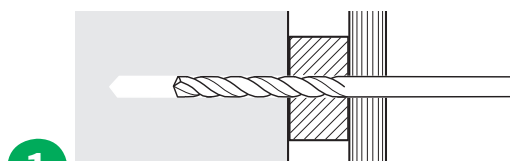


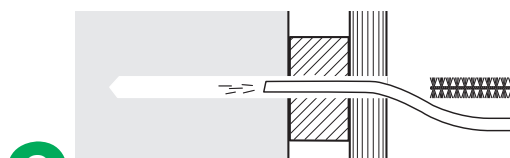


# SUPER FRAME FIXING WITH LONG EXPANSION

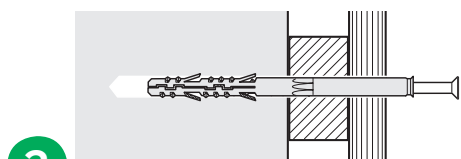
## Installation:



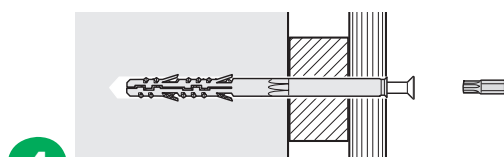
**1** Drill a 10 mm hole through fixture and into the wall. Use HSS-drill in aerated concrete and other solid low density base-materials. In hollow brick, only use rotary drilling



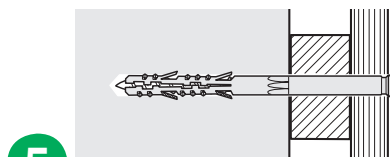
**2** Clean the drilled hole thoroughly



**3** Insert Super Frame Fixing as through fixing



**4** Tighten the screw



**5** The installation is finished

For fixing of window frames etc. in light weight blocks, aerated concrete, hollow brick and porous walls



### Advantages:

Developed especially for hollow brick, aerated concrete and lightweight blocks.  
Through fixing.  
High load capacities in low density base-materials.  
No thermal bridge.

### Materials:

Expandet Super Frame Fixing with long expansion is supplied with either zinc plated or hot-dipped galvanized screw, with countersunk or hexagon head.  
Anchor: Nylon (PA6)  
Withstands temperatures from -40°C to +80°C.  
Screw: Galvanized steel  $f_{uk} = 500 \text{ N/mm}^2$   $f_{yk} = 400 \text{ N/mm}^2$   
Zinc plated min. 5  $\mu\text{m}$ .  
Hot dipped galvanized min. 45  $\mu\text{m}$ .  
Stainless steel  
Stainless steel A4, property class 70 (available on request)

### Accessories:

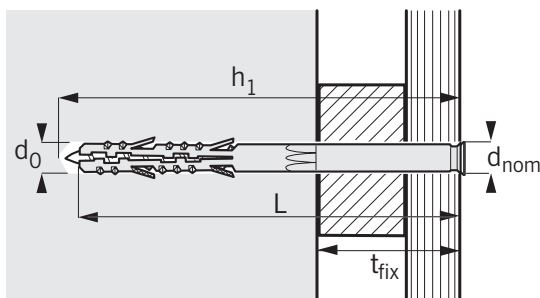
Self-adhesive FastCap covercaps.  
Covercaps.

### Further information:

See overleaf



# SUPER FRAME FIXING WITH LONG EXPANSION



Type	Dimensions			Fixing	
	$d_{nom}$	L	$t_{fix}$	$d_o$	$h_1$
Expandet Super Frame Fixing with long expansion	Outside diameter of anchor mm	Anchor length mm	Thickness of fixture (Max.) mm	Drill hole diameter mm	Depth of drilled hole (Min.) mm
10x100	10	100	20	10	110
10x115	10	115	35	10	125
10x135	10	135	55	10	145
10x160	10	160	80	10	170
10x200	10	200	120	10	210

Type	Load Capacities							
	$N_{Rd}$	$V_{Rd}$	$N_{Rd}$	$V_{Rd}$	$N_{Rd}$	$V_{Rd}$	$N_{Rd}$	$V_{Rd}$
Expandet Super Frame Fixing with long expansion	<b>Aerated concrete PP4</b> Design resistance		<b>Aerated concrete PP2</b> Design resistance		<b>Leca 3 N/mm<sup>2</sup></b> Design resistance		<b>Hollow brick 22 N/mm<sup>2</sup></b> Design resistance	
	tension kN*	shear kN*	tension kN*	shear kN*	tension kN*	shear kN*	tension kN <sup>◇</sup>	shear kN <sup>◇</sup>
10x100	0,98	0,93	0,47	0,45	0,76	0,74	1,30	1,10
10x115	0,98	0,93	0,47	0,45	0,76	0,74	1,30	1,10
10x135	0,98	0,93	0,47	0,45	0,76	0,74	1,30	1,10
10x160	0,98	0,93	0,47	0,45	0,76	0,74	1,30	1,10
10x200	0,98	0,93	0,47	0,45	0,76	0,74	1,30	1,10

\* Design resistance is valid for a single anchor in aerated concrete PP4 / PP2 not influenced by edge distance and/or spacing.

PP2: Density 375 kg/m<sup>3</sup> with a compressive strength of 2 N/mm<sup>2</sup>.

PP4: Density 535 kg/m<sup>3</sup> with a compressive strength of 4 N/mm<sup>2</sup>.

◇ Design resistance is valid for a single anchor in Leca, density 600 kg./mm<sup>3</sup>, with a compressive strength of minimum 3 N/mm<sup>2</sup> not influenced by edge distance and/or spacing.

◇ Design resistance is valid for a single anchor in hollow brick with a compressive strength of minimum 22 N/mm<sup>2</sup> not influenced by edge distance and/or spacing.

Combined resistance shall be verified if both tension and shear actions are applied. See "Principles for Fastening" page 5 (Verification Method 1).

Partial safety factor for material ( $\gamma_m$ ) is included. Partial safety factor for actions ( $\gamma_f$ ) must be applied according to national building code.

If no guidance for  $\gamma_f$  exists Expandet recommend a partial safety factor for actions of minimum 1,5.

1 kN  $\approx$  100 kg.

**Important:** See Expandet's "Principles for fastening" for general information on fastening as well as information on limited liability.  
(Can be downloaded at [www.expandet.com](http://www.expandet.com))

## Spacing and edge distance ▼

	Minimum Spacing mm	Minimum Edge Distance mm
Aerated concrete PP4	$\geq 150$	$\geq 100$
Aerated concrete PP2	$\geq 150$	$\geq 100$
Leca 3 N/mm <sup>2</sup>	$\geq 150$	$\geq 100$
Hollow brick 22 N/mm <sup>2</sup>	$\geq 100$	$\geq 100$ ▽

▼ If above spacing and/or edge distance are not observed loads are reduced.

▽ If actions are towards top of the wall or unloaded edge the edge distance must be  $\geq 250$  (or at least 3 clear courses).