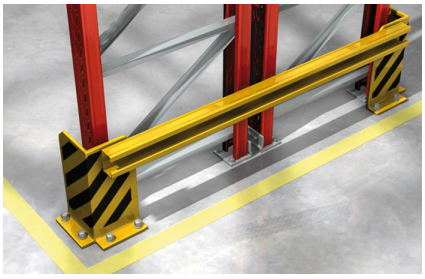
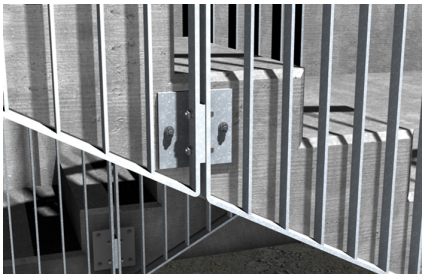
The push-through anchor for fixings with sophisticated design in cracked concrete





VERSIONS

- Zinc-plated steel

BUILDING MATERIALS

Approved for:

- Concrete C20/25 to C50/60, cracked and non-cracked

Also suitable for:

- Concrete C12/15
- Natural stone with dense structure

APPROVALS

ETA-07/0025
ETAG 001
Option 1 for cracked concrete
seismic performance category C1

ESR-2691

Fire resistance classification
R 120

Rost frei
INOX
STAINLESS STEEL

M8 - M20

FM
APPROVED
from M10

SEISMIC

ADVANTAGES

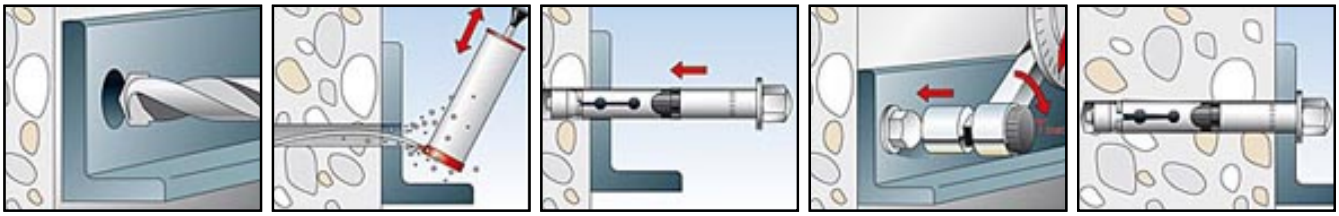
- The anchor construction allows for wide-ranging head shapes for fixing points with sophisticated design.
- The ideal interaction of screw shank and sleeve allows for a high shear load. Thus fewer fixing points are required.
- The international approvals guarantees maximum safety and the best performance. These approvals even cover use in earthquake zones (seismic).
- The optimised geometry reduces the energy required for installation.
- The assessment document also covers the use of hollow drills.

APPLICATIONS

- Guard rails
- Staircases
- Consoles
- Steel constructions
- Ladders
- Cable trays
- Machines
- Gates
- Façades
- Gratings

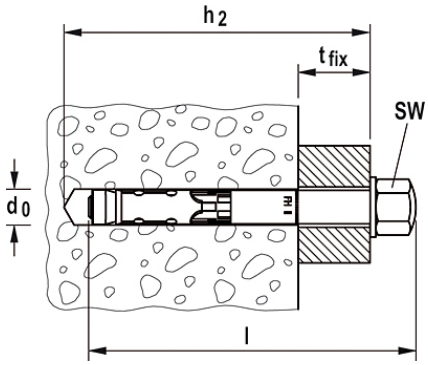
FUNCTIONING

- The FH II is suitable for push-through installation.
- When applying the torque, the cone is pulled into the expansion sleeve and expands it against the drill hole wall.
- The black plastic ring prevents rotation when tightening the anchor, and acts as a crumple zone to take the torque slippage so that the fixture is pulled onto the anchor base.
- Available head shapes for flexible design solutions:
  Countersunk head (type SK), hexagon head (type S), bolt version with nut and washer (type B) and cap nut (type H).



TECHNICAL DATA

High performance anchor FH II-H



Article name	Art.-No.	ETA-approval	ICC-approval	Drill hole diameter d_0 [mm]	Anchor length l [mm]	Max. fixture thickness t_{fix} [mm]
FH II 10/10 H	**503139**	■		10	75	10
FH II 10/25 H	**503140**	■		10	90	25
FH II 10/50 H	**503141**	■		10	115	50
FH II 12/10 H	**044905**	■		12	100	10
FH II 12/25 H	**044906**	■		12	115	25
FH II 12/50 H	**044907**	■		12	140	50
FH II 15/10 H	**044908**	■	▲	15	115	10
FH II 15/25 H	**044909**	■	▲	15	130	25
FH II 15/50 H	**044910**	■	▲	15	155	50
FH II 18/25 H	**044915**	■	▲	18	145	25
FH II 18/50 H	**044916**	■	▲	18	170	50

LOADS

High performance anchor FH II - H

Highest permissible loads for a single anchor[1] in concrete C20/25[4]

For the design the complete approval ETA - 07/0025 has to be considered.

				Cracked concrete				Non-cracked concrete			
Type	**Effective anchorage depth h_{ef} [mm]**	**Min. member thickness h_{min} [mm]**	**Installation torque T_{inst} [Nm]**	**Permissible tensile load N_{perm}[3] [kN]**	**Permissible shear load V_{perm}[3] [kN]**	**Min. spacing s_{min}[2] [mm]**	**Min. edge distance c_{min}[2] [mm]**	**Permissible tensile load N_{perm}[3] [kN]**	**Permissible shear load V_{perm}[3] [kN]**	**Min. spacing s_{min}[2] [mm]**	**Min dis $c_{}$ [**
FH II 10 H	40	80	10,0	3,6	4,3	40	40	6,1	6,1	40	
FH II 12 H	60	120	22,5	5,7	15,4	50	50	11,2	15,4	60	
FH II 15 H	70	140	40,0	7,6	20,1	60	60	14,1	23,4	70	
FH II 18 H	80	160	80,0	11,9	24,5	70	70	17,2	34,4	80	

[1] The partial safety factors for material resistance as regulated in the approval as well as a partial safety factor for load actions of γ_L = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1,5 \times h_{ef}$. Accurate data see approval.

[2] Minimum possible axial spacings resp. edge distance while reducing the permissible load.

[3] For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

[4] For higher concrete strength classes up to C50/60 higher permissible loads may be possi