fischer fixing compass

Solid and hollow brick masonry.
Our fixing specialists for solid and hollow brick masonry.

Injection system FIS V
The strongest and most flexible solution in masonry.

- **fischer injection mortar FIS V** – securely bonds the anchor part in solid and perforated brick masonry and allows for the highest loads
  - Highest loads due to bonding technology in solid and hollow brick
  - The anchor rod FIS A can be anchored in solid brick at a depth of 50 – 100 mm according to the approval. Larger anchorage depths are possible at all times
  - In hollow brick, the anchor sleeve provides the necessary distribution of the mortar and ensures an economical use of the mortar
  - The push-through anchor sleeve allows for push-through installation for bulky fixture parts and for multiple fixing points; this considerably reduces installation effort and saves time
  - Non-bearing plaster layers can be easily bridged
  - Full load-bearing capacity after mortar curing time – **HIGH SPEED** mortar after just 30 minutes

### Maximum load-bearing capacity
- **Solid brick Mz**: 2.29 kN (229 kg)
- **Hollow brick KSL**: 1.71 kN (171 kg)

### Type
- **Metric anchor rod FIS A** for indoor and outdoor use
- **Metric indoor thread anchor FIS E** for indoor use with metric screws and anchor rods

### Accessories for perforated brick masonry
- **Anchor sleeve FIS H K** for anchorage in hollow masonry
- **Push-through anchor sleeve FIS H K** for the anchorage of attachments with several fixing points using push-through installation

### Type of installation
- Push-through installation
- Pre-positioned installation
- Stand-off installation
**Frame fixing SXR**
The all-rounder for solid and hollow brick masonry.

**fischer frame fixing SXR** – the short expansion element allows for high loads with a low anchorage depth
- High loads due to the knotting/expanding of the anchor in the building material
  - In solid brick, the safety screw expands the expansion part against the drill hole wall
  - In hollow brick, the SXR knots behind the solid part of the bricks, thus ensuring a secure load application
- Pre-assembled set comprising fixing sleeve and safety screw
- Quick and easy push-through installation
- Approved for the anchorage of multiple fixings, e.g. façade sub-structures.
- Over 40 different solid and hollow bricks are regulated in the approval
- Load bearing capacity immediately after installation

**Versions**
- Frame fixing SXR-T for timber constructions
- Frame fixing SXR-FUS for metal constructions

<table>
<thead>
<tr>
<th>Type of installation</th>
<th>Maximum load-bearing capacity in solid brick Mz: 0.57 kN (57 kg)</th>
<th>Maximum load-bearing capacity in hollow brick KSL: 0.57 kN (57 kg)</th>
</tr>
</thead>
</table>

**Frame fixing SXRL**
The problem-solver with a long expansion part for hollow bricks.

**fischer frame fixing SXRL** – two expansion zones allow for an ideal load distribution and thus a high load-bearing capacity
- High load due to long, powerful expansion part
  - In solid brick, the two expansion zones combine to create a long expansion element
  - In hollow brick, the two expansion zones ensure a force transition that protects the building material
- With usage lengths up to 290 mm – for a wide range of applications
- Pre-assembled set comprising fixing sleeve and safety screw
- Quick and easy push-through installation
- Approved for the anchorage of multiple fixings, e.g. façade sub-structures
- Load bearing capacity immediately after installation

**Versions**
- Frame fixing SXRL-T for timber constructions
- Frame fixing SXRL-FUS for metal constructions

<table>
<thead>
<tr>
<th>Type of installation</th>
<th>Maximum load-bearing capacity in solid brick Mz: 1.57 kN (157 kg)</th>
<th>Maximum load-bearing capacity in hollow brick KSL: 0.71 kN (71 kg)</th>
</tr>
</thead>
</table>

**Frame fixing SXR-T**
for timber constructions

**Frame fixing SXR-FUS**
for metal constructions

**Frame fixing SXRL-T**
for timber constructions

**Frame fixing SXRL-FUS**
for metal constructions
Frame fixing FUR
The adaptable lamella plug for solid and hollow masonry.

**fischer frame fixing FUR – the powerful specialist with lamella technology**
- High loads in solid and hollow brick masonry due to the lamella teeth
- Gentle force transmission due to the adaptation of the asymmetric lamella teeth in the building material
- Pre-assembled set comprising fixing sleeve and safety screw
- A very user-friendly anchor – quick and easy push-through installation
- Approved for the anchorage of multiple fixings, e.g. façade sub-structures
- Load-bearing capacity immediately after installation

**Versions**
- Frame fixing FUR-T for timber constructions
- Frame fixing FUR-FUS for metal constructions
- Frame fixing FUR-SS for metal constructions

**Type of installation**

**Maximum load-bearing capacity in hollow brick KSL:**
- 0.57 kN (57 kg)

**Frame fixing SXS
The specialist for solid brick.**

**fischer frame fixing SXS – the powerful specialist with 4-way expansion**
- High loads due to CO-NA screw (conical expansion) and expansion in four directions in solid brick
- The largest possible screw diameter of the CO-NA screw provides a high bending moment for challenging fixings
- Pre-assembled set comprising fixing sleeve and CO-NA safety screw
- Quick and easy push-through installation
- Approved for the anchorage of multiple fixings, e.g. façade sub-structures
- Can be loaded immediately after installation

**Versions**
- Frame fixing SXS-T for timber constructions
- Frame fixing SXS-FUS for metal constructions

**Type of installation**

**Maximum load-bearing capacity in solid brick Mz:**
- 0.43 kN (43 kg)

**Maximum load-bearing capacity in hollow brick:**
- 0.86 kN (86 kg)
Universal fixing UX
The universal solution in masonry for light loads.

- Good load-bearing capacity due to the universal expansion part
  - In solid brick, the anchor expands against the drill hole wall
  - In hollow brick, the UX knots behind the first solid part of brick
- Quick and easy pre-positioned and push-through installation
- Load-bearing capacity immediately after installation

**Maximum load-bearing capacity**
- In solid brick Mz: 0.50 kN (50 kg)
- In hollow brick KSL: 0.60 kN (60 kg)

Expansion plug SX
The strong solution for medium loads in solid and hollow brick.

- Very good load-bearing capacity due to expansion in four directions, especially in solid brick
- Quick and easy pre-positioned and push-through installation
- Load-bearing capacity immediately after installation

**Maximum load-bearing capacity**
- In solid brick Mz: 0.65 kN (65 kg)
- In hollow brick KSL: 0.30 kN (30 kg)
<table>
<thead>
<tr>
<th>Designation</th>
<th>fischer injection technology FIS V</th>
<th>fischer long-shaft fixings</th>
<th>fischer universal fixing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SXR 10</td>
<td>SXRL 10/14</td>
<td>FUR 10</td>
</tr>
<tr>
<td>Illustration</td>
<td><img src="image1.png" alt="Illustration" /></td>
<td><img src="image2.png" alt="Illustration" /></td>
<td><img src="image3.png" alt="Illustration" /></td>
</tr>
<tr>
<td>Possible max. load with ø 10 in brick Mz</td>
<td>2.29 kN (229 kg)</td>
<td>0.57 kN (57 kg)</td>
<td>1.57 kN (157 kg)</td>
</tr>
<tr>
<td>Possible max. load with ø 10 in perforated sand-lime brick KSL</td>
<td>1.71 kN (171 kg)</td>
<td>0.57 kN (57 kg)</td>
<td>0.71 kN (71 kg)</td>
</tr>
<tr>
<td>Approval</td>
<td>Single point fixing</td>
<td>Multiple fixing</td>
<td>Multiple fixing</td>
</tr>
<tr>
<td>Functionality</td>
<td>Bonded</td>
<td>Expansion / knotting</td>
<td>Expansion</td>
</tr>
<tr>
<td>Application outdoors</td>
<td>Yes, with anchor rod A4</td>
<td>Yes, with safety screw A4</td>
<td>Yes, with safety screw A4</td>
</tr>
<tr>
<td>Pre-positioned installation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Push-through installation in hollow brick</td>
<td>Yes, with push-through anchor sleeve</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Push-through installation in solid brick</td>
<td>Yes, with annular gap filling</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Stand-off installation</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Type of connection</td>
<td>External and internal thread</td>
<td>Safety screw</td>
<td>Safety screw</td>
</tr>
<tr>
<td>Usage length (conditional)</td>
<td>Anchor rod length</td>
<td>up to 210 mm</td>
<td>up to 220 mm / up to 260 mm</td>
</tr>
<tr>
<td>Anchorage depth in hollow brick</td>
<td>50 mm to 200 mm, depending on perforated sleeve</td>
<td>50 mm</td>
<td>70 mm and 90 mm</td>
</tr>
<tr>
<td>Anchorage depth in solid brick</td>
<td>50 mm to 100 mm</td>
<td>50 mm</td>
<td>70 mm and 90 mm</td>
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<tr>
<td>Please note:</td>
<td>Loading capacity</td>
<td>Note curing time</td>
<td>Instantly load-bearing</td>
</tr>
<tr>
<td>Installation</td>
<td>Sophisticated installation, accessories required</td>
<td>Simple and quick installation</td>
<td>Simple and quick installation</td>
</tr>
<tr>
<td>Installation through tiles</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Removal</td>
<td>Surface flush removal with internal thread anchor</td>
<td>Surface flush removal</td>
<td>Surface flush removal</td>
</tr>
<tr>
<td>Application examples</td>
<td>- Canopies</td>
<td>- Awnings</td>
<td>- Railings</td>
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</tbody>
</table>
highest recommended loads of an individual anchor in kN.

**Fischer injection technique**

### Injection system FIS V with anchor rod FIS A
ETA-10/0383, valid for temperature range -40°C to +80°C and dry masonry (d/d) 1, 3

<table>
<thead>
<tr>
<th>Designation</th>
<th>Permissible tension load Nperm and Permissible shear load Vperm</th>
<th>Vertically perforated brick HLz</th>
<th>Hollow sand-lime brick KSL</th>
<th>Solid brick Mz</th>
<th>Solid sand-lime brick KS</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6</td>
<td></td>
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<tr>
<td>M8</td>
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<tr>
<td>M10</td>
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<tr>
<td>M12</td>
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<tr>
<td>M16</td>
<td></td>
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</tbody>
</table>

**Fischer frame fixing and general fixing**

### Designation

<table>
<thead>
<tr>
<th>Anchorage depth h_e</th>
<th>Vertically perforated brick HLz</th>
<th>Hollow sand-lime brick KSL</th>
<th>Solid brick Mz</th>
<th>Solid sand-lime brick KS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame fixing</td>
<td></td>
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<tr>
<td>Frame fixing SXR 10 (ETA-07/0121)</td>
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<td>Frame fixing SXRL 10 (ETA-07/0121)</td>
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<td>Frame fixing SXRL 14 (ETA-14/0297)</td>
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<tr>
<td>Frame fixing FUR 10 (ETA-13/0235)</td>
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</tbody>
</table>

**Fischer universal fixing UX (without approval), Recommended loads for a single anchor**

| sx 6x50 | 60 | 0.20 | 0.40  | 0.30  | -            |
|---------------------|---------------------|---------------------|---------------------|---------------------|
| SX 8x50  | 60 | 0.20 | 0.50  | 0.30  | -            |
| SX 10x60 | 60 | 0.20 | 0.80  | 0.50  | -            |

**Universal fixing SX (without approval), Recommended loads for a single anchor**

| sx 6x50 | 50 | 0.07 | 0.30  | 0.30  | 0.30  |
|---------------------|---------------------|---------------------|---------------------|---------------------|
| SX 8x40  | 50 | 0.17 | 0.35  | 0.30  | 0.30  |
| SX 10x50 | 50 | 0.30 | 0.50  | 0.30  | 0.30  | 1.30  |

When dimensioning, observe the approval in its entirety. Permissible edge distances and spacing and the minimum member thickness hmin should be taken from the relevant approval.

- The required material safety factors and safety value of $\gamma_F = 1.4$ are considered
- Contains safety factor $\gamma_F = 1.4$.
- Applies to tension load, shear load and diagonal pull under each angle.
- When using perforated sleeve FIS H 12x65 K
- When using perforated sleeve FIS H 14x85 K
- When using perforated sleeve FIS H 16x85 K
- When using perforated sleeve FIS H 18x85 K
- When using perforated sleeve FIS H 10x100 K
- When using perforated sleeve FIS H 20x85 K
- Anchorage depth h_e = 50 mm
- Anchorage depth h_e = 100 mm
- Load values apply when using with wood screws: 6 mm anchor with screw diameter 5 mm
- 8 mm anchor with screw diameter 6 mm
- 10 mm anchor with screw diameter 8 mm
What is solid and hollow brick masonry?

Masonry shows a very large variety in contrast to a concrete base material. The spectrum of different bricks that are joined together using various mortars or adhesives into a single masonry compound is very large.

**Perforated hollow** blocks with a dense structure like vertically perforated brick (HLz) or hollow sand-lime brick (KSL) are often made from the same compressive strength materials as solid bricks. However, they feature cavities. If higher loads are introduced into these building materials, special fixings should be used (e.g. injection technique or frame fixings), like those which bridge or fill out the cavities.

**Solid blocks** with a dense structure like masonry bricks (bricks or clinker bricks) or solid sand-lime bricks are building materials that are very resistant to compressive loads without cavities or with only a low percentage of hole surfaces (up to max. 15 %, e.g. as grip-hole). They are very well suited for anchoring fixings.

Our all-round service for you.

We are a reliable partner, one that will stand by your side and address your individual requirements with advice and action:

- Our products range from chemical systems and steel anchors to plastic anchors.
- Competence and innovation through own research and development.
- Global presence and active sales service in more than 100 countries.
- Qualified application-specific advice for economic installation solutions that are compliant with directives. If need be we are there for you – even at the construction site.
- Training measures (some with certification) at your premises or at the fischer ACADEMY.
- Construction and design software for challenging fixings.