	240	170	10,5	7,0	245	80-85	x	
TNFAM10260H	10	80	70	260	190	10,5	7,0	260	80-85	X	

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## Technical parameters of TNFAM SS anchors - version with countersunk head



Product Code	Sleeve / Hole Diameter	Minimum Hole Depth	Effective Anchor Depth	Sleeve Length	Max. thickness of fixed element	Min. Hole diameter in fixture	Screw diameter	Screw length	Thread length	TORX40
	[mm] d / d <sub>o</sub>	[mm] h <sub>1</sub>	[mm] h <sub>nom</sub>	[mm] L <sub>t</sub>	[mm] t <sub>fix</sub>	[mm] d <sub>r</sub>	[mm] d <sub>v</sub>	[mm] L <sub>v</sub>	[mm] L <sub>g</sub>	
TNFAM10080SS	10	80	70	80	10	10,5	7,0	85	58-85	x
TNFAM10100SS	10	80	70	100	30	10,5	7,0	105	63-85	x
TNFAM10120SS	10	80	70	120	50	10,5	7,0	125	63-85	x
TNFAM10140SS	10	80	70	140	70	10,5	7,0	145	63-85	x
TNFAM10160SS	10	80	70	160	90	10,5	7,0	165	63-85	x

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## Design resistance of TNFAM anchors in concrete

Technical Data:	TNFAM08	TNFAM10	TNFAM10SS
Effective anchoring depth hef [mm]	70	70	70
Load-bearing capacity in concrete C12 / 15 NRd [kN]	0,67	1,1	1,1
Shear load capacity in concrete C12 / 15 VRd [kN]	3,8	4,3	2,6
Load-bearing capacity in concrete ≥C16 / 20 NRd [kN]	1,1	1,66	1,66
Shear load capacity in concrete ≥C16 / 20 VRd [kN]	3,8	4,3	2,6
Distance between Smin anchors in concrete C12 / C15 [mm]	70	85	85
Anchor spacing Smin in concrete ≥C16 / C20 [mm]	50	60	60
Distance from edge Cmin in concrete C12 / 15 [mm]	70	70	70
Distance from edge Cmin in concrete ≥C16 / 20 [mm]	50	50	50
Distance from the edge Ccr, N in concrete C12 / 15 [mm]	100	140	140
Distance from the edge Ccr, N in concrete ≥C16 / 20 [mm]	70	100	100
Min. Substrate thickness h [mm]	100	100	100

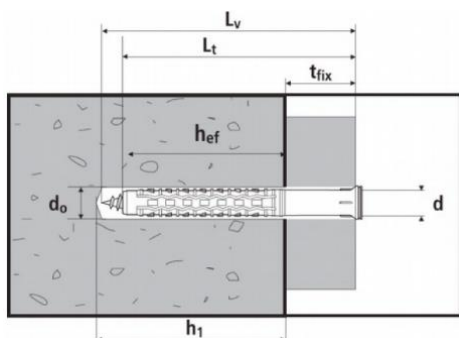
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## Design resistance of TNFAM anchors in masonry substrates

Technical Data:	TNFAM08, TNFAM10 i TNFAM10SS						
	Full brick ≥75N/mm <sup>2</sup>	Full brick ≥20N/mm <sup>2</sup>	Silicate Full brick ≥30N/mm <sup>2</sup>	Perforated Brick ≥15N/mm <sup>2</sup>	Ceramic Hollow Brick ≥7,5N/mm <sup>2</sup>	Porcelain ceramic Brick ≥12N/mm <sup>2</sup>	Hollow Silicate Brick ≥15N/mm <sup>2</sup>
Effective anchoring depth hef [mm]	70	70	70	70	70	70	70
Pull-out and shear load capacity NRd [kN] <b>TNFAM08</b>	1,4	0,6	0,6	0,12	0,2	0,2	0,2
Pull-out and shear load capacity NRd [kN] <b>TNFAM10</b>	1,6	0,48	1,0	0,2	0,3	0,36	0,48
Anchor spacing Smin [mm]	250	250	250	250	250	250	250
Distance from the edge Cmin [mm]	100	100	100	100	100	100	100
Min. Substrate thickness h [mm]	115	115	115	115	200	115	240

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## Installation diagram of TNFAM anchors



## Installation diagram of TNFAM anchors

