

The versatile with multiple anchorage depth



Timber substructures



Wall consoles

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 \geq C12/15

Also suitable for:

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

CERTIFICATES



ADVANTAGES

- The long expansion element with multiple anchorage depths of 50, 70 or 90 mm for SXRL 8 and SXRL 10 and 70 or 90 mm for SXRL 14 makes the SXRL a versatile applicable product.
- Through the special geometry of the plug, the loads 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.
- 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.
- Complete range available with diameters of 8, 10 and 14 mm and usable lengths up to 290 mm.

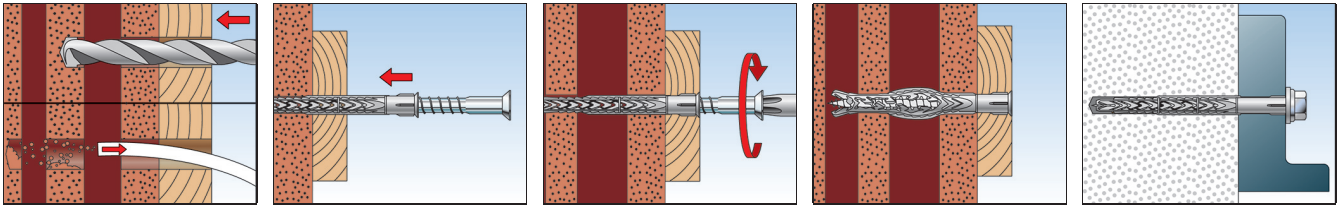
APPLICATIONS

- Façade, ceiling and roof substructures made of wood and metal
- Facade substructures under compression load (e.g. distance installation without a wall bracket)
- Windows
- Gates and doors
- Wardrobes
- Kitchen hanging cabinets
- Squared timbers
- Beams
- TV consoles
- Wall covering
- Metal brackets
- Metal supports
- Cable ducts
- Cable trays

FUNCTIONING

- In hollow building materials, 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.
- SXRL-T with countersunk head screw is recommended for the installation of timber constructions; in the case of metal constructions, use SXRL-FUS with a wide sleeve rim and a moulded washer on the screw, which also features an integrated hexagon socket.

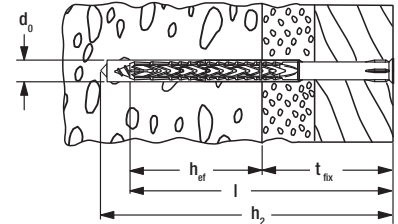
INSTALLATION



TECHNICAL DATA



SXRL-T - with fischer countersunk head safety screw



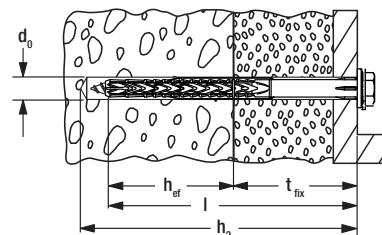
| Item | zinc-plated steel | stainless steel | Approval | | Drill diameter | Min. drill hole depth for through fixings | Usable length at anchorage depth 50mm | Usable length at anchorage depth 70mm | Usable length at anchorage depth 90mm | Anchor length | Drive | Sales unit |
|------------------------|-----------------------------|-----------------------------|----------|------|----------------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------|-------|------------|
| | Art.-No. | Art.-No. | ETA | DIBt | d_0 [mm] | h_2 [mm] | t_{fix} [mm] | t_{fix} [mm] | t_{fix} [mm] | l [mm] | | [pcs] |
| | gvz | A4 | | | | | | | | | | |
| SXRL 8 x 60 T | 540113 | 540119 | ■ | — | 8 | 70 | 10 | — | — | 60 | T30 | 50 |
| SXRL 8 x 80 T | 540114 | 540121 | ■ | — | 8 | 90 | 30 | 10 | — | 80 | T30 | 50 |
| SXRL 8 x 100 T | 540115 | 540123 | ■ | — | 8 | 110 | 50 | 30 | 10 | 100 | T30 | 50 |
| SXRL 8 x 120 T | 540116 | 540124 | ■ | — | 8 | 130 | 70 | 50 | 30 | 120 | T30 | 50 |
| SXRL 8 x 140 T | 540117 | 540125 | ■ | — | 8 | 150 | 90 | 70 | 50 | 140 | T30 | 50 |
| SXRL 8 x 160 T | 540118 | 540126 | ■ | — | 8 | 170 | 110 | 90 | 70 | 160 | T30 | 50 |
| SXRL 10 x 80 T | 522698 | 522709 | ■ | — | 10 | 90 | 30 | 10 | — | 80 | T40 | 50 |
| SXRL 10 x 100 T | 522699 | 522710 | ■ | — | 10 | 110 | 50 | 30 | 10 | 100 | T40 | 50 |
| SXRL 10 x 120 T | 522700 | 522711 | ■ | — | 10 | 130 | 70 | 50 | 30 | 120 | T40 | 50 |
| SXRL 10 x 140 T | 522701 | 522712 | ■ | — | 10 | 150 | 90 | 70 | 50 | 140 | T40 | 50 |
| SXRL 10 x 160 T | 522703 | 522713 | ■ | — | 10 | 170 | 110 | 90 | 70 | 160 | T40 | 50 |
| SXRL 10 x 180 T | 522704 | 522714 | ■ | — | 10 | 190 | 130 | 110 | 90 | 180 | T40 | 50 |
| SXRL 10 x 200 T | 522705 | 522715 | ■ | — | 10 | 210 | 150 | 130 | 110 | 200 | T40 | 50 |
| SXRL 10 x 230 T | 522706 | 522716 | ■ | — | 10 | 240 | 180 | 160 | 140 | 230 | T40 | 50 |
| SXRL 10 x 260 T | 522707 ¹⁾ | 522717 ¹⁾ | ■ | — | 10 | 270 | 210 | 190 | 170 | 260 | T40 | 50 |
| SXRL 10 x 290 T | 522708 ¹⁾ | 522718 ¹⁾ | ■ | — | 10 | 300 | 240 | 220 | 200 | 290 | T40 | 50 |
| SXRL 14 x 80 T | 530920 | 530932 | ■ | ● | 14 | 95 | — | 10 | — | 80 | T50 | 50 |
| SXRL 14 x 100 T | 530921 | 530933 | ■ | ● | 14 | 115 | — | 30 | 10 | 100 | T50 | 50 |
| SXRL 14 x 120 T | 530922 | 530934 | ■ | ● | 14 | 135 | — | 50 | 30 | 120 | T50 | 50 |
| SXRL 14 x 140 T | 530923 | 530935 | ■ | ● | 14 | 155 | — | 70 | 50 | 140 | T50 | 50 |
| SXRL 14 x 160 T | 530924 | 530936 | ■ | ● | 14 | 175 | — | 90 | 70 | 160 | T50 | 50 |
| SXRL 14 x 180 T | 530925 | 530937 | ■ | ● | 14 | 195 | — | 110 | 90 | 180 | T50 | 50 |
| SXRL 14 x 200 T | 530926 | 530938 | ■ | ● | 14 | 215 | — | 130 | 110 | 200 | T50 | 50 |
| SXRL 14 x 230 T | 530927 | 530939 | ■ | ● | 14 | 245 | — | 160 | 140 | 230 | T50 | 50 |
| SXRL 14 x 260 T | 530928 | 530940 | ■ | ● | 14 | 275 | — | 190 | 170 | 260 | T50 | 50 |
| SXRL 14 x 300 T | 530929 ¹⁾ | 530941 ¹⁾ | ■ | ● | 14 | 315 | — | 230 | 210 | 300 | T50 | 20 |
| SXRL 14 x 330 T | 530930 ¹⁾ | 530942 ¹⁾ | ■ | ● | 14 | 345 | — | 260 | 240 | 330 | T50 | 20 |
| SXRL 14 x 360 T | 530931 ¹⁾ | 530943 ¹⁾ | ■ | ● | 14 | 375 | — | 290 | 270 | 360 | T50 | 20 |

1) not pre-assembled

TECHNICAL DATA



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



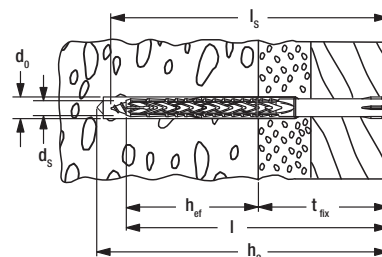
| Item | zinc-plated steel | stainless steel | Approval | | Drill diameter | Min. drill hole depth for through fixings | Usable length at anchorage depth 50mm | Usable length at anchorage depth 70mm | Usable length at anchorage depth 90mm | Anchor length | Drive | Sales unit |
|--------------------------|-------------------|------------------|----------|------|----------------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------|----------|------------|
| | Art.-No. | Art.-No. | ETA | DIBt | d_0 [mm] | h_2 [mm] | t_{fix} [mm] | t_{fix} [mm] | t_{fix} [mm] | l [mm] | | [pcs] |
| | gvs | A4 | | | | | | | | | | |
| SXRL 8 x 60 FUS | 540127 | 540135 | ■ | — | 8 | 70 | 10 | — | — | 60 | T30/SW10 | 50 |
| SXRL 8 x 80 FUS | 540129 | 540136 | ■ | — | 8 | 90 | 30 | 10 | — | 80 | T30/SW10 | 50 |
| SXRL 8 x 100 FUS | 540130 | 540137 | ■ | — | 8 | 110 | 50 | 30 | 10 | 100 | T30/SW10 | 50 |
| SXRL 8 x 120 FUS | 540131 | — | ■ | — | 8 | 130 | 70 | 50 | 30 | 120 | T30/SW10 | 50 |
| SXRL 8 x 140 FUS | 540133 | — | ■ | — | 8 | 150 | 90 | 70 | 50 | 140 | T30/SW10 | 50 |
| SXRL 8 x 160 FUS | 540134 | — | ■ | — | 8 | 170 | 110 | 90 | 70 | 160 | T30/SW10 | 50 |
| SXRL 10 x 80 FUS | 522719 | 522730 | ■ | — | 10 | 90 | 30 | 10 | — | 80 | T40/SW13 | 50 |
| SXRL 10 x 100 FUS | 522720 | 522731 | ■ | — | 10 | 110 | 50 | 30 | 10 | 100 | T40/SW13 | 50 |
| SXRL 10 x 120 FUS | 522721 | 522732 | ■ | — | 10 | 130 | 70 | 50 | 30 | 120 | T40/SW13 | 50 |
| SXRL 10 x 140 FUS | 522723 | 522733 | ■ | — | 10 | 150 | 90 | 70 | 50 | 140 | T40/SW13 | 50 |
| SXRL 10 x 160 FUS | 522724 | 522734 | ■ | — | 10 | 170 | 110 | 90 | 70 | 160 | T40/SW13 | 50 |
| SXRL 10 x 180 FUS | 522725 | 522735 | ■ | — | 10 | 190 | 130 | 110 | 90 | 180 | T40/SW13 | 50 |
| SXRL 10 x 200 FUS | 522726 | 522736 | ■ | — | 10 | 210 | 150 | 130 | 110 | 200 | T40/SW13 | 50 |
| SXRL 10 x 230 FUS | 522727 | 522737 | ■ | — | 10 | 240 | 180 | 160 | 140 | 230 | T40/SW13 | 50 |
| SXRL 10 x 260 FUS | 522728 1) | 522738 1) | ■ | — | 10 | 270 | 210 | 190 | 170 | 260 | T40/SW13 | 50 |
| SXRL 10 x 290 FUS | 522729 1) | 522739 1) | ■ | — | 10 | 300 | 240 | 220 | 200 | 290 | T40/SW13 | 50 |
| SXRL 14 x 80 FUS | 530946 | 530955 | ■ | ● | 14 | 95 | — | 10 | — | 80 | T50/SW17 | 50 |
| SXRL 14 x 100 FUS | 530947 | 530956 | ■ | ● | 14 | 115 | — | 30 | 10 | 100 | T50/SW17 | 50 |
| SXRL 14 x 120 FUS | 530948 | 530957 | ■ | ● | 14 | 135 | — | 50 | 30 | 120 | T50/SW17 | 50 |
| SXRL 14 x 140 FUS | 530949 | 530958 | ■ | ● | 14 | 155 | — | 70 | 50 | 140 | T50/SW17 | 50 |
| SXRL 14 x 160 FUS | 530950 | 530959 | ■ | ● | 14 | 175 | — | 90 | 70 | 160 | T50/SW17 | 50 |
| SXRL 14 x 180 FUS | 530951 | 530960 | ■ | ● | 14 | 195 | — | 110 | 90 | 180 | T50/SW17 | 50 |
| SXRL 14 x 200 FUS | 530952 | 530961 | ■ | ● | 14 | 215 | — | 130 | 110 | 200 | T50/SW17 | 50 |
| SXRL 14 x 230 FUS | 530953 | 530962 | ■ | ● | 14 | 245 | — | 160 | 140 | 230 | T50/SW17 | 50 |
| SXRL 14 x 260 FUS | 530954 | 530963 | ■ | ● | 14 | 275 | — | 190 | 170 | 260 | T50/SW17 | 50 |

1) not pre-assembled

ACCESSORIES



SXRL - without screw



| Item | Art.-No. | Drill diameter | Min. drill hole depth for through fixings | Usable length at anchorage depth 50mm | Usable length at anchorage depth 70mm | Usable length at anchorage depth 90mm | Anchor length | Screw diameter | Min. screw length | Sales unit |
|---------------------|---------------|----------------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------|----------------|-------------------|------------|
| | | d_0 [mm] | h_2 [mm] | t_{fix} [mm] | t_{fix} [mm] | t_{fix} [mm] | l [mm] | d_s [mm] | l_s [mm] | [pcs] |
| SXRL 8 x 60 | 540879 | 8 | 70 | 10 | — | — | 60 | 5,5 - 6,0 | 65 | 100 |
| SXRL 8 x 80 | 540880 | 8 | 90 | 30 | 10 | — | 80 | 5,5 - 6,0 | 85 | 100 |
| SXRL 8 x 100 | 540881 | 8 | 110 | 50 | 30 | 10 | 100 | 5,5 - 6,0 | 105 | 100 |
| SXRL 8 x 120 | 540882 | 8 | 130 | 70 | 50 | 30 | 120 | 5,5 - 6,0 | 125 | 100 |

ACCESSORIES



Cover cap **ADT**

| Item | Art.-No. | Colour | Cap [Ø mm] | Match | Sales unit [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**

| Item | Art.-No. | External-Ø d [mm] | Hole-Ø D [mm] | Thickness S [mm] | Matching anchor type | Sales unit [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 |

LOADS

Frame fixing SXRL³⁾

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 | SXRL 8 | | | | |
|--|--|------|------|------|------|
| Anchorage depth | h_{nom} | [mm] | 50 | 70 | 90 |
| Screw diameter | Ø | [mm] | 6,0 | 6,0 | 6,0 |
| Min. edge distance concrete | a_r | [mm] | 60 | 80 | 100 |
| Recommended loads in the respective base material F_{rec}²⁾ | | | | | |
| Concrete | ≥ C20/25 | [kN] | 0,60 | 1,00 | 1,00 |
| Solid brick | ≥ Mz 12 | [kN] | 0,45 | 0,60 | 0,60 |
| Solid sand-lime brick | ≥ KS 12 | [kN] | 0,40 | 0,50 | 0,50 |
| Vertically perforated brick | ≥ Hlz 12 ($\rho \geq 1,0 \text{ kg/dm}^3$) | [kN] | 0,15 | 0,15 | 0,15 |
| Perforated sand-lime brick | ≥ KSL 12 | [kN] | 0,10 | 0,40 | 0,40 |
| Aerated concrete | AAC 2 | [kN] | - | 0,10 | 0,10 |
| Aerated concrete | AAC 4 | [kN] | - | 0,15 | 0,20 |

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.

LOADS

Frame fixing SXRL⁴⁾

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-07/0121 has to be considered.

| Product | | SXRL | | | | | | | | |
|---|--|------|-------------------------------------|------|------|------|--------------------------------------|-------|--------------------------------------|--------------------------------------|
| Anchor diameter | [mm] | Ø 8 | | | Ø 10 | | | Ø 14 | | |
| Anchorage depth | h_{nom} [mm] | 50 | 70 | 90 | 50 | 70 | 90 | 70 | 90 | |
| Anchorage in concrete \geq C12/15 | | | | | | | | | | |
| Permissible tensile load | [kN] | 1,59 | 1,98 | | 1,98 | 2,58 | | 3,37 | | |
| Permissible shear load | Zinc-plated steel | 4,23 | | | 5,98 | | | 12,40 | | |
| | Stainless steel A4 | 3,93 | | | 5,98 | | | 11,63 | | |
| Minimum member thickness | h_{min} [mm] | 80 | 100 | 120 | 100 | | 120 | 110 | 130 | |
| Characteristic edge distance | $c_{cr,N}$ [mm] | 85 | | | 140 | | | 140 | | |
| Characteristic spacing | a resp. $s_{cr,N}$ [mm] | 90 | 105 | | 120 | | | 135 | | |
| Minimum spacing with an edge distance | s_{min} [mm] | 85 | | | 70 | | | 85 | | |
| | $c \geq$ [mm] | 85 | | | 140 | | | 140 | | |
| Minimum edge distance with a spacing | c_{min} [mm] | 85 | | | 70 | | | 85 | | |
| | $s \geq$ [mm] | 85 | | | 175 | | | 175 | | |
| 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] | - | | | 0,99 | - | | - | | |
| Permissible shear load | [kN] | - | | | 5,98 | - | | - | | |
| Anchorage in pre-stressed hollow-core concrete slabs (mirror thickness $d_b \geq 30$ mm) made of concrete \geq C45/55 | | | | | | | | | | |
| Permissible tensile load | [kN] | - | | | 1,39 | - | | - | | |
| Permissible shear load | [kN] | - | | | 5,98 | - | | - | | |
| Anchorage in masonry | | | | | | | | | | |
| Permissible load ³⁾ in solid brick | \geq Mz 12 a. \geq NF | [kN] | 0,57 | 0,71 | 0,57 | 1,14 | - | 0,86 | | |
| | \geq Mz 20 a. \geq NF | [kN] | 0,86 | 1,14 | 1,00 | 1,14 | - | 1,14 | | |
| Permissible load ³⁾ in solid sand-lime brick | \geq KS 10 a. \geq NF | [kN] | 0,57 | | 0,57 | 0,71 | - | 0,86 | | |
| | \geq KS 20 a. \geq NF | [kN] | 0,71 | 0,86 | 1,00 | | - | 1,29 | | |
| Permissible load ³⁾ in lightweight concrete block | \geq V 2; $\rho \geq 1,2$ kg/dm ³ | [kN] | 0,11 | 0,26 | 0,11 | | - | 0,26 | | |
| | \geq V 6; $\rho \geq 1,6$ kg/dm ³ | [kN] | 0,34 | 0,57 | 0,57 | 1,29 | - | 0,57 | | |
| Permissible load ³⁾⁵⁾ in vertically perforated brick (e.g. Poroton) | \geq HLz 10; $\rho \geq 1,0$ kg/dm ³ | [kN] | 0,17 | | - | 0,21 | - | 0,57 | 0,71 | |
| Permissible load ³⁾ in perforated sand-lime brick | \geq KSL 6 | [kN] | - | | | - | 0,21 | - | 0,26 | 0,34 |
| | \geq KSL 12 | [kN] | 0,34 | 0,43 | - | 0,71 | - | 0,43 | 0,71 | |
| Permissible load in ³⁾⁵⁾ hollow lightweight concrete blocks | \geq HBL 2 | [kN] | 0,43 | 0,57 | 0,43 | 0,57 | 0,71 | - | 0,34 | 0,21 |
| | \geq HBL 6 | [kN] | 0,43 | 0,71 | 0,43 | 0,71 | 0,43 | - | 0,57 | - |
| Permissible load ³⁾⁵⁾ in ceilings made of vertically perforated bricks | $f_b \geq 10$ N/mm ² ; $\rho \geq 0,7$ kg/dm ³ | [kN] | - | | | - | 0,57 | - | - | |
| Minimum member thickness | h_{min} [mm] | 115 | | | 110 | | | 115 | | |
| Minimum spacing (single anchor) | a_{min} [mm] | 250 | | | 250 | | | 250 | | |
| Minimum spacing (anchor group) | s_{min} [mm] | 100 | | | 100 | | | 100 | | |
| Minimum edge distance (anchor group) | c_{min} [mm] | 100 | | | 100 | | | 100 | | |
| Anchorage in aerated concrete | | | | | | | | | | |
| Permissible load ³⁾ in aerated concrete | 2 N/mm ² | [kN] | - | 0,14 | 0,21 | - | 0,18 | 0,21 | 0,32 | 0,43 |
| | 4 N/mm ² | [kN] | - | 0,32 | 0,43 | - | 0,43 | 0,54 | 0,89 | 1,07 |
| | 6 N/mm ² | [kN] | - | 0,54 | 0,71 | - | 0,71 | 0,89 | 1,43 | 1,79 |
| Minimum member thickness | h_{min} [mm] | - | 175 | | | - | 100 | 120 | 175 ⁶⁾ /300 ⁷⁾ | |
| Minimum spacing (single anchor) | a_{min} [mm] | - | 250 | | | - | 250 | | 250 | |
| Minimum spacing (anchor group) | s_{min} [mm] | - | 80 ⁶⁾ /110 ⁸⁾ | | | - | 100 ⁶⁾ /120 ⁸⁾ | | 80 | 100 ⁶⁾ /125 ⁷⁾ |
| Minimum edge distance (anchor group) | c_{min} [mm] | - | 90 ⁶⁾ /110 ⁸⁾ | | | - | 120 | | 120 | 120 ⁶⁾ /150 ⁷⁾ |

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 a 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⁾ Only valid for AAC with compression strength ≥ 2 to < 4 N/mm².

⁷⁾ Only valid for AAC with compression strength ≥ 4 N/mm².

⁸⁾ Only valid for AAC with compression strength ≥ 6 N/mm².