

## The powerful problem solver with long expansion sleeve



### VERSIONS

- Zinc-plated steel
- Stainless steel

### BUILDING MATERIALS

#### Approved for:

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

#### Also suitable for:

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

### APPROVALS



### ADVANTAGES

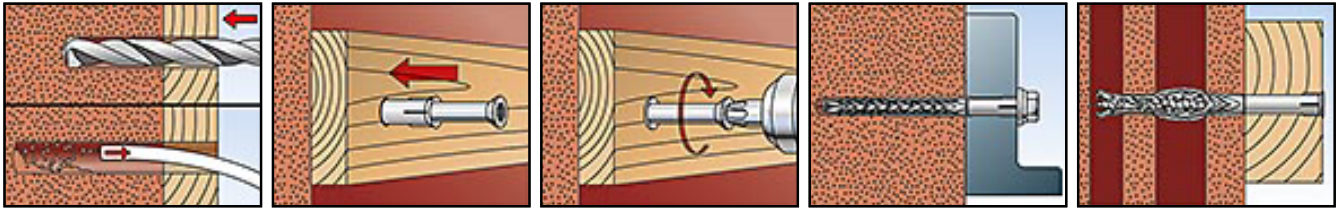
- Through the special geometry of the plug, the retention forces are evenly distributed in the drill hole.
- When the plug is to be set below the plaster, the longer ribs prevent plug rotation during installation.
- The variable anchorage depths of 70 or 90 mm offer special advantages and high loads when anchoring in aerated concrete.
- When anchoring in hollow and solid construction materials, the two expansion zones lead to optimum retention values.
- SXRL 14 is approved for the application under compression load and is thus for example useable for facade substructures that are mounted at a distance without wall brackets.
- The SXRL with effective lengths up to 290 mm provides the right plug for every application.

### APPLICATIONS

- Façade, ceiling and roof substructures made of wood and metal
- TV consoles
- Kitchen hanging cabinets
- Wardrobes
- Squared timbers
- Windows
- Gates and doors
- Facade substructures under compression load (e.g. made of aluminium without wall brackets)

### FUNCTIONING

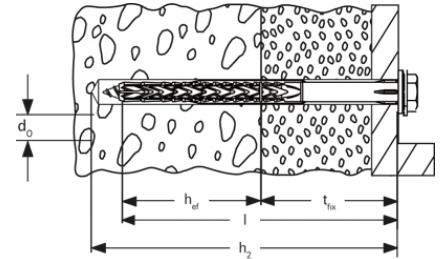
- In perforated brick masonry, the two expansion zones ensure that the introduction of force is gentle on the substrate. The porous block fillets are not crushed by the second expansion zone and therefore serve to transmit the force.
- In aircrete and solid building material, the two expansion zones combine to form one long expansion element, thus providing for a uniform and flat distribution of the load into substrate.



## TECHNICAL DATA



Frame fixing SXRL-FUS



galvanized

Article name	Art.-No.	DIBt-approval	ETA-approval	Drill diameter $d_0$ [mm]	Anchor length $l$ [mm]	Min. drill hole depth for through fixings $h_2$ [mm]	Usable length at anchorage depth 70mm $t_{fix}$ [mm]	Usable length at anchorage depth 90mm $t_{fix}$ [mm]
<b>SXRL 10 x 80 FUS</b>	<b>522719</b>		■	10	80	90	10	
<b>SXRL 10 x 100 FUS</b>	<b>522720</b>		■	10	100	110	30	10

## LOADS

Type	compressive brick strength $f_b$ [N/mm <sup>2</sup> ]	brick type, naming acc. DIN [-] [-]	min. anchorage depth $h_{nom}$ [mm]	min. member thickness $h_{min}$ [mm]	Solid brick masonry and perforated brick masonry		
					permissible load $F_{perm}^{3)5)}$ [kN]	min. spacing $s_{min}^{2)}$ [mm]	min. edge distance $c_{min}^{2)}$ [mm]
<b>Solid brick Mz</b>							
SXRL 10	≥ 20	Mz	70	110	1,14	100	100
SXRL 10	≥ 28	Mz	70	110	1,57	100	100
<b>Solid sand-lime brick and solid block KS</b>							
SXRL 10	≥ 12	KS	70	110	1,86	100	100
<b>Vertically perforated brick HLz</b>							
SXRL 10	≥ 20	HLz	70	110	0,34	100	100
<b>Perforated sand-lime brick KSL</b>							
SXRL 10	≥ 20	KSL	70	110	1,00	100	100
<b>Hollow block of lightweight aggregate concrete Hbl</b>							
SXRL10	≥ 6	Hbl	70	110	0,43	100	100
SXRL10	≥ 10	Hbl	70	110	0,71	100	100
<b>Solid brick and solid block of lightweight aggregate concrete V</b>							
SXRL 10	≥ 2	V	70	110	0,34	100	100
<b>Aerated concrete blocks AAC</b>							
SXRL 10	≥ 2	AAC	90	175	0,32	100	100
SXRL 10	≥ 6	AAC	90	175	1,43	120	120

## LOADS

### Frame fixing SXRL 10<sup>4)</sup>

Highest permissible loads<sup>1) 6)</sup> for a single anchor for multiple fixings of non-structural applications in normal concrete ≥ C12/15 resp. ≥ B15. For the design the complete assessment ETA-07/0121 has to be considered.

Type	Cracked or Non-cracked concrete					
	Min. anchorage depth $h_{nom}$ [mm]	Min. member thickness $h_{min}$ [mm]	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]
<b>SXRL 10</b>	70	100	2,6	2,6 <sup>5)</sup>	50	50

<sup>1)</sup> 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 spacing  $s \geq s_{cr,N}$  and an edge distance  $c \geq c_{cr,N}$  according table 8 of the assessment.

<sup>2)</sup> Minimum possible axial spacings (anchor group) resp. edge distance for concrete ≥ 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 assessment. Values for concrete C12/15 see assessment.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

<sup>4)</sup> 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 assessment have to be taken.

<sup>5)</sup> The permissible shear load determined acc. ETAG 020, Annex C considers exclusively steel failure of the screw. 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 assessment is recommended.

<sup>6)</sup> Valid for temperatures in the substrate up to +50 °C (resp. short term up to 80 °C).