

The all-round solution with short drill hole depth



Façade sub-structures



Façade sub-structures

VERSIONS

- zinc-plated steel
- stainless steel
- hot-dip galvanised steel

BUILDING MATERIALS

Approved for:

- Concrete \geq C12/15
- Vertically perforated brick
- Hollow blocks made from lightweight concrete
- Perforated sand-lime brick
- Solid sand-lime brick
- Aerated concrete
- Solid block made from lightweight and normal weight concrete
- Solid brick
- Thermal insulation blocks

Also suitable for:

- Natural stone with dense structure
- Solid panel made from gypsum

APPROVALS



ADVANTAGES

- The special functioning allows for use in solid and hollow building materials with an anchorage depth of just 50 mm, ensuring an economical fixing.
- The ETA approval covers use in a range of solid and hollow building materials, and guarantees a secure fixing.
- The specially developed combination of plugs and screws ensures the very best handling. The plug has a noticeable hold, making installation more convenient.
- The extensive range with diameters of 6, 8 and 10 mm offers the right plug for every fixing.

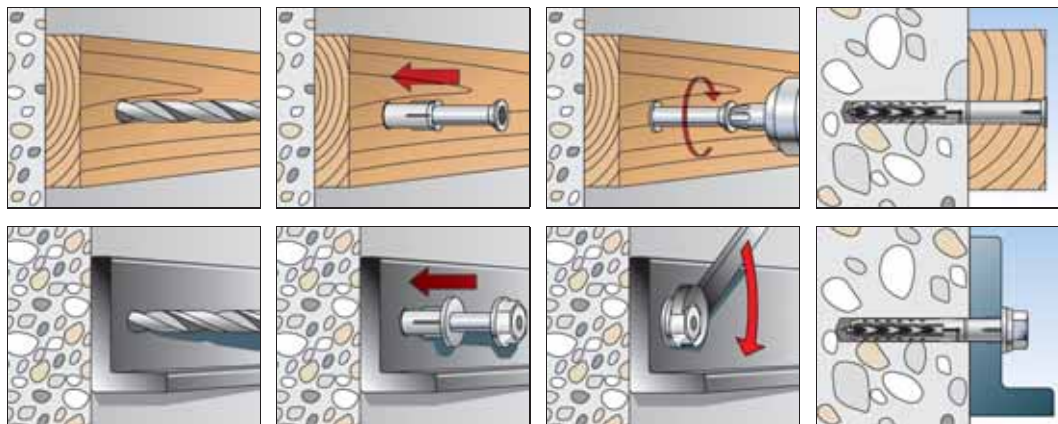
APPLICATIONS

- Façade, ceiling and roof substructures made of wood and metal
- Windows
- Gates and doors
- Wardrobes
- Cable trays
- Squared timbers
- Kitchen cabinets

FUNCTIONING

- The SXR is suitable for push-through installation.
- The SXR expands in solid building materials and knots in hollow building materials.
- With vertically perforated bricks, only use rotary drilling (no impact drilling).
- Countersunk head screws are recommended for the installation of timber constructions; in the case of metal constructions, use plugs with a wide sleeve rim and a moulded washer on the screw, which also features an integrated hexagon socket.

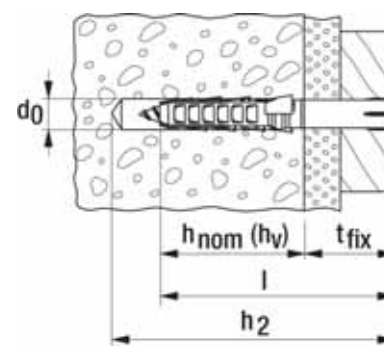
INSTALLATION



TECHNICAL DATA



SXR - without screw

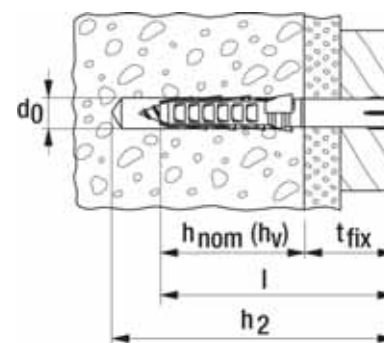


Item	Art.-No.	Drill hole diameter d_0 [mm]	Min. drill hole depth for through fixings h_2 [mm]	Min. anchorage depth $h_{nom} (h_v)$ [mm]	Anchor length l [mm]	Max. fixture thick- ness t_{fix} [mm]	Sales unit [pcs]
SXR 6 x 35	503228	6	45	30	35	5	100
SXR 6 x 50	503229	6	60	30	50	20	100
SXR 6 x 60	503230	6	70	30	60	30	100
SXR 8 x 60	506194	8	70	50	60	10	100
SXR 8 x 80	506196	8	90	50	80	30	100
SXR 8 x 100	506198	8	110	50	100	50	100
SXR 8 x 120	506199	8	130	50	120	70	100

TECHNICAL DATA



SXR-Z - with zinc-plated fischer safety screw
with cross drive PZ



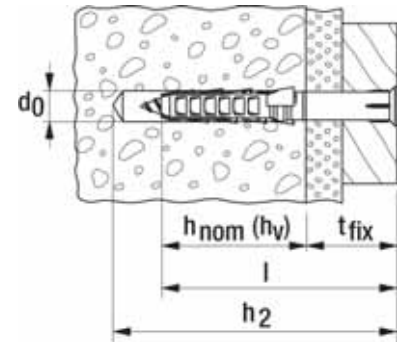
Item	Art.-No.	Drill hole diameter d_0 [mm]	Min. drill hole depth for through fixings h_2 [mm]	Min. anchorage depth $h_{nom} (h_v)$ [mm]	Anchor length l [mm]	Max. fixture thickness t_{fix} [mm]	Drive	Sales unit [pcs]
SXR 6 x 35 Z	503231 ¹⁾	6	45	30	35	5	PZ2	50
SXR 6 x 50 Z	503232 ¹⁾	6	60	30	50	20	PZ2	50
SXR 6 x 60 Z	503233 ¹⁾	6	70	30	60	30	PZ2	50

¹⁾ not pre-assembled

TECHNICAL DATA



SXR-T - with fischer countersunk head safety screw

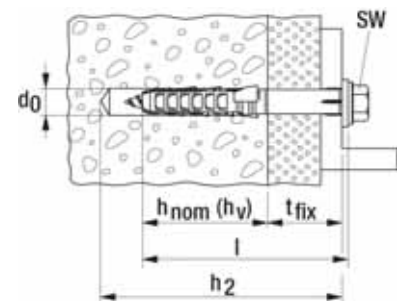


	zinc-plated steel	stainless steel	hot-dip galva- nised steel	Approval	Drill hole diameter	Min. drill hole depth for through fixings	Min. ancho- rage depth	Anchor length	Max. fixture thickness	Drive	Sales unit
	Art.-No.	Art.-No.	Art.-No.	ETA	d_0 [mm]	h_2 [mm]	$h_{nom} (h_v)$ [mm]	l [mm]	t_{fix} [mm]		[pcs]
Item	gvz	A4	fvz								
SXR 8 x 60 T	502999	—	—	■	8	70	50	60	10	T30	50
SXR 8 x 80 T	503000	—	—	■	8	90	50	80	30	T30	50
SXR 8 x 100 T	503001	—	—	■	8	110	50	100	50	T30	50
SXR 8 x 120 T	503002	—	—	■	8	130	50	120	70	T30	50
SXR 10 x 80 T	046263	046272	—	■	10	90	50	80	30	T40	50
SXR 10 x 100 T	046264	046274	—	■	10	110	50	100	50	T40	50
SXR 10 x 100 T	—	—	509534	—	10	110	50	100	50	T40	50
SXR 10 x 120 T	046265	046278	—	■	10	130	50	120	70	T40	50
SXR 10 x 120 T	—	—	509535	—	10	130	50	120	70	T40	50
SXR 10 x 140 T	046266	046279	—	■	10	150	50	140	90	T40	50
SXR 10 x 140 T	—	—	509536	—	10	150	50	140	90	T40	50
SXR 10 x 160 T	046267	046283	—	■	10	170	50	160	110	T40	50
SXR 10 x 180 T	046268	046285	—	■	10	190	50	180	130	T40	50
SXR 10 x 200 T	046269	046286	—	■	10	210	50	200	150	T40	50
SXR 10 x 230 T	046270	046287	—	■	10	240	50	230	180	T40	50
SXR 10 x 260 T	046271	046288	—	■	10	270	50	260	210	T40	50

TECHNICAL DATA



SXR-FUS - with fischer hexagon head safety screw, moulded washer and integrated T40 bit recess



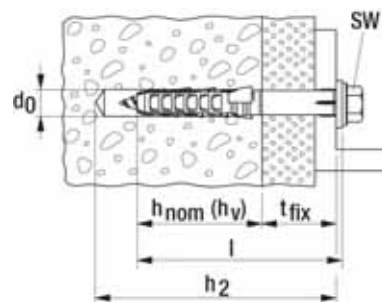
	zinc-plated steel	stainless steel	hot-dip galva- nised steel	Approval	Drill hole diameter	Min. drill hole depth for through fixings	Min. ancho- rage depth	Anchor length	Max. fixture thickness	Drive	Sales unit
	Art.-No.	Art.-No.	Art.-No.	ETA	d_0 [mm]	h_2 [mm]	$h_{nom} (h_v)$ [mm]	l [mm]	t_{fix} [mm]		[pcs]
Item	gvz	A4	fvz								
SXR 10 x 52 FUS	502456 ¹⁾	—	—	■	10	62	50	52	2	T40/SW13	50
SXR 10 x 60 FUS	046329	046339	—	■	10	70	50	60	10	T40/SW13	50
SXR 10 x 60 FUS	—	—	509537	—	10	70	50	60	10	T40/SW13	50
SXR 10 x 80 FUS	046330	046340	—	■	10	90	50	80	30	T40/SW13	50
SXR 10 x 80 FUS	—	—	509538	—	10	90	50	80	30	T40/SW13	50
SXR 10 x 100 FUS	046331	046342	—	■	10	110	50	100	50	T40/SW13	50
SXR 10 x 100 FUS	—	—	509539	—	10	110	50	100	50	T40/SW13	50
SXR 10 x 120 FUS	046332	046343	—	■	10	130	50	120	70	T40/SW13	50
SXR 10 x 140 FUS	046333	046344	—	■	10	150	50	140	90	T40/SW13	50
SXR 10 x 140 FUS	—	—	509540	—	10	150	50	140	90	T40/SW13	50

¹⁾ not pre-assembled

TECHNICAL DATA



SXR-FUS - with fischer hexagon head safety screw, moulded washer and integrated T40 bit recess



	zinc-plated steel	stainless steel	hot-dip galva- nised steel	Approval	Drill hole diameter d_0 [mm]	Min. drill hole depth for through fixings h_2 [mm]	Min. ancho- rage depth $h_{nom} (h_v)$ [mm]	Anchor length l [mm]	Max. fixture thickness t_{fix} [mm]	Drive	Sales unit
	Art.-No.	Art.-No.	Art.-No.	ETA							[pcs]
Item	gvz	A4	fvz								
SXR 10 x 160 FUS	046334	046345	—	■	10	170	50	160	110	T40/SW13	50
SXR 10 x 180 FUS	046335	046361	—	■	10	190	50	180	130	T40/SW13	50
SXR 10 x 200 FUS	046336	046362	—	■	10	210	50	200	150	T40/SW13	50
SXR 10 x 230 FUS	046337	046363	—	■	10	240	50	230	180	T40/SW13	50
SXR 10 x 260 FUS	046338	046364	—	■	10	270	50	260	210	T40/SW13	50

1) not pre-assembled

ACCESSORIES



Cover cap **ADT**

		Colour	Cap	Match	Sales unit
Item	Art.-No.		[Ø mm]		[pcs]
ADT 15 W	060326	white	15	Safety screw with integrated bit recess T40	100
ADT 15 DB	060329	dark brown	15	Safety screw with integrated bit recess T40	100
ADT 18 W	060334	white	18	Safety screw with integrated bit recess T40	100
ADT 18 DB	060337	dark brown	18	Safety screw with integrated bit recess T40	100

ACCESSORIES



Washer **U** stainless steel A2

		External	Hole diameter	Thickness	Matching anchor type	Sales unit
Item	Art.-No.	d [mm]	D [mm]	s [mm]		[pcs]
U 11,5 x 21 x 1,5 DIN 522 A2	010026	21	11,5	1,5	SXR 10, SXRL 10, FUR 10, SXS 10	500

ACCESSORIES



Aircrete hole punch **GBS**

Item	Art.-No.	Drill hole d_0 [Ø mm]	Min. drill hole depth for through fixings h_2 [mm]	Match	Sales unit [pcs]
GBS 10 x 80	050590 ¹⁾	9	85	SXR 10 x 52, SXR 10 x 60, SXR 10 x 80	1
GBS 10 x 100	050591 ¹⁾	9	105	SXR 10 x 100	1
GBS 10 x 135	050593 ¹⁾	9	140	SXR 10 x 120	1
GBS 10 x 160	050594 ¹⁾	9	165	SXR 10 x 140, SXR 10 x 160	1
GBS 10 x 185	050595 ¹⁾	9	190	SXR 10 x 180	1
GBS 10 x 230	050596 ¹⁾	9	235	SXR 10 x 200, SXR 10 x 230	1

¹⁾ According to the approval, the Aircrete hole punch GBS must be used for drill-hole production in aerated concrete.

LOADS

Frame fixing SXR ⁴⁾

Highest permissible loads¹⁾ for a single anchor for multiple fixings of non-structural applications in masonry.
For the design the complete approval ETA-07/0121 has to be considered.

					Solid brick masonry and perforated brick masonry		
Type	compressive brick strength f_b [N/mm ²]	brick type, naming acc. DIN [-] [-]	min. anchorage depth h_{nom} [mm]	min. member thickness h_{min} [mm]	permissible load $F_{perm}^{3)5)}$ [kN]	min. spacing $s_{min}^{2)}$ [mm]	min. edge distance $c_{min}^{2)}$ [mm]
Solid brick Mz							
SXR 8	≥ 20	Mz	50	100	0,71	100	100
SXR 10	≥ 20	Mz	50	100	0,86	100	100
Solid sand-lime brick and solid block KS							
SXR 8	≥ 10	KS	50	100	0,71	100	100
SXR 10	≥ 10	KS	50	100	0,86	100	100
Vertically perforated brick HLz							
SXR 8	≥ 20	HLz	50	100	0,34	100	100
SXR 10	≥ 12	HLz	50	100	0,26	100	100
SXR 10	≥ 20	HLz	50	100	0,71	100	100
Perforated sand-lime brick KSL							
SXR 8	≥ 12	KSL	50	100	0,57	100	100
SXR 10	≥ 12	KSL	50	100	0,57	100	100
Hollow block of lightweight aggregate concrete Hbl							
SXR 8	≥ 10	Hbl	50	100	0,71	100	100
SXR 10	≥ 6	Hbl	50	100	0,71	100	100
SXR 10	≥ 10	Hbl	50	100	0,71	100	100
Solid brick and solid block of lightweight aggregate concrete V							
SXR 8	≥ 2	V	50	100	0,34	100	100
SXR 10	≥ 2	V	50	100	0,21	100	100
Aerated concrete blocks and reinforced panels AAC							
SXR 10	≥ 2	AAC	50	100	0,14 ⁷⁾	200	100
SXR 10	≥ 6	AAC	50	100	0,27	200	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 s_{min} according table 11 resp. table 15 of the approval.

²⁾ Minimum possible axial spacings (anchor group) resp. edge distance 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⁾ 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⁾ 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 approval have to be taken.

⁵⁾ The given values for hollow or perforated masonry apply for rotary drilling (without impact). The given loads are reference values which may change due to type of brick and manufacturer. If the embedment depth is higher than $h_{nom} = 50$ mm, job site tests have to be carried out.

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⁾ Drill hole created by punching.

LOADS

Frame fixing SXR ⁴⁾

Highest permissible loads ^{1) 6)} for a single anchor for multiple fixings of non-structural applications in normal concrete \geq C12/15 resp. \geq B15. For the design the complete approval ETA-07/0121 has to be considered.

Type	Min. anchorage depth h_{nom} [mm]	Min. member thickness h_{min} [mm]	Cracked or Non-cracked concrete			
			Permissible tensile load $N_{perm}^{3)}$ [kN]	Permissible shear load $V_{perm}^{3)}$	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
SXR 8	50	100	1,0	1,2 ⁵⁾	50	50
SXR 10	50	100	1,8	2,0 ⁵⁾	50	60

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 an single anchor counts e.g. an anchor with a spacing $s \geq s_{cr,N}$ and an edge distance $c \geq c_{cr,N}$ according table 8 of the approval.

²⁾ Minimum possible axial spacings (anchor group) resp. edge distance for concrete \geq C16/20 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. Values for concrete C12/15 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⁾ 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 approval have to be taken.

⁵⁾ The permissible shear load determined acc. ETAG 020, Annex C considers exclusively steel failure of the screw. For SXR 8 it amounts $V_{perm} = 4,2$ kN for galvanised screws and $V_{perm} = 3,4$ kN for screws made of stainless steel. For SXR 10 it amounts $V_{perm} = 6,0$ kN. 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.

LOADS

Frame fixing SXR

Highest recommended loads ¹⁾ for a single anchor.

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

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

¹⁾ Required safety factors are considered.

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