

LOADS

Frame fixing SXR⁴⁾

Highest permissible loads¹⁾²⁾ of a single anchor as part of a multiple fixing of non-structural systems.

For the design the complete assessment ETA-07/O121 has to be considered.

Product		SXR		
Anchor diameter	[mm]	Ø 8	Ø 10	
Anchorage depth	h_{nom} [mm]	50	50	
Anchorage in concrete \geq C12/15				
Permissible tensile load	[kN]	0,99	1,79	
Permissible shear load	Zinc-plated steel [kN]	4,23	5,98	
	Stainless steel A4 [kN]	3,93	5,98	
Minimum member thickness	h_{min} [mm]	100	100	
Characteristic edge distance	$c_{cr,N}$ [mm]	70	140	
Characteristic spacing	a resp. $s_{cr,N}$ [mm]	70	100	
Minimum spacing with an edge distance	s_{min} [mm]	70	70	
	$c \geq$ [mm]	70	210	
Minimum edge distance with a spacing	c_{min} [mm]	70	85	
	$s \geq$ [mm]	70	100	
Anchorage in narrow concrete members ($h \geq 40$ mm) made of concrete \geq C12/15, e.g. weather shells of triple-skin outer wall panels				
Permissible tensile load	[kN]	-	1,19	
Permissible shear load	[kN]	-	5,98	
Anchorage in masonry				
Permissible load ³⁾ in solid brick	$\geq Mz 12$ a. $\geq NF$ [kN]	0,57	0,57	
	$\geq Mz 20$ a. $\geq NF$ [kN]	0,71	0,86	
Permissible load ³⁾ in solid sand-lime brick	$\geq KS 10$ a. $\geq NF$ [kN]	0,57	0,57	
	$\geq KS 20$ a. $\geq NF$ [kN]	0,71	0,71	
Permissible load ³⁾ in lightweight concrete block	$\geq V 2$; $\rho \geq 1,2$ kg/dm ³ [kN]	0,26	0,21	
	$\geq V 6$; $\rho \geq 1,6$ kg/dm ³ [kN]	0,26	0,71	
Permissible load ³⁾⁵⁾ in vertically perforated brick (e.g. Poroton)	$\geq Hlz 10$; $\rho \geq 1,0$ kg/dm ³ [kN]	0,17	0,26	
Permissible load ³⁾ in perforated sand-lime brick	$\geq KSL 6$ [kN]	0,26	0,43	
	$\geq KSL 12$ [kN]	0,57	0,57	
Permissible load ³⁾⁵⁾ in hollow lightweight concrete blocks	$\geq HBL 2$ [kN]	-	0,43	
	$\geq HBL 6$ [kN]	0,43	0,57	
Minimum member thickness	h_{min} [mm]	100	100	
Minimum spacing (single anchor)	a_{min} [mm]	250	250	
Minimum spacing (anchor group)	s_{min} [mm]	100	100	
Minimum edge distance (anchor group)	c_{min} [mm]	100	100	
Anchorage in aerated concrete				
Permissible load ³⁾ in aerated concrete	2 N/mm ² [kN]	-	0,14 ⁶⁾	
	4 N/mm ² [kN]	-	0,27	
	6 N/mm ² [kN]	-	0,27	
Minimum member thickness	h_{min} [mm]	-	100	
Minimum spacing (single anchor)	a_{min} [mm]	-	250	
Minimum spacing (anchor group)	s_{min} [mm]	-	400	
Minimum edge distance (anchor group)	c_{min} [mm]	-	100	

¹⁾ The required partial safety factors for material resistance as well as a partial safety factor for load actions $\gamma_L = 1,4$ are considered.

As a single anchor counts e.g. an anchor with a minimum spacing according to table B4.1 resp. table B4.2 of the assessment.

²⁾ Valid for temperatures in the substrate up to +50 °C (resp. short term up to +80 °C). For long term temperatures up to +30 °C higher permissible loads may be possible.

³⁾ Valid for tensile load, shear load and oblique load under any angle. For combinations of tensile loads, shear loads and bending moments see assessment.

⁴⁾ Valid for zinc coated screws and for screws made of stainless steel. For exterior use of the zinc coated screws measures against incoming humidity according to assessment have to be taken.

⁵⁾ Rotary drilling.

⁶⁾ Drill holes to be made with aerated concrete hole punch.

LOADS

Frame fixing SXR³⁾

Highest recommended loads¹⁾ for a single anchor as part of a multiple fixing of non-structural systems.

The given loads are valid for wood screws with the specified diameter.

Type			SXR 6	SXR 8
Anchorage depth	h_{nom}	[mm]	30	50
Screw diameter	\emptyset	[mm]	4,5	6,0
Min. edge distance concrete	a_r	[mm]	50	60
Recommended loads in the respective base material F_{rec}²⁾				
Concrete	$\geq C20/25$	[kN]	0,25	0,40
Solid brick	$\geq Mz 12$	[kN]	0,20	0,30
Solid sand-lime brick	$\geq KS 12$	[kN]	0,20	0,30
Vertically perforated brick	$\geq Hz 12 (\rho \geq 1,0 \text{ kg/dm}^3)$	[kN]	0,10	0,10
Perforated sand-lime brick	$\geq KSL 12$	[kN]	0,20	0,30

¹⁾ Required safety factors are considered.

²⁾ Valid for tensile load, shear load and oblique load under any angle.

³⁾ Valid for zinc coated screws and for screws made of stainless steel. For exterior use of the zinc coated screws measures against incoming humidity have to be taken.