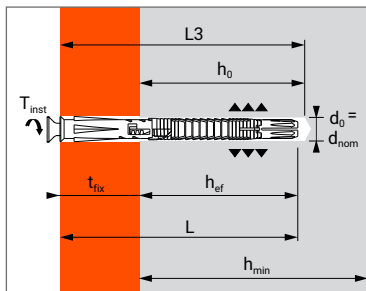


Universal frame fixing for concrete, in hollow and solid masonries



TECHNICAL DATA

RANGE	Min. anchor depth (mm) h _{ef}	Max. thick of part to be fixed (1) (mm) t _{fix}	Anchor external diameter (mm) d _{nom}	Drilling depth through part (mm) L3	Drilling depth in base material (mm) h ₀	Drilling diameter (mm) d ₀	Min. thick of base material (mm) h _{min}	Total sleeve length (mm) L	Tighten torque (mm) T _{inst}	Code	
										Head version F	Head version H
10X80/10		10		80				80		566653	
10X100/30		30		110				100		566654	
10X115/45		45		125				115		566655	
10X145/75	70	75	10	155	80	10	140	145	10	566656	-
10X160/90		90		170				160		566657	
10X185/115		115		195				185		566658	
10X210/140		140		220				210		566659	
12X120/50		50		135				120			566675
12X145/75		75		160				145			566676
12X165/95	70	95	12	180	85	12	200	165	10	-	566677
12X185/115		115		200				185			566678
12X210/140		140		225				210			566679
16X145/55		55		165				145			566680
16X165/75		75		185				165			566681
16X185/95		95		205				185			566682
16X200/110	90	110	16	220	110	16	200	200	20	-	566683
16X240/150		150		260				240			566428
16X270/180		180		290				270			566484

Ø12 and Ø16: do not belong to ATE

CHARACTERISTICS



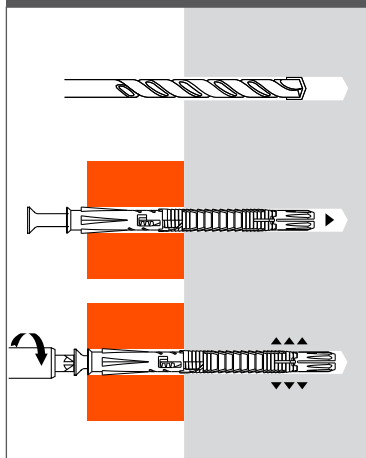
F : Countersunk head
TORX 40 (Ø10)

HS : Hexagonal head
+ large washer for Ø12 & Ø16
Ø10: Sw = 13 mm
Ø12: Sw = 17 mm
Ø16: Sw = 19 mm

APPLICATION

- Roofing clamps
- Sanitary equipment
- Fixing wall plates
- Timbers

INSTALLATION



MINIMUM THICKNESS OF CONCRETE, CHARACTERISTIC & MINIMUM DISTANCES FOR SPACING, EDGE

SIZE			Ø10	Ø12	Ø16
Anchor depth		h _{ef} [mm]	70	70	90
Minimum thickness of base material		h _{min} [mm]	140	200	200
Characteristic edge and spacing distance for full anchor capacity	NON CRACKED CONCRETE	C _{cr} ≥ [mm]	70	70	70
		S _{cr} ≥ [mm]	140	140	140
	MASONRIES	C _{cr} ≥ [mm]	70	70	70
		S _{cr} ≥ [mm]	140	140	140
Minimum distances	NON CRACKED CONCRETE	C _{min} [mm]	60	60	60
		S _{min} [mm]	50	50	50
	SOLID MASONRIES	C _{min} [mm]	60	60	60
		S _{min} [mm]	50	50	50
	HOLLOW MASONRIES	C _{min} [mm]	105	105	105
		S _{min} [mm]	200	200	200



CHARACTERISTIC RESISTANCES [kN]

Characteristic resistances are shown as informative, and have to be used by application of safety factors.

TENSILE			
NON-CRACKED CONCRETE - C20/25			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
N_{Rk} [kN]	2,8	4,5	6,3
MASONRIES			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
Clay bricks (fb = 55 N/mm ²)			
N_{Rk} [kN]	3,2	4,2	6,0
Hollow concrete blocks B40 not rendered (fb = 6,5 N/mm ²)			
N_{Rk} [kN]	0,8	1,26	2,4
Hollow clay bricks not rendered (fb = 4,5 N/mm ²)			
N_{Rk} [kN]	0,8	0,6	0,6
Aerated concrete (Mvn = 500 kg/m ³)			
N_{Rk} [kN]	0,7	1,1	1,4

SHEAR			
NON-CRACKED CONCRETE - C20/25			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
V_{Rk} [kN]	2,8	7,1	14,4
MASONRIES			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
Clay bricks (fb = 55 N/mm ²)			
V_{Rk} [kN]	3,2	6,4	13,9
Hollow concrete blocks B40 not rendered (fb = 6,5 N/mm ²)			
V_{Rk} [kN]	0,8	1,9	2,7
Hollow clay bricks not rendered (fb = 4,5 N/mm ²)			
V_{Rk} [kN]	0,8	2,0	2,9
Aerated concrete (Mvn = 500 kg/m ³)			
V_{Rk} [kN]	-	-	-

RECOMMENDED LOADS OF ONE ANCHOR WITHOUT INFLUENCE OF SPACING & CONCRETE EDGE [kN]

Recommended values are determined from performances given in the ETA, and are guaranteed for spacing $\geq S_{cr}$ and edge distance $\geq C_{cr}$.

TENSILE			
NON-CRACKED CONCRETE - C20/25			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
N_{Rec} [kN]	1,00	1,56	2,20
MASONRIES			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
Clay bricks (fb = 55 N/mm ²)			
N_{Rec} [kN]	1,15	1,48	2,08
Hollow concrete blocks B40 not rendered (fb = 6,5 N/mm ²)			
N_{Rec} [kN]	0,28	0,44	0,84
Hollow clay bricks not rendered (fb = 4,5 N/mm ²)			
N_{Rec} [kN]	0,28	0,24	0,24
Aerated concrete (Mvn = 500 kg/m ³)			
N_{Rec} [kN]	0,25	0,38	0,52

SHEAR			
NON-CRACKED CONCRETE - C20/25			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
V_{Rec} [kN]	1,00	2,50	5,40
MASONRIES			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
Clay bricks (fb = 55 N/mm ²)			
V_{Rec} [kN]	1,15	2,24	4,86
Hollow concrete blocks B40 not rendered (fb = 6,5 N/mm ²)			
V_{Rec} [kN]	0,28	0,70	0,84
Hollow clay bricks not rendered (fb = 4,5 N/mm ²)			
V_{Rec} [kN]	0,28	0,70	1,02
Aerated concrete (Mvn = 500 kg/m ³)			
V_{Rec} [kN]	-	-	-

Design resistances for static loads are determined from performances given in the ETA, and are guaranteed for spacing $\geq S_{cr}$ and edge distance $\geq C_{cr}$.

For project with reduced spacing and edge distance, we recommend to use SPIT i-Expert software to design your project.



DESIGN RESISTANCE FOR STATIC LOADS [kN]

TENSILE			
NON-CRACKED CONCRETE - C20/25			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
N_{Rd} [kN]	1,40	2,23	3,14
MASONRIES			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
Clay bricks (fb = 55 N/mm ²)			
N_{Rd} [kN]	1,60	2,10	3,00
Hollow concrete blocks B40 not rendered (fb = 6,5 N/mm ²)			
N_{Rd} [kN]	0,40	0,63	1,20
Hollow clay bricks not rendered (fb = 4,5 N/mm ²)			
N_{Rd} [kN]	0,40	0,30	0,30
Aerated concrete (Mvn = 500 kg/m ³)			
N_{Rd} [kN]	0,35	0,54	0,74

SHEAR			
NON-CRACKED CONCRETE - C20/25			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
V_{Rd} [kN]	1,40	3,57	7,71
MASONRIES			
SIZE	Ø10	Ø12	Ø16
h_{ef} [mm]	70	70	90
Clay bricks (fb = 55 N/mm ²)			
V_{Rd} [kN]	1,60	3,20	6,94
Hollow concrete blocks B40 not rendered (fb = 6,5 N/mm ²)			
V_{Rd} [kN]	0,40	0,97	1,37
Hollow clay bricks not rendered (fb = 4,5 N/mm ²)			
V_{Rd} [kN]	0,40	1,00	1,45
Aerated concrete (Mvn = 500 kg/m ³)			
V_{Rd} [kN]	-	-	-