# Injection push-through anchor sleeve FIS H K

The expansion-free anchoring for the professional user.

## OVERVIEW

Injection-push-through anchor sleeve **FIS HK**

FIS Set 18 x 130/200 M12/200


**Approved for:**
Building supervision approval (DIBt) with fischer injection mortar FIS V, FIS VS and FIS VW in combination with the push-through anchor sleeve FIS HK and the threaded rod FIS A for solid, perforated and cavity brick approved by the building supervision authorities.

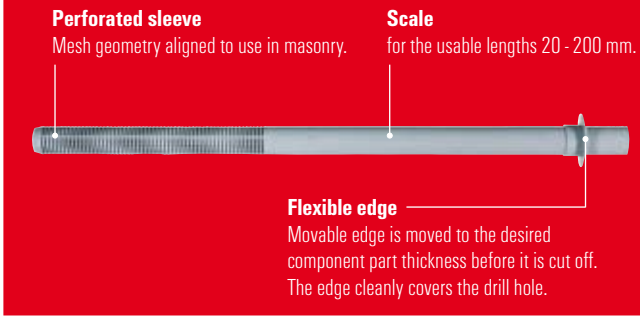


**For fixing of:**
- Timber sub-structures
- Metal profiles
- Building elements

## DESCRIPTION

- Perforated sleeves for push-through installation – A genuine problem solver for bulky attachment parts with several fixing points, i.e. the attachment part no longer needs to be removed from the wall or similar for installation.
- Approved for masonry in connection with injection mortar FIS V, FIS VS and FIS VW.
- Variable useable lengths of 20 mm to 200 mm, i.e. simple adjustment to the application by cutting off the push-through anchor sleeve FIS H K.
- Approved for FIS A threaded rods M 10, M12 and M16. Also available as a set, complete with anchor rod optionally galvanised or in A4 stainless steel. The anchor rod FIS A can also be shortened to the desired length.

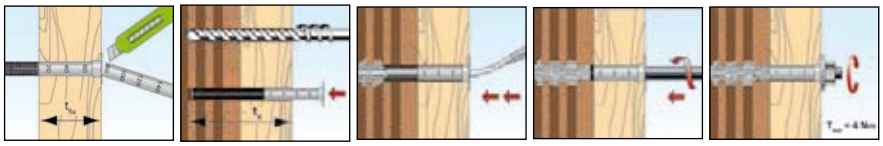
## FIS H K - ADVANTAGES AT A GLANCE




## INSTALLATION

### Type of installation

- Push-through installation



## TECHNICAL DATA

Injection-push-through anchor sleeve
**FIS HK**

FIS Set 18 x 130/200 M12/200

| Type | | Art.-No. | approval | drill-Ø | max. drill hole depth | effect. anchoring depth | max. usable length | fits | max. fill quantity per 360 ml cartridge | Qty. per box |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ● DIBt | $d_0$ | 3) | $h_{ef}$ | $t_{fix}$ | | | |
| | | | | [mm] | [mm] | [mm] | [mm] | | [scale units] | pcs. |
| FIS H 18 x 130/200 K | | **045707** | ● | 18 | 340 | 130 | 200 | M10 - M12 | 35 | 10 |
| FIS H 22 x 130/200 K | | **045708** | ● | 22 | 340 | 130 | 200 | M 16 | 45 | 10 |
| FIS Set 18 x 130/200 M12/200 A4 | 1) | **047452** | ● | 18 | 340 | 130 | 200 | M12 A4 set | 35 | 5 |
| FIS Set 18 x 130/200 M12/200 | 2) | **047443** | ● | 18 | 340 | 130 | 200 | M12 set | 35 | 5 |
| FIS Set 22 x 130/200 M16/200 A4 | 1) | **047454** | ● | 22 | 340 | 130 | 200 | M16 A4 set | 45 | 5 |
| FIS Set 22 x 130/200 M16/200 | 2) | **047453** | ● | 22 | 340 | 130 | 200 | M16 set | 45 | 5 |

1) With threaded rod A4 stainless.
2) With zinc-plated threaded rod.
3) By lengthening the perforated sleeve or threaded rod, the drill hole length and fill quantity are reduced accordingly.

## LOADS

**Permissible loads $F_{perm}$** of a single anchor istalled with FIS V, FIS VS or FIS VW in masonry and porous light-weight concrete (TGL) for tension, shear and combined tension and shear.

| **Anchor type** | | | **Threaded rod FIS A** | | |
|---|---|---|---|---|---|
| **Application with anchor sleeve** | | | **M 10** | **M 12** | **M 16** |
| **Push-through anchor sleeve type FIS H ... K** | | | **18 x 130/200** | **18 x 130/200** | **22 x 130/200** |
| Solid brick | ≧ Mz 12 | [kN] | 1.7 | 1.7 | 1.7 |
| Solid sand-lime brick | ≧ KS 12 | [kN] | 1.7 | 1.7 | 1.7 |
| Vertical perforated brick | ≧ HLz 4 | [kN] | 0.3 / 0.6[2] | 0.3 / 0.6[2] | 0.3 / 0.6[2] |
| | ≧ HLz 6 | [kN] | 0.4 / 0.8[2] | 0.4 / 0.8[2] | 0.4 / 0.8[2] |
| | ≧ HLz 12 | [kN] | 0.8 / 1.0[2] / 1.6[3] | 0.8 / 1.0[2] / 1.8[3] | 0.8 / 1.0[2] / 1.8[3] |
| Perforated sand-lime brick | ≧ KSL 4 | [kN] | 0.4 / 0.6[2] | 0.4 / 0.6[2] | 0.4 / 0.6[2] |
| | ≧ KSL 6 | [kN] | 0.6 / 0.8[2] | 0.6 / 0.8[2] | 0.6 / 0.8[2] |
| | ≧ KSL 12 | [kN] | 0.8 / 1.4[2] | 0.8 / 1.4[2] | 0.8 / 1.4[2] |
| Hollow block made of light-weight concrete | ≧ Hbl 2 | [kN] | 0.3 / 0.5[2] | 0.3 / 0.5[2] | 0.3 / 0.5[2] |
| | ≧ Hbl 4 | [kN] | 0.6 / 0.8[2] | 0.6 / 0.8[2] | 0.6 / 0.8[2] |
| Hollow block made of normal-weight concrete | ≧ Hbn 4 | [kN] | 0.6 / 0.8[2] | 0.6 / 0.8[2] | 0.6 / 0.8[2] |
| Porous light-weight concrete | TGL | [kN] | 1.3 | 2.0 | 2.0 |
| Aerated light-weight concrete | | | see load table FIS V, FIS VS and FIS VW in aerated light-weight concrete | | |
| Nominal drill diameter | Ø $d_0$ | [mm] | 18 | 18 | 22 |
| Drill hole depth | min $h_0$ | [mm] | 135 | 135 | 135 |
| Embedment depth of the anchor sleeve | $h_s$ | [mm] | 130 | 130 | 130 |
| Anchorage depth | $h_{ef}$ | [mm] | 130[6] | 130[6] | 130[6] |
| Minimum structural component thickness | d | [mm] | 150 (for pouros light-weight concrete TGL: 175) | | |
| Required mortar volume FIS V, FIS VS or FIS VW | | [scale units] | 15 - 35[5] | 15 - 35[5] | 25 - 45[5] |
| **Permissible bending moment $M_{perm}$** | | | | | |
| $M_{perm}$ for zinc-plated steel 5.8 | gvz | | 21.4 | 37.4 | 94.9 |
| $M_{perm}$ for stainless steel | A4 | | 24.1 | 42.1 | 104.2 |
| **Installation details, spacings and edge distances** | | | | | |
| Spacing (Group of anchors)[4] | ≧ a | [mm] | 100 (for Hbl and Hbn: 200) (for porous light-weight concrete TGL: 150) | | |
| | min a | [mm] | 50 (for porous light-weight concrete TGL: 100) | | |
| Minimum interspacing | $a_z$ | | 250 (for M 8 and M 10 in porous light-weight concrete TGL: 200) | | |
| Edge distance (only Mz, KS, HLz, KSL, Hbl, Hbn) | | | | | |
| • for masonry with superimposed load or proof against tilting and without shear towards the free edge | ≧ $a_r$ | [mm] | 50 (for Mz and KS: 60) | | |
| • for masonry with superimposed load or proof against tilting or wirh shear towards the free edge | ≧ $a_r$ | [mm] | 200 (for Mz and KS: 250) | | |
| Edge distance (only porous light-weight concrete TGL) | | | | | |
| • without shear towards the free edge | ≧ $a_r$ | [mm] | 150 | | |
| • with shear towards the free edge | ≧ $a_r$ | [mm] | 200 | | |
| | min $a_r$ | [mm] | 100 | | |
| Clearance hole in fixture to be attached | $d_f$ | [mm] | 18 | 18 | 22 |
| Maximum installation torque | $T_{inst}$ | [Nm] | 4[1] | 4[1] | 4[1] |

1) 2 Nm, if the fixture to be attached is not installed with a levelling mortar layer.
2) Increased values are valid if the drill hole is drilled without hammer action but only rotary action. In KSL the outer brick walls have to have a thickness of at least 30 mm (old bricks).
3) Increased values are valid for old masonry (before 1977) made of vertical perforated bricks ≧ HLz 12 , if drilling was done without hammer action but only rotary action.
4) The spacing "a" may be reduced down to the value of "min a", if the permissible loads are reduced at the same time. Not valid for masonry made of Hbl and Hbn.
5) The required mortar volume depends on the thickness of the fixture to be attached and according to this of the length of the push-through anchor sleeve.
The lower value is valid for a thickness of the fixture of 0 mm – the higher value is valid for the maximum thickness of the fixture of 200 mm. Intermediate values by linear interpolation.
6) The bridging of a non-bearing layer of up to 30 mm is permitted. A reduction of the anchorage depth at the same time is allowed.