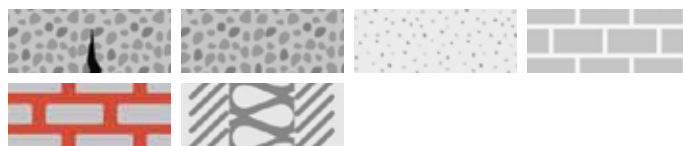
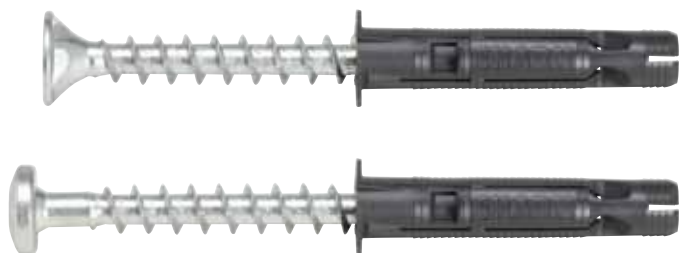


SHARK PRO



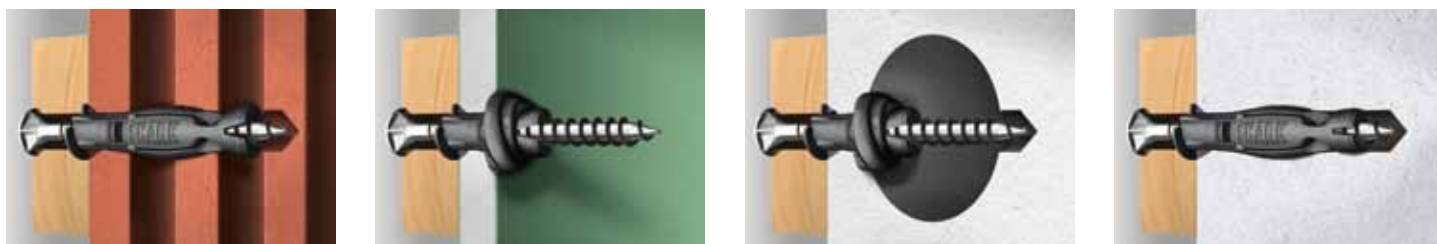
Approvals and certificates



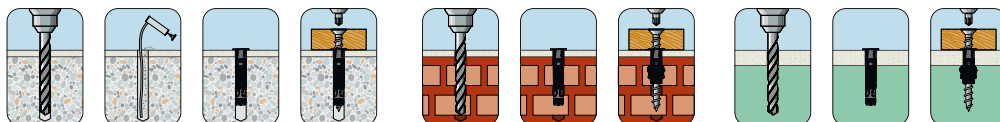
Type of installation

Pre-positioned	In-place	Stand-off
✓	✓	-

Application references



Installation



Loads in Concrete

Screw Diameter			Ø 6	Ø 8	Ø 10	Ø 12	Ø 12	Ø 14
Nominal embedment depth		h_{nom} [mm]	34	45	55	57	65	75
Concrete C12/15								
Tension ^{1),2)}	Shark Pro /S	N_{rec} [kN]	0.36	0.36	1.19	1.59	1.59	1.98
Shear ^{1),2)}		V_{rec} [kN]	1.62	2.59	4.67	6.79	6.79	8.55
Tension ^{1),2)}	Shark Pro /A4	N_{rec} [kN]	0.36	0.36	1.19	1.59	1.59	1.98
Shear ^{1),2)}		V_{rec} [kN]	1.13	1.82	3.27	4.76	4.76	5.99
Edge distance	Shark Pro /S; /A4	c_{min} [mm]	110	110	110	210	210	210
Concrete ≥ C16/20								
Tension ^{1),2)}	Shark Pro /S	N_{rec} [kN]	0.36	0.48	1.59	1.98	1.98	2.38
Shear ^{1),2)}		V_{rec} [kN]	1.62	2.59	4.67	6.79	6.79	8.55
Tension ^{1),2)}	Shark Pro /A4	N_{rec} [kN]	0.36	0.48	1.59	1.98	1.98	2.38
Shear ^{1),2)}		V_{rec} [kN]	1.13	1.82	3.27	4.76	4.76	5.99
Edge distance	Shark Pro /S; /A4	c_{min} [mm]	80	80	80	150	150	150

¹⁾ Loads are valid for anchors in indeterminate non-structural applications. Material safety factor γ_M and safety factor for action $\gamma_L = 1.4$ are included.

²⁾ Loads for anchorages close to edge and/or with small spacing have to be reduced and should be calculated based on performance data given in the ETA.

³⁾ The loads given are valid for the bricks and blocks which have been given. The loads can be taken for bricks and blocks of larger sizes, larger compressive strength of the masonry unit and same configuration of the cavities. The loads of the injection anchor may be determined by the so-called „job site tests“ according to ETAG029 and TR053.

SHARK PRO

Loads in Masonry

Brick and Block	Type	Size	Compressive strength	Density	Drilling method	Screw size	Embedment depth	Edge distance	In any direction ^{1),2)}
		$l \times b \times h$ [mm]	$f_b \geq$ [N/mm ²]	$\rho \geq$ [kg/dm ³]			h_{nom} [mm]	c_{min} [mm]	N_{rec} [kN]
Solid brick Mz	solid	240 x 115 x 71	20	1.8	Hammer	Ø 10	55	100	0.43
						Ø 12	65	250	0.43
						Ø 12	65	100	0.14
Fired clay brick Hlz	perforated	373 x 175 x 238	20	1.2	Rotary	Ø 12	65	100	0.43
Light aggregate block Vbl	solid	240 x 115 x 71	6	1.2	Hammer	Ø 10	55	100	0.14
Calcium silicate brick KS	solid	240 x 115 x 71	20	2.0	Hammer	Ø 10	55	100	0.34
						Ø 10	55	250	0.57
Calcium silicate block KSL	hollow	248 x 240 x 238	12	1.4	Rotary	Ø 10	55	100	0.57
						Ø 12	65	100	0.57
Aerated concrete block AAC 6	solid	499 x 175 x 249	6	0.3	Hammer	Ø 10	55	100	0.71
						Ø 12	65	100	0.71

¹⁾ Loads are valid for anchors in indeterminate non-structural applications. Material safety factor γ_w and safety factor for action $\gamma_L = 1.4$ are included.

²⁾ Loads for anchorages close to edge and/or with small spacing have to be reduced and should be calculated based on performance data given in the ETA.

³⁾ The loads given are valid for the bricks and blocks which have been given. The loads can be taken for bricks and blocks of larger sizes, larger compressive strength of the masonry unit and same configuration of the cavities. The loads of the injection anchor may be determined by the so-called „job site tests“ according to ETAG029 and TR053.

SHARK PRO/ASSY-D Screw Countersunkhead

Anchor size	Screw geometry	Fixture thickness	Art. no. SHARK PRO	Art. no. ASSY-D	Drill hole diameter	Drill depth	Installation depth	Drive	Approval for multiple-use in non-structural applications	Head Specification
$\varnothing \times l$ [mm]	$\varnothing \times l$ [mm]	t_{fix} [mm]	Polyamide Plastic	Carbon steel galvanized	d_0 [mm]	h_1 [mm]	h_{nom} [mm]	AW		[mm]
6x35	5x50	1-10	5906 206 35	0151 020 503	6		34	AW 20	ETA-12/0042	Ø 9,6
	5x60	1-20		0151 020 505						
	5x70	10-30		0151 020 506						
8x46	6x60	1-10	5906 208 46	0151 020 601	8		45	AW 30	ETA-12/0042	Ø 12
	6x80	10-30		0151 020 603						
	6x100	30-50		0151 020 605						
10x56	8x80	1-20	5906 210 56	0151 020 802	10	$l_s + 5 \text{ mm} - t_{fix}$	55	AW 40	ETA-12/0042	Ø 15
	8x100	20-40		0151 020 803						
12x66	10x80	1-10	5906 212 66	0151 021 001	12		65	AW 40	ETA-12/0042	Ø 18,5
	10x100	1-30		0151 021 003						
	10x120	20-50		0151 021 005						
14x76	12x90	1-10	5906 214 76	0151 021 201	14		75	AW 50	ETA-12/0042	Ø 22,5
	12x110	1-30		0151 021 203						
	12x130	20-50		0151 021 205						

SHARK PRO/ASSY-D Screw Panhead

Anchor size	Screw geometry	Fixture thickness	Art. no. Plastic Anchor SHARK PRO	Art. no. ASSY-D screw Sunkhead galvanized	Drill hole diameter	Drill depth	Installation depth	Drive	Approval for multiple-use in non-structural applications	Head Specification
$\varnothing \times l$ [mm]	$\varnothing \times l$ [mm]	t_{fix} [mm]	Polyamide Plastic	Carbon steel galvanized	d_0 [mm]	h_1 [mm]	h_{nom} [mm]	AW		[mm]
6x35	5x50	1-10	5906 206 35	0153 020 503	6		34	AW 20	ETA-12/0042	Ø 10
	5x60	1-20		0153 020 505				AW 20		
8x46	6x60	1-10	5906 208 46	0153 020 601	8		45	AW 30	ETA-12/0042	Ø 12
	6x80	10-30		0153 020 603				AW 30		
10x56	8x80	1-20	5906 210 56	0153 020 802	10	$l_s + 5 \text{ mm} - t_{fix}$	55	AW 40	ETA-12/0042	Ø 14,5
12x66	10x100	1-30	5906 212 66	0153 021 003	12		65	AW 40	ETA-12/0042	Ø 18,6
14x76	12x90	1-10	5906 214 76	0153 021 201	14		75	AW 50	ETA-12/0042	Ø 21,5
	12x110	1-30		0153 021 203				AW 50		