LOADS

Frame fixing SXS [4]

Highest permissible loads[1] for a single anchor for multiple fixings of non-structural applications in normal concrete ≥ C16/20 resp. ≥ B20[7]. For the design the complete approval ETA-09/0352 has to be considered.

			Cracked or Non-cracked concrete			
Type	**Min. embedment depth h_{nom} (h_v) [mm]**	**Min. member thickness h_{min} [mm]**	**Permissible tensile load N_{perm} [3] [6] [kN]**	**Permissible shear load V_{perm} [3] [kN]**	**Min. spacing s_{min} [2] [mm]**	**Min. edge distance c_{min} [2] [mm]**
SXS 10	50	100	2,0	2,0[5]	50	50

[1] The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_L = 1,4 are considered.

[2] Minimum possible axial spacings resp. edge distance (anchor group) while reducing the permissible load. The combination of the given min. spacing and min. edge distance as well as the min. member thickness is not possible. Details see approval.

[3] For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

[4] gvz and A4. For exterior applications of galvanised screws measures against incoming humidity have to be taken.

[5] The permissible shear load determined acc. ETAG 020, Annex C considers exclusively steel failure of the screw. It amounts V_{perm} = 7,4 kN for galvanised screws and V_{perm} = 6,9 kN for screws made of stainless steel. Due to that the expected displacements will disable the proper function of the fixture a maximum shear load on the basis of table 7 of the approval is recommended.

[6] 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.

[7] Values for concrete C12/15 see approval.

LOADS

Frame fixing SXS [4]

Highest permissible loads[1] for a single anchor in normal concrete ≥ C20/25 resp. ≥ B25.
For the design the complete approval Z-21.2-1734 has to be considered.

			Cracked concrete				Non-cracked concrete			
Type	**Min. embedment depth h_{nom} (h_v) [mm]**	**Min. member thickness h_{min} [mm]**	**Permissible tensile load N_{perm} [6] [kN]**	**Permissible shear load V_{perm} [6] [kN]**	**Min. spacing s_{min} [2] [mm]**	**Min. edge distance c_{min} [2] [mm]**	**Permissible tensile load N_{perm} [6] [kN]**	**Permissible shear load V_{perm} [6] [kN]**	**Min. spacing s_{min} [2] [mm]**	**Min. edge distance c_{min} [2] [mm]**
SXS 10	50	100	1,0	2,5	55	50	1,3	2,5	55	60

[1] The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_L = 1,4 are considered.

[2] Minimum possible axial spacings resp. edge distance (anchor group) while reducing the permissible load. The combination of the given min. spacing and min. edge distance is not possible. One of them has to be increased according approval.

[3] For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

[4] gvz and A4. For exterior applications of galvanised screws measures against incoming humidity have to be taken.

[6] 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.

LOADS

Frame fixing SXS 10 [4]

Highest permissible loads[1] for a single anchor for multiple fixings of non-structural applications in masonry.
For the design the complete approval ETA-09/0352 has to be considered.

					Solid brick masonry		
Type	**Compressive brick strength f_b [N/mm²]**	**Brick type, naming acc. DIN [-]**	**Min. embedment depth h_{nom} (h_v) [mm]**	**Min. member thickness h_{min} [mm]**	**Permissible load F_{perm} [3) 6)] [kN]**	**Min. spacing s_{min} [2)] [mm]**	**Min. edge distance c_{min} [2)] [mm]**
Solid brick Mz							
SXS10	≥ 20	Mz	50	115	0,71	250	100
Solid sand-lime brick KS							
SXS10	≥ 28	KS	50	115	1,40	250	100
Solid brick and solid block of lightweight aggregate concrete V							
SXS10	≥ 12	V	50	115	1,00	250	100
Aerated concrete block PB2, PP2							
SXS10	≥ 2	PP/PB	50	175	0,32[5)]	250	80
Aerated concrete block PB7, PP7							
SXS10	≥ 7	PP/PB	50	175	1,07[5)]	250	100

1) The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_L = 1,4 are considered.
2) Minimum possible axial spacing (anchor group) while reducing the permissible load.
3) Valid for tensile load, shear load and oblique load under any angle. For combinations of tensile loads, shear loads and bending moments see approval.
4) gvz and A4. For exterior applications of galvanised screws measures against incoming humidity have to be taken.
5) Drill hole created by hammer drill without impact.
6) 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.