

Fixings selection chart

			Page in catalogue	With approval	With approval for tensile zone	With European approval (ETA)	With CE-approval	Anchoring base material												
								Stainless steel	Concrete	Natural dense stone	Solid brick	Sand-lime solid brick	Pumice solid brick	Aircrete (aerated concrete)	Solid gypsum panels	Perforated brick	Sand-lime perforated brick	Hollow block	Fibre cement boards	Gypsum plaster-boards
General Fixings																				
Fixing SX	SX		14/15					●	●	●	●	●	●	●	●					
Fixing S	S		16-18					●	●	●	●	●	●	■	■					
Universal fixing	FU/FU-S/FU-R/FU-H		20/21					●	●	●	●	●	●	●	●	●	●			
Aircrete fixing	GB		22/23	▲*	▲*							●								
Nylon anchor, metric thread	M		24					●	●	●	●	●	■	●						

* in conjunction with fischer safety screw

Frame Fixings

Hammerfix fixings	N		26/27					▲	●	●	●	●	●	■	●	■	●	
Universal frame fixing	FUR		28-30	▲				▲	●	●	●	●	●	■	●	●	●	
Universal frame fixing	FURK		31	▲				▲	●	●	●	●	●	■	●	●	●	
Frame fixing	S-R		32/33	▲				▲	●	●	●	●	●	■	■	■		
Frame fixing	S-H-R		34/35	▲				▲				●	●	●	●	●		
Eye bolts	GS		36						●	●	●	●	●	■	■	■		
fischer safety screw			37	▲				▲										
Window frame fixing	F-S/F-HS		38						●	●	●	●	●	■	■	■	●	●
Metal frame fixing	F-M		39						●	●	●	●	●	■	■	■	●	

High Performance Steel Anchors

Zykon anchor	FZA		42-46	▲	▲	▲	▲	▲	●	■	■	■					
Zykon hammer-set anchor	FZEA		48/49	▲	▲			▲	●	■	■	■					
Anchor bolt	FAZ		50/51	▲	▲	▲			●	■							
Heavy-duty anchor	FH		52-54	▲	▲	▲		▲	●	■							
fischer bolt	FBN, FB		56-58	▲		▲		▲	●	■							
Sleeve anchor	FSA		60/61						●	■							
Heavy-duty fixing	SL M/SL M-N		62/63	▲				▲	●	■							
Hammer-set anchor	EA		64/65	▲	▲			▲	●								
Hammer-set anchor	EA S		66					▲	●								
Nail anchor	FNA		68/69	▲	▲				●	■	■	■					
Wall screw	MR		70						●								

Bonded Anchors/Capsules/Injection Systems

Combi resin bonded anchor	FCR		72/74	▲	▲		▲	▲	●	■	■	■					
Resin anchor	R		76/77	▲				▲	●	■	■	■					
Hammer capsule	FHP		78						●	■	■	■					
Injection anchor	FIS V		80/82	▲					●	●	●	●	●		●	●	●
Inj. Anchor foil pack	FIS V 360 T		84/85						●	●	●	●	●		●	●	●
Applicator guns	FIP P/KPM		86														
Anchor sleeves	FIP		87												●	●	●
Pre-expansion injection anchor	FIV		88												●	●	●

▲ = existing ● = recommended ■ = limited suitability

Service

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General fixings

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Frame fixings

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High performance steel anchors

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Bonded anchors/Capsules/Injection systems

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Foam and sealants

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Cavity fixings

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Insulation fixings

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Sanitary fixings

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Special fixings

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DIY fixings

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How we became what we are . . .

It is certainly no coincidence that we grew to our present state in the Black Forest – a region whose people are famous for their attention to detail, who enjoy thinking up and trying out new ideas. Generations and traditions have formed this image and confirmed it.



How we became what we are . . .



You can find important information 24 hours a day on <http://www.fischerwerke.de>. Our homepage contains all the practical knowledge you need: our fixings catalogue, approvals, standards, directives, a lexicon, a design programme, structural design software and a CAD database.

Research requires attention to detail . . .

The fischer research forms the basis of our innovations and success. It has been consistently developed into a target-driven instrument of success. With a wealth of experience, which was made available at all times. This was supported by the close co-operation and a lively exchange of experiences with universities and academic institutions. One example of such collaboration is the research into the long-term effects of external influences on building materials and fixings. Another example is the interaction between the different materials in the anchorage substrate.

The success of this research and development is evident in our product offering, which ranges from the fischer Plug S to the Zykon system.



fischer quality is now “certified”

fischer is not only gossiping about quality. This is now signed and sealed:

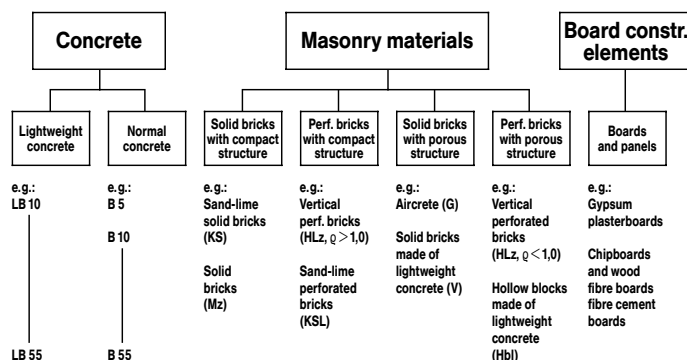
fischerwerke is certified according to DIN ISO 9001.



Basic principals of fixing and anchor technology

1. Building material (Anchor base)

Classification of the most common building materials



1.1 Concrete

■ Lightweight concrete

= cement + lightweight aggregates such as pumice, = expanded clay, polystyrene

■ Normal concrete

= cement + aggregate

■ Numbers = compressive strength

e.g. B25 = compressive strength of 25 N/mm² (concrete)
LB10 = compressive strength of 10 N/mm² (lightweight concrete)

- The higher the compressive strength, the higher the load-bearing capacity of the anchor.

1.2 Masonry building materials

■ Dense solid bricks

= bricks with a high compressive strength

- Well suited for the installation of fixings.



Solid (clay) brick (also known as clinker brick)



Calcium silicate solid bricks

1.2.2 Dense perforated hollow blocks (Perforated and hollow blocks)

- Materials as for solid bricks, but larger in size and in some cases with cavities
- Use special fixings to anchor correctly



Perforated blocks are often known by their trade name.



Perforated bricks, sand-lime hollow blocks are also known by their trade names

1.2.3 Porous solid blocks

- Low compressive strength, many pores
- Aircrete = mixture of cement/lime, quartz sand, expansion medium
- For optimum installation = use specialist fixing



Pumice solid brick



Aircrete

1.2.4 Porous perforated blocks

- Cavities, pores, low compressive strength
- Careful selection of fixing



Lightweight concrete hollow block (pumice, expanded clay)



Pumice hollow block

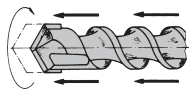
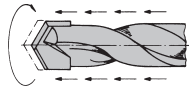
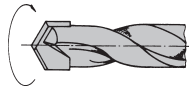
1.3 Boards and panels

- Thin-panelled building materials
- Low compressive strength
- e.g. gypsum, fibre, chip, rigid, plywood, boards etc.
- Use cavity fixings or special products

2. Installation advice

2.1 Drilling methods according to the building material

- **rotary drilling**
for perforated bricks, materials with low compressive strength, aircrete
- **rotary percussion drilling**
rotation with low impact energy and greater frequency (percussion drill), for solid dense bricks
- **hammer drilling**
rotation with a smaller number of impacts but with high impact energy, for solid dense bricks such as concrete, solid bricks etc.



2.2 Drill-hole depth

- Larger than the anchorage depth of the fixing
= sufficient space for drill dust and tip of the screw

2.3 Drill-hole cleaning

- Remove drill dust
- A clean drill-hole increases the strength characteristics

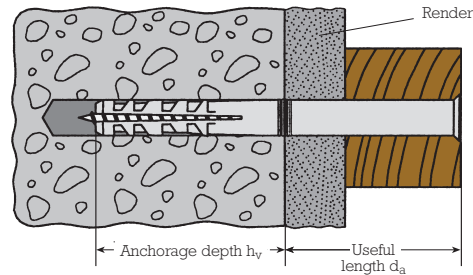


2.4 Anchorage depth/fixing thickness

- Anchorage depth = h_v
= distance between the upper edge of the load-bearing component and the end of the fixing
- Fixing thickness (through fixing) = d_a
= thickness of component to be attached + thickness of the non load-bearing component (render, insulation etc.)

2.5 Screw length

- Fixing thickness or component to be attached + render + anchorage depth + 1 x screw diameter



2.6 Edge and axial spacing

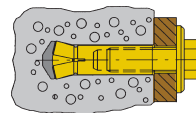
Compliance with edge and axial spacing prevents splitting or formation of cracks in the substrate.

As a general guideline we recommend the following, however for specific details please refer to the respective technical documentation:

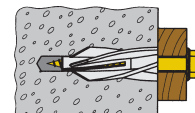
- **Nylon and steel fixings**
Edge spacing = $2 \times h_v$ (anchorage depth)
Axial spacing = $4 \times h_v$

2.7 Installation methods

- **Flush fixing**
 - Drill hole
 - Install fixing flush with the surface
 - Drive screw through the component to be attached and into the fixing

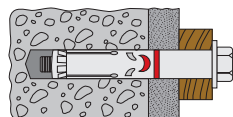


fischer FZEA Zykon hammer-set anchor

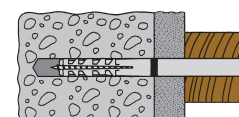


fischer GB aircrete fixing

- **Trough fixing**
 - Drill hole
 - Insert fixing through the component to be attached and into the drill-hole, and expand



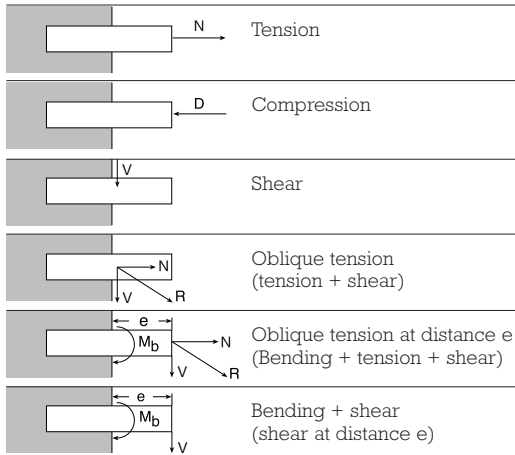
fischer FH Heavy-duty anchor



fischer S-RT frame fixing

3. Loads

3.1 Type of load



The forces are measured in kN (Kilonewton – 1 kN ≈ 100 kp), bending moments in Nm (Newton meter – Nm ≈ 0.1 kpm).

3.2 Ultimate loads - safety coefficients – permissible loads

We distinguish between different types of loads:

- **Ultimate load** (mean value from at least 5 individual tests in uncracked building material). Failure criteria may be: splitting of the anchor base material, the fixing being pulled out, failure of the base material itself or steel failure.
- **Characteristic ultimate load** (5% fractile, i.e. where 95% of all ultimate loads are either reached or exceeded).
- **Permissible loads.** These are working loads, which already contain an appropriate safety coefficient. These loads are defined in the respective approvals (construction) for each country or on a pan-European basis.
- **Recommended loads.** These are working loads, which already contain an appropriate safety factor.

To determine the maximum recommended load the ultimate load is divided by a safety coefficient, e.g. for a steel fixing of 40 kN breaking force:

$$\text{Max. recommended load} = \frac{\text{Ultimate load (F)}}{\text{Safety coefficient } (\gamma)}$$

$$F_{\text{work}} = \frac{40 \text{ kN}}{4} = 10 \text{ kN (1 kN} \approx 100 \text{ kp)}$$

As a safety factor we recommend:

- a) in relation to ultimate load mean value: Steel anchor $\gamma \geq 4$
Nylon fixing $\gamma \geq 7$
- b) in relation to 5% fractile: Nylon fixing $\gamma \geq 5$

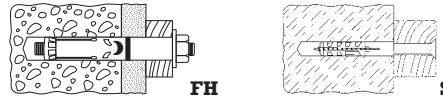
Please note that the above should be used as a guide line only for the design of steel and nylon anchors. Both national and international Approvals are available (i.e. European Technical Approvals) for the design of anchors and should be used where ever possible for this purpose. Our technical department would be more than pleased to advise further.

4. Load transfer mechanism (function)

examples from the fischer range of products

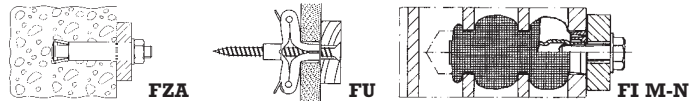
■ Mechanical interlock (friction)

The expanding part of the fixing is pressed against the drill-hole wall.



■ Form locking (stress- free)

The fixing deforms to suit the shape of the hole or interlock with the materials surface.



■ Bonding (stress-free)

Synthetic resin or cements materials are bonded to the base material.



5. Modes of failure

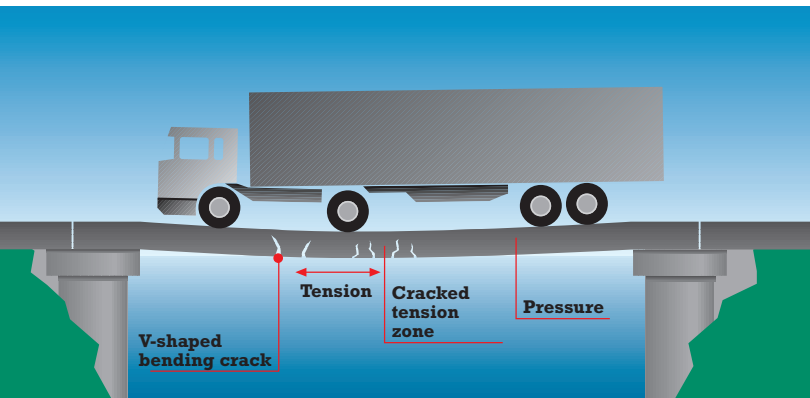
Excessive loads, incorrect installation and a poor substrates can all lead to the failure of fixing systems.

Mode of failure	Cause
Failure of the anchorage substrate 	<ul style="list-style-type: none"> ■ load "N" too high ■ anchorage substrate not strong enough ■ anchorage depth insufficient
Splitting of the base material 	<ul style="list-style-type: none"> ■ component dimensions too small ■ edge- and axial spacing not observed ■ expansion force too high
Pull-out of the fixing 	<ul style="list-style-type: none"> ■ bond, interlock fails due to excessive load or incorrect installation
Steel failure 	<ul style="list-style-type: none"> ■ steel component part insufficient strength for the required load

6. Cracks in Concrete

6.1 Reasons for cracks caused by:

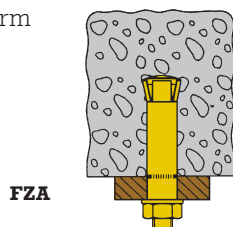
- Loading and shrinkage of the concrete
- External influences such as earthquakes
- Inherent weight, traffic and wind loads, fluctuating temperatures
- Tension, deformation



- Concrete cannot expand
- This leads to the formation of countless, barely visible cracks (= **cracked tensile zone**)
- Cracks can also develop in buildings which have been in use for many years

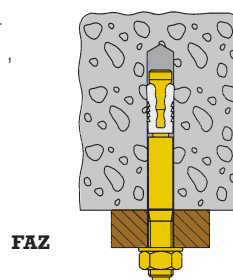
6.2 Steel anchors suitable for cracks

- Anchors which have a form – locking principal in an undercut drill-hole, e.g. FZA Zykon anchors



FZA

- Anchors which automatically continue to expand, where a crack occurs (= post-expansion), e.g. the fischer FAZ.

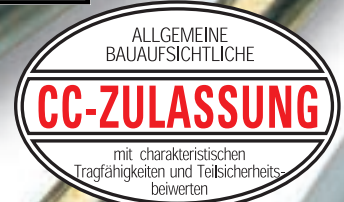


FAZ

7. Approvals

Where should fixings with building-inspectorate approval be used?

- In any situation where the failure of a fixing presents a danger to life, safety and order.
- Examples: facade cladding, suspended ceilings, heavy-duty fixings.
- In the absence of an approval, the load-bearing capacity of a suitable fixing should be demonstrated by means of tests on the construction site.
- fischer has obtained more approvals than anyone else, many of which are also recognised outside Germany.



Mit
allgemeiner
bauaufsichtlicher
Zulassung

The fischer **COMPUFIX**
Design software supports
your calculations.

BETTER IDEAS IN FIXINGS CD-ROM

The BETTER IDEAS IN FIXINGS CD-ROM offers the entire knowledge of anchor technology. It contains practical information concerning selection, planning, dimensioning, made to measure for the requirements of engineers, designers, craftsmen, tradesmen and industrial users.

- Selection of suitable anchor(s) by taking into account up to 21 criteria, such as area of activity, application, material/substrate, installation method, loads type of approval . . .
- Standard selection according to the item number, EAN-Code or designation of the item.
- Data sheets with all information about the selected fixing, e.g.
 - description of the fixing
 - picture, photo, drawings, installation guide
 - technical data
 - approvals (text and appendices)
 - accessories
- Quick and simple ordering process
- Calculation of the anchor in accordance with the CC method as per the European Technical Approvals

System requirements

- Min. 486 processor
- Min. 8 MB RAM (16 RAM preferable)
- 20 MB free memory on the hard disk
- VGA graphics card with a resolution of 640 x 480 and at least 256 colours
- User interface Windows 3.1, Windows 95, Windows NT 3.5 or 4.0
- Min. 4x CD-ROM drive

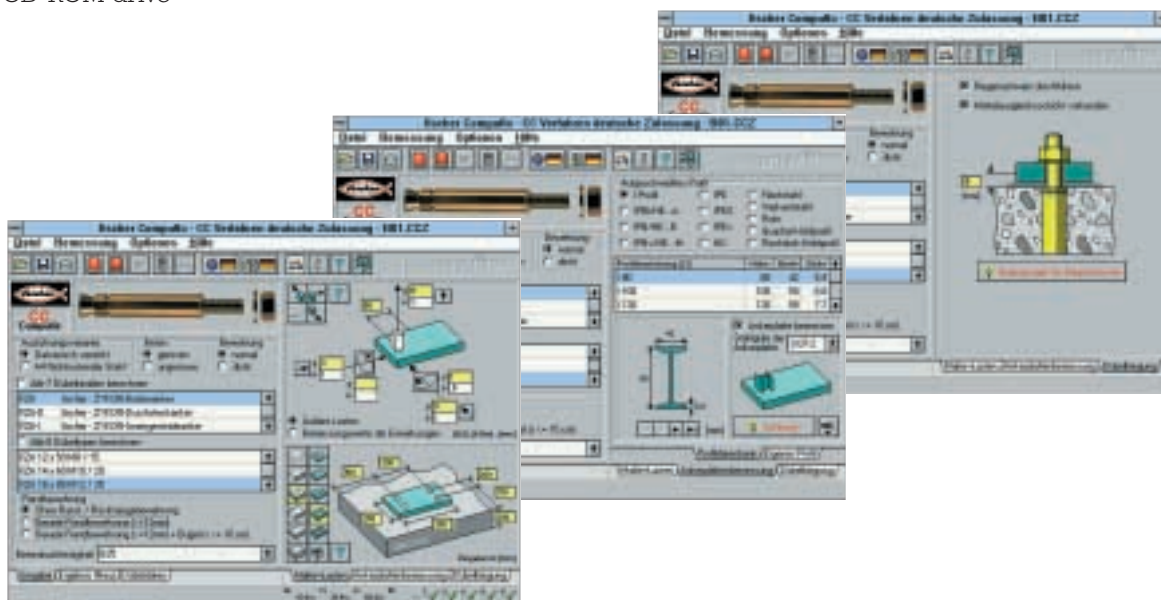
CC COMPUFIX Design Calculation Software

The calculation program CC COMPUFIX, which runs under WINDOWS, offers the following options for the user:

- Dimensioning of individual anchors in groups of two, three, four and six anchors (various product families) according to the CC method based upon German Technical Approvals and the fischer Technical Handbook; dimensioning of individual anchors in groups of two and four anchors (only resin anchors R) in accordance with the α -method.
- The program takes into consideration whether the fixing will be used in a tensile zone (cracked concrete) or in a proven compression zone (non-cracked concrete).
- The program takes into account the arrangement within the structural component part (no edge, corner, narrow component, end section of a narrow component, component face).
- Information about all conditions of use and assembly, including drawings and photographs.

System requirements

- IBM compatible PC
- Min. 4 MB RAM (8 MB recommended)
- 20 MB free memory on the hard disk
- User interface Windows 3.1, Windows 95, Windows NT 3.5 or 4.0
- CD-ROM drive



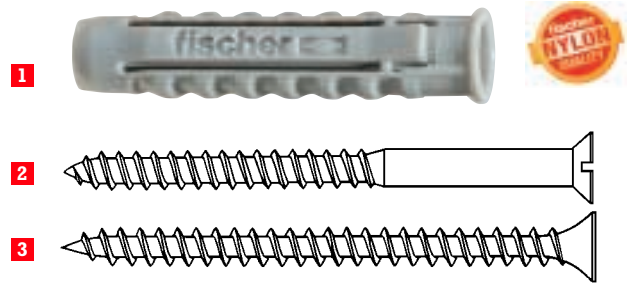
General fixings



fischer plug SX

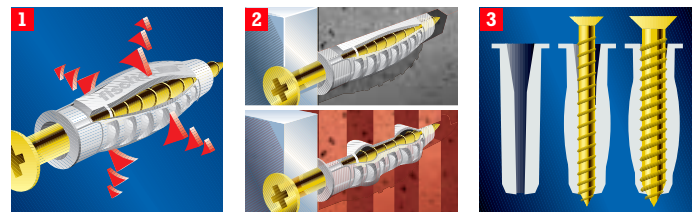
A class of its own. Its combined advantages will convince you, too!

- 1 Plug SX
- 2 Wood screw
- 3 Chipboard screw



Suitability

- Max. load-bearing capacity in solid building materials.
- For all concrete and masonry materials, ranging from perforated bricks to hollow blocks and aircrete (aerated concrete).
- For wood and chipboard screws between 4 and 10 mm.
- For all objects which can be fixed with wood and chipboard screws, e.g. wall-mounted shelves, light wall cupboards, curtain rails, light coat racks, skirting, light brackets, electric switches, cable ducts, cable clips, lamps, towel rails, mirrors, mirror cabinets, soap dishes, picture frames, wall-mounted clocks, hanging baskets, letter boxes, washing lines, antennae etc.



Easy to install

- 4 The pre-assembled screw also enables through fixing.
- 5 Anti-rotation lugs ensure a firm grip in the drill-hole.
- 6 Robust co-rotation lock fixes the SX plug firmly in the drill-hole.



Description

Flush and through fixing

Extremely safe

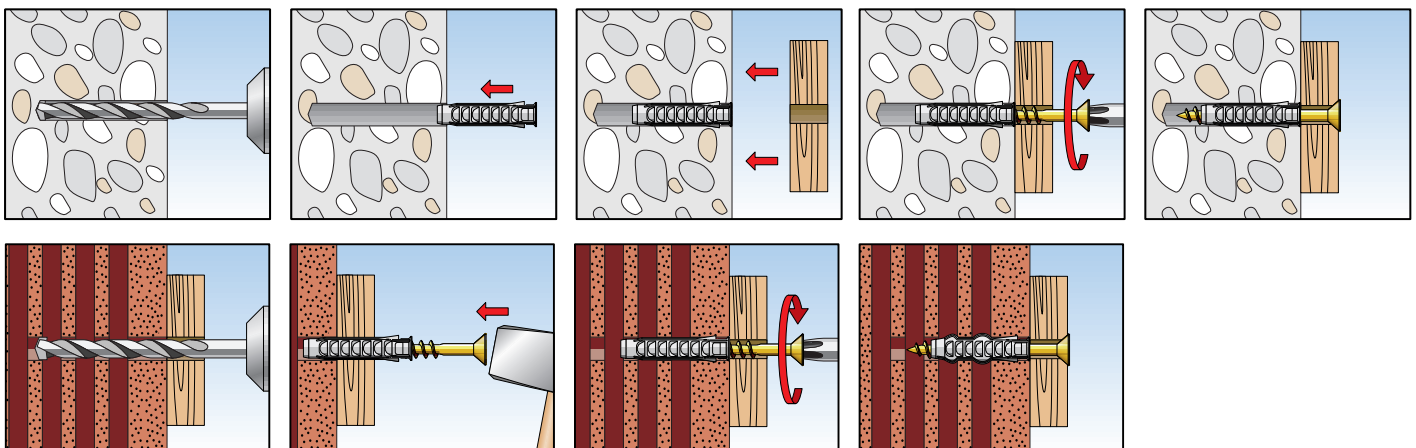
- 1 The 4-fold nylon plug expansion form locks with the substrate. This action guarantees maximum load bearing characteristics.

Versatile

- 2 The area of application ranges from solid materials through to perforated materials.
- 3 The screw tolerance range allows the safe use of different screw types and diameters, especially for chipboard screws.

- High quality nylon ensures resistance to weathering and ageing, rust and rotting.
- Largely resistant to chemical influences (further details from Tech. Dept.).
- Tough and elastic material absorbs vibrations and noise.
- Temperature resistant between -40 °C and +80 °C.

Installation diagram



fischer plug SX

Technical data

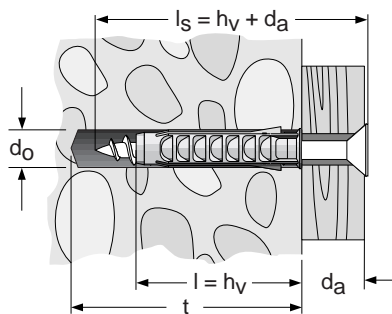


Type	Art. No.	d ₀ Drill Ø mm	t Min. drill-hole depth mm	l = h _v Fixing length = min. anchorage depth mm	d _a Max. fixing thickness mm	d _s x l _s Wood or chipboard screws Ø mm	Qty. per pack
SX 4	70004	4	25	20	–	2-3	200
SX 5	70005	5	35	25	–	3-4	100
SX 6	70006	6	40	30	–	4-5	100
SX 8	70008	8	50	40	–	4.5-6	100
SX 10	70010	10	70	50	–	6-8	50
SX 12	70012	12	80	60	–	8-10	25
SX 14	70014	14	90	70	–	10-12	20
SX 16	70016	16	100	80	–	12 (1/2")	10
SX 6 S/10 ¹⁾	70021	6	40	30	10	4.5 x 40	50
SX 8 S/20 ¹⁾	70022	8	50	40	20	5 x 60	50

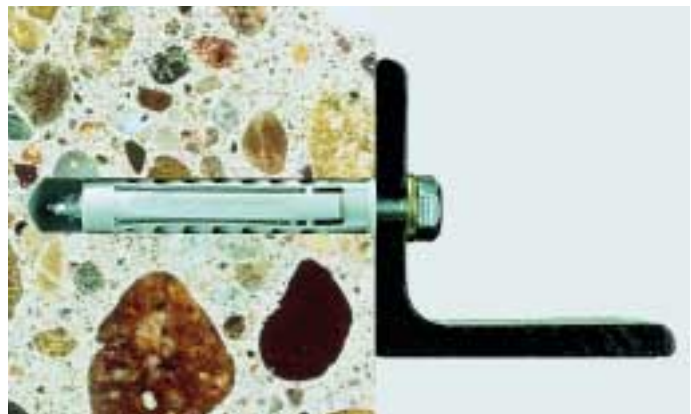
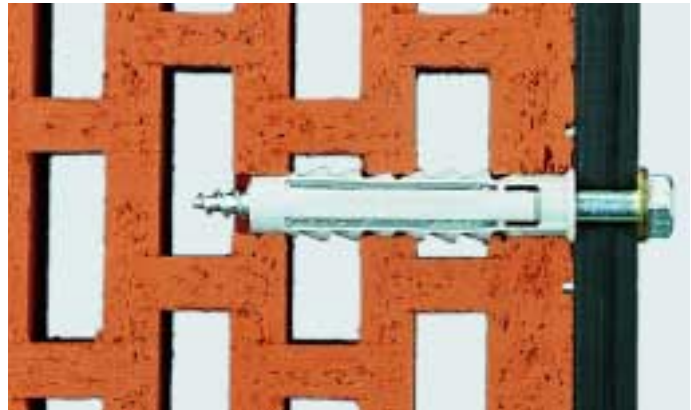
¹⁾ Fixing set consisting of fixing and chipboard screw.

Installation advice

- **Max. load-bearing capacity and safety when**
 - used with maximum recommended screw diameter;
 - drill with rotary action (hammer snitched off) for aircrete and some hollow materials.



Installation examples



Distance from component edges (edge and corner spacing a_r) in concrete

Fixing	Screw diameter [mm]	Edge/corner spacing [mm]
SX 6	5	35
SX 8	6	40
SX 10	8	50
SX 12	10	65

For edge and corner spacing a_r in masonry refer to page 18.

Recommended loads F_{rec} [kN] and ultimate loads F_{u, m} [kN] (mean values)

Substrate	SX 5		SX 6		SX 8		SX 10		SX 12		SX 14		SX 16	
	F _{rec} [kN]	F _{u, m} [kN]	F _{rec} [kN]	F _{u, m} [kN]	F _{rec} [kN]	F _{u, m} [kN]	F _{rec} [kN]	F _{u, m} [kN]	F _{rec} [kN]	F _{u, m} [kN]	F _{rec} [kN]	F _{u, m} [kN]	F _{rec} [kN]	F _{u, m} [kN]
Concrete ≥ B 20/25	0.29	2.0	0.70	4.9	0.71	5.0	1.21	8.5	1.71	12.0	2.01	14.1	2.57	18.0
Solid brick ≥ Mz 12	0.23	1.6	0.31	2.2	0.59	4.1	0.64	4.5	0.71	5.0	0.80	– ¹⁾	0.90	– ¹⁾
Sand-lime solid brick ≥ KS 12	0.29	2.0	0.50	3.5	0.60	4.2	1.21	8.5	1.71	12.0	2.01	14.1	2.57	18.0
Aircrete ≥ G2	0.03	0.2	0.03	0.2	0.04	0.3	0.09	0.6	0.14	1.0	0.31	2.2	0.40	2.8
Aircrete ≥ G4	0.09	0.6	0.09	0.6	0.14	1.0	0.29	2.0	0.44	3.1	0.49	3.4	0.57	4.0
Perforated brick ≥ Hlz 12	0.07	0.5	0.07	0.5	0.17	1.2	0.17	1.2	0.26	1.8	0.44	3.1	0.59	4.1
Sand-lime perforated brick ≥ KSL 12	0.17	1.2	0.30	2.1	0.33	2.3	0.29	2.0	0.35	1.4	0.31	2.2	0.40	2.8

¹⁾ The failure of the substrate varies so greatly that no reproducible values can be stated.

These values apply to the use of wood screws with the largest possible screw diameter as per DIN 7998, with upper tolerance limits.

The fixing is installed at full anchorage depth in the substrate.

The drilling-method must be suitable for the substrate.

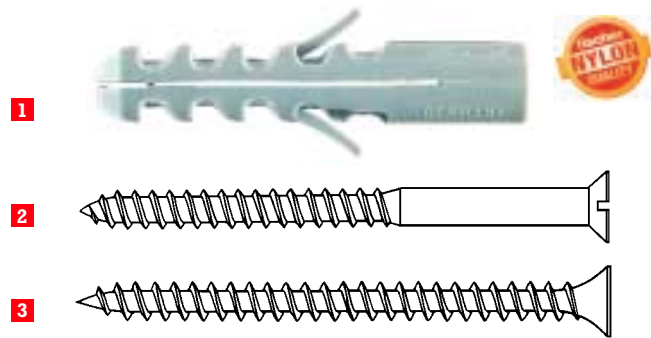
Due to the differing qualities of joints, which may occur, the values only apply to installations in the brick itself.

fischer S-Plug

The classics. Often copied - never equalled!

- 1 S-plug
- 2 Wood screw
- 3 Chipboard screw

- Marked the turning point in fixing technology 40 years ago.
- Permanent optimisation of interior and exterior geometry.



Suitability

Suitable for:

all concrete and masonry building materials, from perforated bricks to aircrete and light building panels.

For fixing:

all objects, which can be fastened with wood-screws or chipboard screws.

Description/Installation

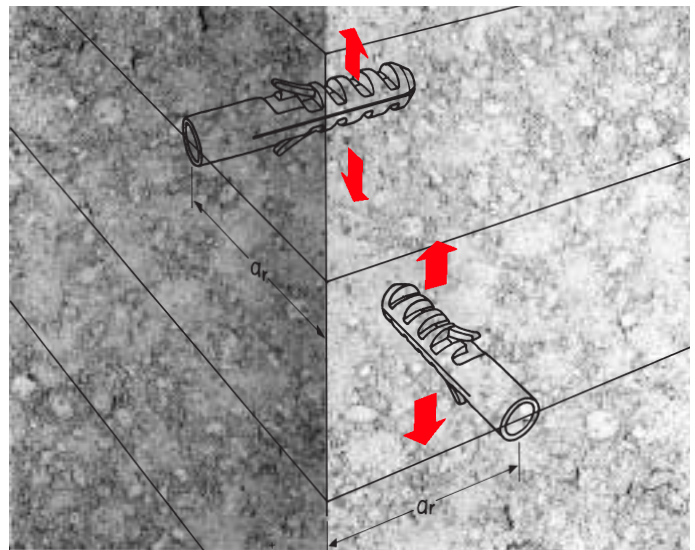
- Suitable for wood **and** chipboard screws.
- Locking lugs prevent rotating in the drill hole.
- No rim for through fixing.
- Expansion pressure at the bottom of the drill-hole, not at the neck of the fixing (no splitting of render and tiles).
- Direction of expansion can be selected (important for fixings close to the edge).
- High load characteristics in solid bricks, perforated bricks and hollow blocks.

Material

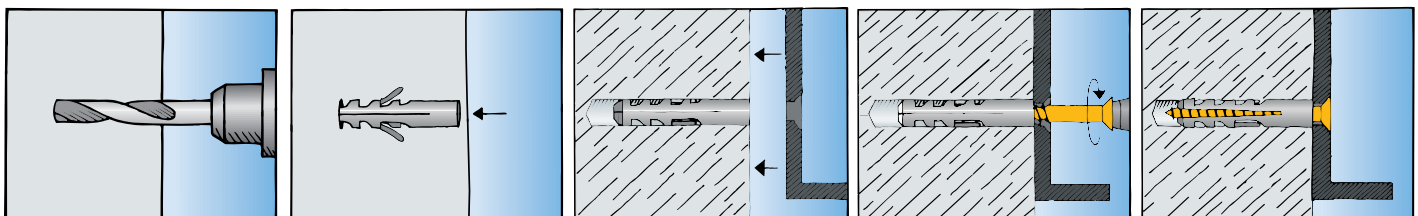
High-quality nylon for:

- Resistance to ageing, weathering, rust and rotting.
- Withstands temperatures from (-40° to +80°C).
- High tensile and compressive strength = high load characteristics.
- Material does not "run" when a load is applied (consistent holding characteristics).
- Nylon dampens vibrations, absorbs noise and provides good electric insulation.

Distance from wall edge (edge spacing) = at least one fixing length. For installations close to the edge we recommend turning the fixing in such a way that the direction of expansion acts parallel to the edge.



Installation diagram

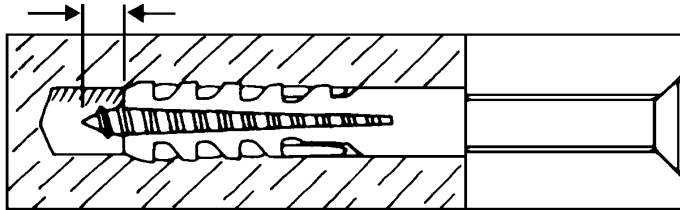


fischer S-Plug

Technical advice

Important: Drill with a rotary drill (hammer switched off) in perforated and hollow bricks.

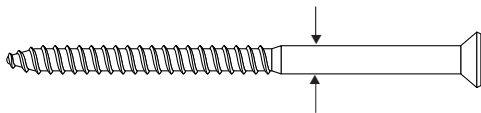
Important: at least 1 x screw diameter



Determination of minimum screw length

- 1 x screw diameter
 - + fixing length (see table)
 - + thickness of render and/or insulant
 - + thickness of component to be attached
-
- = minimum screw length

The optimum load characteristics are achieved with the largest possible screw diameter.



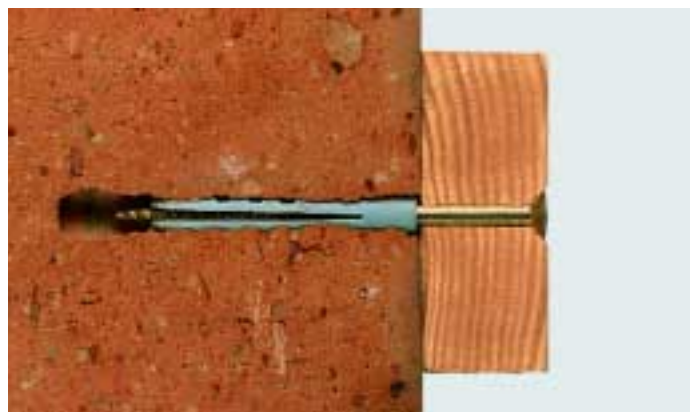
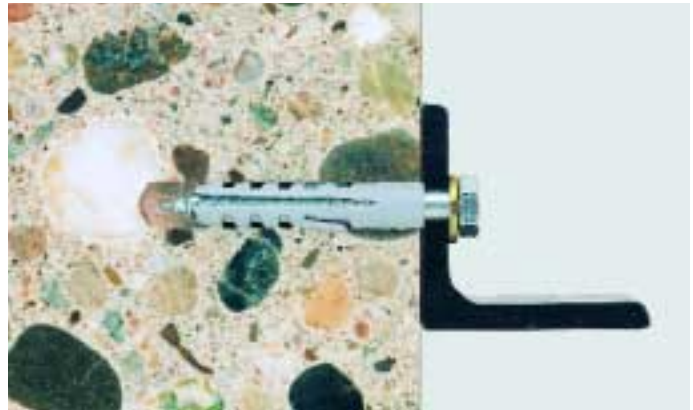
Ultimate loads [kN] (mean values)

Mean values when used with hammer drills and the largest possible wood screw diameter (steel screw). When using chipboard screws these values should be reduced by 30%.

Fixing type	S 4	S 5	S 6	S 8	S 10	S 12	S 14	S 16	S 20
Screw diameter in mm	3	4	5	6	8	10	12	12	16
Concrete ≥ B15	1.3	2.0	2.9	4.9	8.2	11.4	21.5	15.8	24.5
Solid brick ≥ Mz 12	1.0	1.6	2.6	4.9	- ¹⁾	- ¹⁾	- ¹⁾	- ¹⁾	- ¹⁾
Aircrete ≥ PB2, PP2 (G2)	-	-	0.3	0.5	1.2	1.6	2.3	- ¹⁾	- ¹⁾

¹⁾ The failure of the substrate differs so widely that it is impossible to state any reproducible values (variation coefficient differs greatly). We recommend the use of an appropriate safety factor.

Installation examples



fischer S-Plug

In the sturdy, practical craftsman's box !



Opens and closes easily. Easy removal of product, even when stacked.

In the red fischer box !

The range of fixings proven in practice, with or without screws, in the sturdy fischer box. **Carpenters and DIY enthusiasts** will always be mobile and well equipped with this combination.

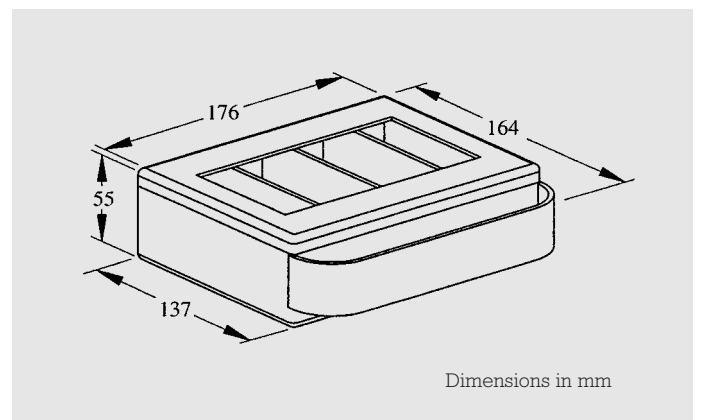
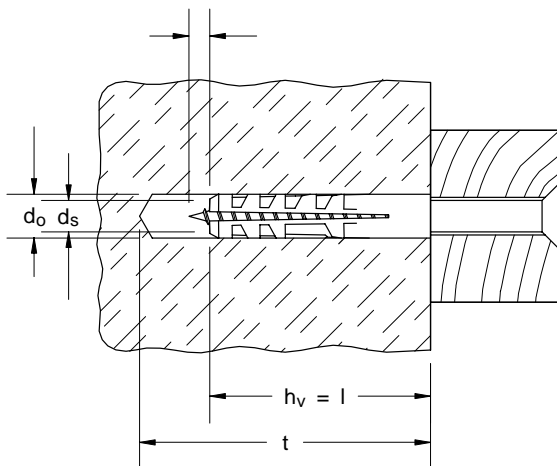
The removable partitions can be arranged as desired. The contents are visible at all times through the transparent window in the lid.

Type	Art. No.	Contents
fischerbox S 6	60511	300 fixings S 6
fischerbox S 5.6.8	60513	100 fixings S 5
		100 fixings S 6
		100 fixings S 8
fischerbox S 6.8.10	60515	100 fixings S 6
		100 fixings S 8
		25 fixings S 10
S-FU-UV/S	69516	50 fixings S 6, 50 screws 4.5 x 45
		25 fixings S 8, 25 screws 5.0 x 50
		30 fixings UV 6 x 50, 30 chipboard screws 4.5 x 60
		20 fixings FU 8 x 50, 20 chipboard screws 4.5 x 60

Type	Art. No.	d _o Drill Ø mm	t Min. drill-hole depth mm	h _v = l Fixing length = min. anchorage depth mm	d _s Wood or chipboard screws from/to Ø mm	Quantity per box
S 4	50104	4	25	20	2-3	100
S 5	50105	5	35	25	3-4	100
S 6	50106	6	40	30	4-5	100
S 7	56106	7	40	30	4-5.5	100
S 8	50108	8	55	40	4.5-6	100
S 10	50110	10	70	50	6-8	50
S 12	50112	12	80	60	8-10	25
S 14	50114	14	90	75	10-12	20
S 16	50116	16	100	80	12-(1/2")	10
S 20	50120	20	120	90	16	5



Important: at least 1 x screw diameter



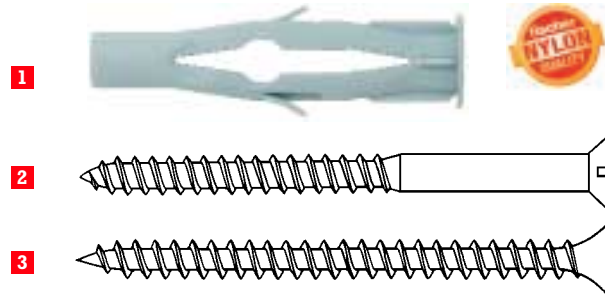
For your notes



fischer FU universal plug

The reliable support – even if you cannot be sure of the substrate!

- 1 Universal fixing FU
- 2 Wood screw
- 3 Chipboard screw



Suitability

Suitable for:

concrete, solid bricks, perforated bricks, hollow blocks, aircrete, gypsum plasterboards and board building materials from 6 mm thickness.

For fixing:

e.g. wall shelves, light wall-cupboards, curtain rails, skirting boards, electric switches, cable ducts, lamps, cable slips, towel holders, mirrors, mirror cabinets, soap dishes etc.

Technical advice

- The necessary screw length l_s can be calculated from the plug length plus the thickness of the object to be installed.
- When fixing in hollow blocks and hollow walls, hook and eye screws with a collar must be used, so that the plug can collapse.
- With soft building materials, only with a rotary drill (hammer switched off), and with gypsum plasterboards use only metal drills, (HSS type).

Description/Installation

- For solid bricks, hollow bricks **and** panel building materials.
- Suitable for wood and chipboard screws.
- With rim (prevents falling through when installed in a cavity).
- Locking tongues prevent rotation.
- Complete range including screws, round/angle hook, eye screws – electrogalvanised, white coating.
- Particularly suitable for DIY enthusiasts, who are often uncertain of the substrate.

Ultimate loads [kN] (mean values)

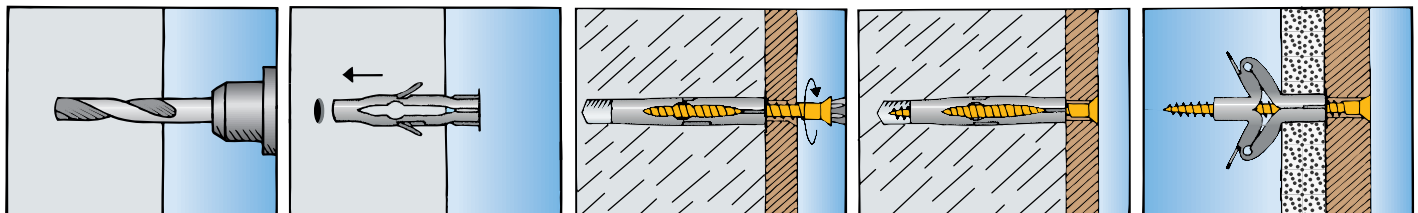
Substrate	FU 6 x 35 with		FU 8 x 50 with		FU 10 x 60 with	
	wood screw Ø 3.5 mm	chip-board screw Ø 3.5 mm	wood screw Ø 4.5 mm	chip-board screw Ø 4.5 mm	wood screw Ø 6 mm	chip-board screw Ø 6 mm
Concrete B 25	2.0	1.0	4.0	2.0	6.0	3.0
Solid brick Mz 12	1.8	0.6	3.5	1.4	5.5	1.7
Sand-lime solid brick KS 12	1.8	0.8	3.5	1.7	5.5	2.1
Pumice solid brick V 2	0.75	0.2	1.5	0.45	1.6	0.65
Aircrete PB2, PP2 (G2)	0.25	0.2	0.65	0.6	0.9	0.8
Aircrete PB4, PP4 (G4)	0.9	0.5	1.6	1.1	1.9	1.7
Perforated brick HLz 12		0.9		1.1		1.5
Sand-lime perforated brick KSL 6		1.0		1.5		2.0
Gypsum plasterboard 10 mm		0.4		0.45		0.45
Chipboard 10 mm		1.2		1.4		2.0

We recommend the use of an appropriate safety factor.

These data take into account the load-bearing behaviour of the fixing in the substrate.

The load-bearing capacity of the hook (hook bending open etc.) must be considered separately.

Installation diagram



fischer FU universal plug

Technical data



Fixings without screw

Type	Art. No.	d _o Drill Ø mm	t Min. drill-hole depth mm	d _p Min. panel thickness mm	l Fixing length mm	d _s Wood or chipboard screw Ø mm	Quantity per box
FU 6 x 35	53260	6	45	6	35	3-3.5	50
FU 6 x 45	53261	6	55	6	45	3-3.5	25
FU 8 x 40	53263	8	50	6	40	4-4.5	50
FU 8 x 50	53264	8	60	6	50	4-4.5	50
FU 10 x 60	53268	10	70	6	60	5-6	25

It is essential to take into account the screw diameter!



Type FU-S

Fixing with chipboard screw, zinc plated and yellow passivated

Type	Art. No.	d _o Drill Ø mm	t Min. drill-hole depth mm	d _p Min. panel thickness mm	l Fixing length mm	d _s Max. useful length mm	d _s x l _s Chipboard screw Ø mm	Qty. per box
FU 6 x 35 S/10	53332	6	45	6	35	10	3.5 x 45	25
FU 6 x 35 S/20	53262	6	45	6	35	20	3.5 x 55	25
FU 6 x 45 S/10	53274	6	55	6	45	10	3.5 x 55	25
FU 8 x 50 S/10	53334	8	60	6	50	10	4.5 x 60	25
FU 8 x 50 S/25	53266	8	60	6	50	25	4.5 x 75	25
FU 10 x 60 S/20	53336	10	70	6	60	20	6.5 x 80	10
FU 10 x 60 S/25	53270	10	70	6	60	25	6.5 x 85	10



Type FU-R

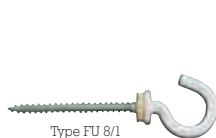
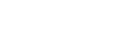


Type FU-H

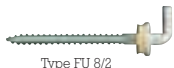
Fixing with round hook or angle hook, zinc plated and yellow passivated

Type	Art. No.	d _o Drill Ø mm	t Min. drill-hole depth mm	d _p Min. panel thickness mm	l Fixing length mm	d _s x l _s Dimension of hook screw	Quantity per box
FU 6 R	53360	6	45	6	35	3.5 x 68	25
FU 6 H	53366	6	45	6	35	3.5 x 52	25
FU 8 R	53362	8	60	6	50	4.5 x 83	25
FU 8 H	53368	8	60	6	50	4.5 x 68	25

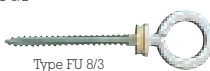
Hook includes tolerance washer at the collar



Type FU 8/1



Type FU 8/2

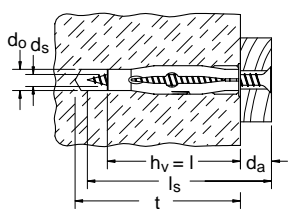
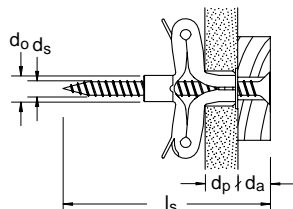


Type FU 8/3

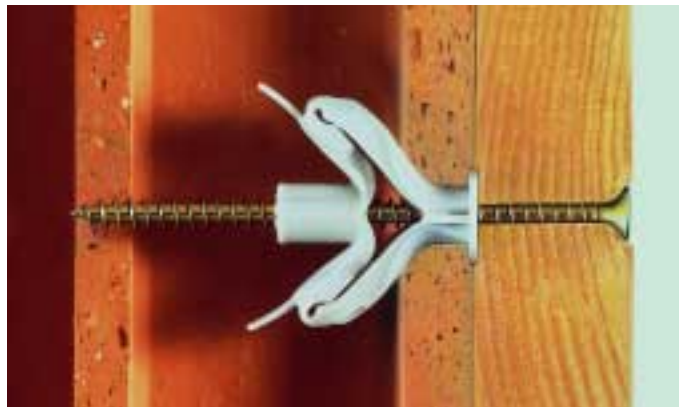
Fixing with round hook, angle hook or eye screw (nylon-coated, white)

Type	Art. No.	d _o Drill Ø mm	t Min. drill-hole depth mm	d _p Min. panel thickness mm	l Fixing length mm	d _s x l _s Dimension of hook screw	Quantity per box
FU 8/1	53380	8	60	6	50	4.5 x 83	25
FU 8/2	53381	8	60	6	50	4.5 x 68	25
FU 8/3	53382	8	60	6	50	4.5 x 83	25

Hook includes tolerance washer at the collar



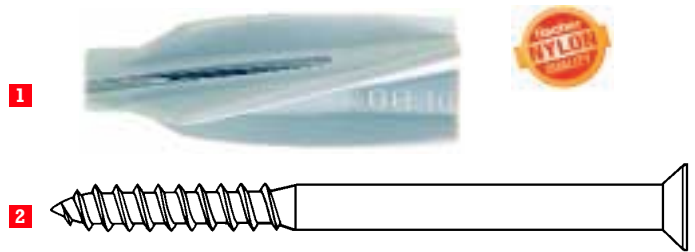
Installation examples



fischer GB aircrete anchor

The special fixing for Aircrete with Approval.

- 1 GB Aircrete fixing
- 2 fischer safety screw, steel zinc plated and yellow passivated also in stainless steel



Approvals



Approved for the tensile GB 14

(Aircrete prefabricated panels). The GB fixing is approved together with the appropriate fischer safety screw for use this material.



Important:
 drill-hole diameter
 für GB 8 = 8 mm
 für GB 10 = 10 mm
 für GB 14 = 14 mm

Suitability

Suitable for: aircrete

For fixing:

for facade and roof substructures in wood and metal, windows, doors, gratings, brackets, pipelines, suspended ceilings, cable trays, steel and timber constructions, sanitary elements etc.

Description/Installation

When used in conjunction with the fischer safety screw, this fixing is even suitable for:

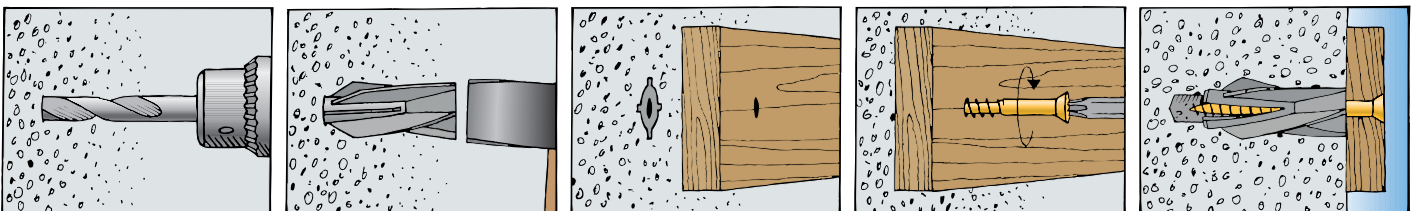
- Facade and roof substructures.
- Installations on ceilings.
- With approval in Germany and France.
- High load-bearing capacity due to geometry of fixing which distributes over a large surface area the applied load.

Screw selection table

Anchor type	Useful length d_a		Screw dimension $l \times l_s$	Screw material			
				Steel electroplated 6.8		Stainless steel A4 1.4401/1.4571	
	min. mm	max. mm		⊕	⊙	⊕	⊙
GB 8	15	30	5 x 85	● ¹⁾		● ¹⁾	
GB 10	0	3	7 x 65	●	●	●	●
	5	23	7 x 85	●	●	●	●
	25	43	7 x 105	●	●	●	●
	40	58	7 x 120	●	●	●	●
	60	78	7 x 140	●	●	●	●
	85	103	7 x 165	●	●	●	●
	110	128	7 x 190	●	●	●	●
155	173	7 x 235	●	●	●	●	
GB 14	0	10	10 x 95		●		●
	0	20	10 x 105	●	●		●
	35	55	10 x 140	●	●	●	●
	60	80	10 x 165	●	●	●	●
	85	105	10 x 190	●	●	●	●
	100	120	10 x 205	●	●	●	●
	130	150	10 x 235	●	●	●	●
	160	180	10 x 265	●	●	●	●
	190	210	10 x 295	●	●	●	●
	220	240	10 x 325	●	●	●	●
	260	280	10 x 365	●	●	●	●

¹⁾ Cross drive recess Z
 ● Standard range

Installation diagram

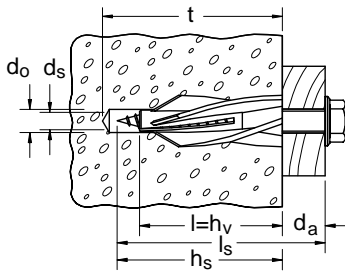


fischer GB aircrete anchor

Technical data



Type	Art. No.	Drill Ø mm	t Min. drill-hole depth mm	l = h _v Fixing length = min. anchorage depth mm	d _s fischer safety screw Ø mm	Quantity per pack
GB 8	50491	8	60	50	5	25
GB 10	50492	10	65	55	7	20
GB 14	50493	14	90	75	10	10



Installation instructions

- Holes to be drilled rotary only, (hammer switched off).
- Only to be used in aircrete which is unplastered or has been cleared of plaster in the area immediately around the surface of the anchor. Alternative recommendation for plastered aircrete: fischer S-H-R frame fixings (recommend with use of hole punch).
- Anchor should be driven in with a club hammer.

Ultimate loads [kN] (mean values) of single anchors⁴⁾

Substrate	Load direction ¹⁾	Type		
		GB 8	GB 10	GB 14
G2	N _{u,m}	1.2	1.3	2.3
	V _{u,m}	1.6 ²⁾	1.9 ^{2)/1.3³⁾}	3.5 ^{2)/3.1³⁾}
G4	N _{u,m}	2.3	3.1	5.1
	V _{u,m}	2.9 ²⁾	4.1 ^{2)/2.7³⁾}	6.3 ^{2)/4.8³⁾}
G6	N _{u,m}	2.6	3.8	5.6
	V _{u,m}	3.7 ²⁾	5.0 ^{2)/3.3³⁾}	6.5 ²⁾³⁾

¹⁾ N_{u,m} = axial tension

V_{u,m} = shear load

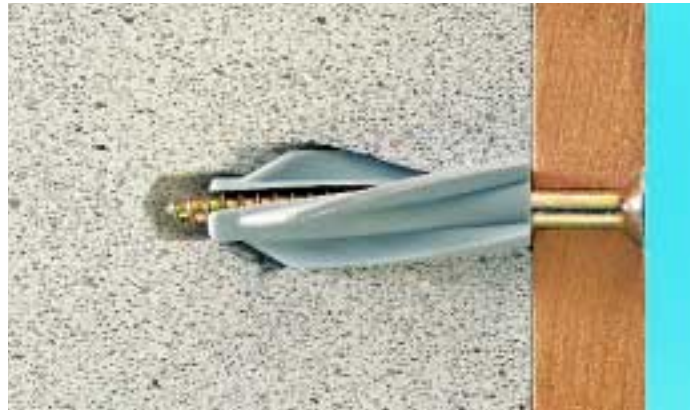
²⁾ Thickness of attachment (steel plate): 10 mm

³⁾ Thickness of attachment (profile, steel): 100 mm

⁴⁾ The ultimate loads are valid for ambient temperature.

We recommend the use of an appropriate safety factor.

Installation examples



fischer M anchor

Nylon socket anchor with internal thread.

1 M anchor



Suitability

Suitable for:

concrete, natural stone, solid bricks, solid gypsum panels, vertical perforated bricks, sand-lime hollow bricks, hollow concrete pre-fabricated floor slabs.

For fixing:

machines, steel structures, conveyor equipment, protective gratings, vending machines, diamond-drilling equipment

Description/Installation

- Fixing made from glassfibre-reinforced nylon.
- With internal threaded brass cone for threaded rods and bolts.
- High load capacity.
- Reduces vibrations (machines, conveyor equipment etc.).
- Temperature resistant between -40 °C and +80 °C
- With a stainless steel cone, also suitable for installations outdoors and under water (available on request).

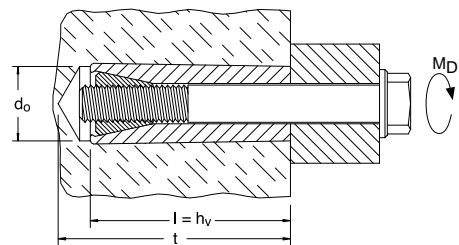
Installation advice:

For materials with low compressive strengths the installation torque must be adjusted accordingly to avoid splitting of the base material.

Technical data

Type	Art. No.	d _o Drill Ø mm	t Min. drill-hole depth mm	l = h _v Fixing length = min. anchorage depth mm	Thread	M _D Max. installation torque	Quantity per pack
M 5	50505	10	45	35	M 5	4	50
M 6	50506	12	50	40	M 6	7	50
M 8	50508	16	65	50	M 8	16	20
M 10	50510	20	80	60	M 10	32	10
M 12	50512	24	90	70	M 12	54	5
M 16	50516	32	120	90	M 16	110	10

The given torque values applies to screws of strength class ≥ 5.8.

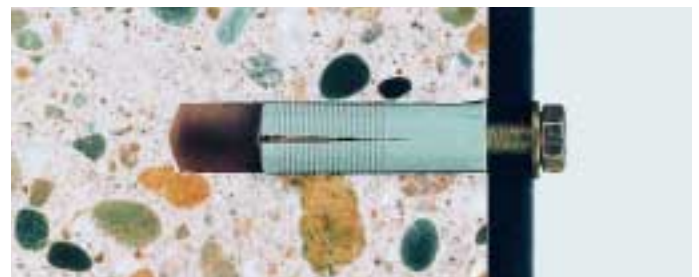


Ultimate loads [kN] (mean values)

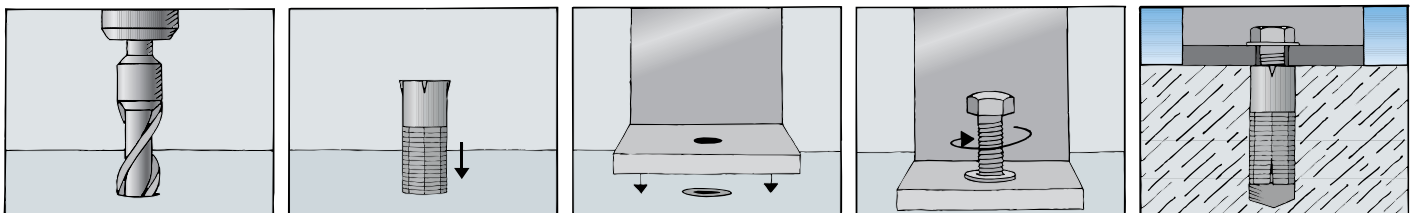
Substrate	M 5	M 6	M 8	M 10	M 12	M 16
Concrete ≥ B 25	5.5	9	13	22	25	43

We recommend the use of an appropriate safety factor.

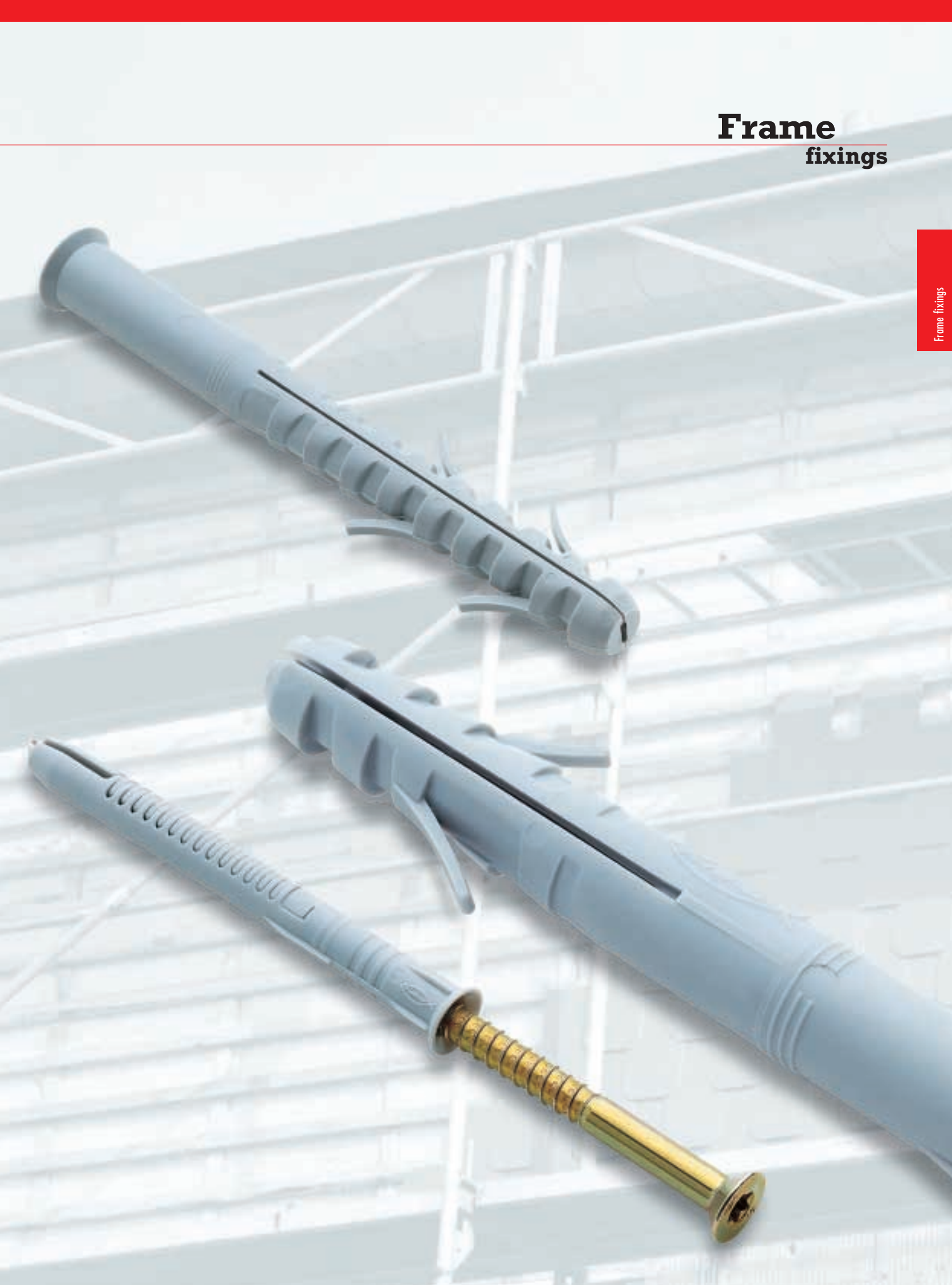
Installation example



Installation diagram



Frame fixings



fischer N hammerfix

Ready to hammer in!

- 1 Hammerfix with pre-installed nail, zinc-plated and passivated also in A2 stainless steel.



1

Suitability

Suitable for:
concrete and solid materials.

For fixing:
all kinds of timber including laths, frames, wall connection- or render profiles, skirting boards, wall angles, cable ducts, cable and pipe clips, sheets etc.

Description/Installation

- Simple hammer setting with a hammer;
– no screw driver required.
- Nail can be removed or loosened any time (cross-head in nail head).
- High quality nylon.
- Good load capacities, optimum installation due to co-ordinated nail and fixing geometry.
- Can be installed through damp timber.
- Also suitable for perforated bricks and aircrete (check application).

Technical data

Ultimate loads [kN] (mean values)

	N 5	N 6 ¹⁾	N 8	N 10
Concrete B 25	1.1	1.4	1.9	3.4
Solid brick Mz 12	1.0	1.2	1.7	3.0
Pumice solid brick V 4	0.2	0.8	0.9	1.1
Sand-lime solid brick KS 12	1.0	1.2	1.7	3.0
Aircrete G 2	0.2	0.25	0.5	0.7
Aircrete G 4	0.5	0.65	0.8	1.2

¹⁾ Not applicable to N 6 x 40 FN.
We recommend the use of an appropriate safety factor.

The difference in detail!

Long expansion area
gives good results

Tapered shaft enables
easy installation

Rigid reinforced
flange



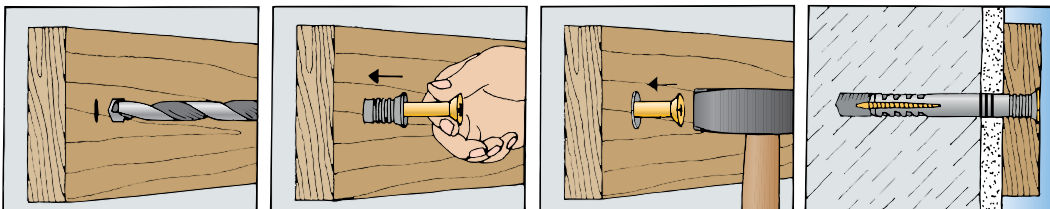
Compensation ribs for
firm seating

Saw-tooth thread
– easy to tap in
– easy to screw out



Setting-lock prevents
premature expansion

Installation diagram



fischer N hammerfix

Technical data



N-Z – with zinc plated and passivated nail, cross-drive head Z

Type	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	d _s x l _s fischer nail screw mm	Qty per pack
N 5 x 30 Z ¹⁾	50395	5	45	25	30	5	3.5 x 38	100
N 5 x 40 Z	50351	5	55	25	40	15	3.5 x 48	100
N 5 x 50 Z	50352	5	65	25	50	25	3.5 x 58	100
N 6 x 40 Z	50354	6	55	30	40	10	4 x 48	50
N 6 x 60 Z	50355	6	75	30	60	30	4 x 64	50
N 6 x 80 Z	50353	6	95	30	80	50	4 x 88	50
N 8 x 60 Z	50356	8	75	40	60	20	5 x 65	50
N 8 x 80 Z	50358	8	95	40	80	40	5 x 85	50
N 8 x 100 Z	50357	8	115	40	100	60	5 x 105	50
N 8 x 120 Z	50359	8	135	40	120	80	5 x 125	50
N 10 x 100 Z ²⁾	50346	10	115	50	100	50	7 x 110	50
N 10 x 135 Z ²⁾	50347	10	150	50	135	85	7 x 145	50
N 10 x 160 Z ²⁾	50348	10	175	50	160	110	7 x 170	50
N 10 x 230 Z ²⁾	50335	10	245	50	230	180	6 x 240	50

¹⁾ also specially suitable for fischer saddle

²⁾ not pre-assembled



N-Z A2 – with A2 stainless steel nail and cross-drive head Z

N 5 x 30 Z A2	50370	5	45	25	30	5	3.5 x 38 A2	100
N 6 x 40 Z A2	50372	6	55	30	40	10	4 x 48 A2	50
N 6 x 60 Z A2	50373	6	75	30	60	30	4 x 64 A2	50
N 8 x 60 Z A2	50374	8	75	40	60	20	5 x 65 A2	50
N 8 x 80 Z A2	50375	8	95	40	80	40	5 x 85 A2	50
N 8 x 100 Z A2	50376	8	115	40	100	60	5 x 105 A2	50
N 8 x 120 Z A2	50377	8	135	40	120	80	5 x 125 A2	50



N-FZ – with collar, zinc plated and passivated nail, cross-drive head Z

Type	Art. No.	d _o Drill mm	t _d Min. drill-hole depth for through- fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	Thread length mm	Edge Ø mm	d _s x l _s fischer nail screw mm	Qty per pack
N 5 x 30 FZ	50338	5	45	25	30	5	-	9	3.5 x 38	100
N 6 x 40 FZ	50339	6	55	30	40	7	-	13	4 x 48	50
N 6 x 40 FZ A2 ¹⁾	50369	6	55	30	40	7	-	13	4 x 48	50

¹⁾ with A2 stainless steel nail



N-ZZ – with collar, zinc plated and passivated nail, with cross-drive head Z

N 6 x 40 ZZ	50394	6	55	30	40	7	-	11	4 x 48	50
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N-FAL – with collar and aluminium nail, without cross-drive head

N 6 x 40 F AL	50393	6	55	30	40	7	-	13	4 x 48	250
N 6 x 60 F AL	50391	6	75	30	60	30	-	-	4 x 68	250



N-FN – with collar and plastic nail

N 6 x 40 FN	50342	6	55	30	40	7	-	13	4 x 45	50
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N-M – with zinc plated and passivated nail and thread M 6 x 7; M 8 x 15

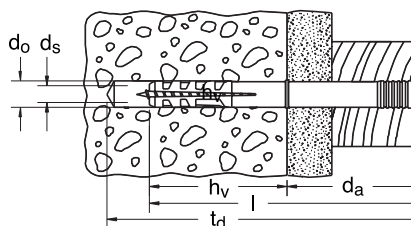
N 6 x 40 M 6	50398	6	55	30	40	7	7	-	4 x 48 M6	50
N 8 x 40 M 8	50396	8	55	30	40	10	15	-	5 x 45 M8	50

Technical data



N-D A2 – washer and A2 stainless steel nail, pre-assembled

Type	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth from OK com- ponent to be attached mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	Washer Ø mm	fischer nail screw size mm	Qty per pack
N 6 x 40 D A2	50367	6	55	30	40	10	19	4 x 48	50
N 6 x 60 D A2	50368	6	75	30	60	30	19	4 x 64	50
N 6 x 80 D A2	50389	6	95	30	80	50	19	4 x 88	50



Installation examples



fischer FUR universal frame fixing

Revolutionary technology for the highest performance in concrete and masonry.

- 1 Universal frame fixing FUR
- 2 fischer safety screw, zinc plated and passivated and A4 stainless steel



Approval



With building-inspectorate Approval for cladding.

Suitability

Suitable for concrete and masonry:

e.g. for perforated bricks, hollow blocks, sand-lime perforated bricks, aircrete, light-weight concrete, solid pumice, concrete, sand-lime solid bricks, solid red bricks, clinker bricks, solid pumice bricks, perforated pumice, gypsum plasterboards, natural stone and other building materials of low compressive strength.

Description/Installation

- The asymmetric lamination teeth suit perfectly to every type of substrate.
- Pre-assembled (saves time) with countersunk wood and hexagonal screws (zinc plated and passivated and A4).
- Screws have a high bending moment.
- In conjunction with the newly developed safety screw the fixing achieves nearly 100% higher loads than other fixings used for the same applications.
- For reasons of safety only available complete with screw.

Installation advice: in hollow bricks drill with a rotary only (hammer switched off).

Areas of application

Facade fixing (wooden substructures): Attachment of timber vertical and horizontal battens.

Facade fixing (metal substructures): Anchorage of brackets, supports, rails on exterior walls.

Roof: Anchorage of timber and deals, e.g. at the roof wall plates. Partially the same application as for facade fixing.

Metal construction: Anchorage of brackets, angles, rails, profiles, frames at the inside and outside, fireproof doors.

Completion of the interior: Anchorage of laths, beams, metal angles etc., mainly in the interior.

Window construction (wood/plastic metal): Anchorage of profiles for direct window assembly and supporting constructions.

Other trades: Anchorage of different wood, plastic and metal components such as radiators, wall cupboards, cable ducts, remedial wall ties, shelves, insulant disks and rails for WDVS.

Recommended loads F_{rec} [kN] and ultimate loads $F_{u, m}$ [kN] (mean values)

Substrate	Fixing type	FUR 8		FUR 10		FUR 14	
		F_{rec} [kN]	$F_{u, m}$ [kN]	F_{rec} [kN]	$F_{u, m}$ [kN]	F_{rec} [kN]	$F_{u, m}$ [kN]
Concrete \geq B 20/25		1.2	8.1	2.1	10	3.1	21.9
Solid brick \geq Mz 12		0.71	5.0	1.4	10	1.8	12.5
Sand-lime solid brick \geq KS 12		1.1	7.8	1.6 ¹⁾	12.8	2.8	19.7
Sand-lime perforated brick \geq KSL 12		0.63	4.4	0.48	3.3	0.6	— ²⁾
Perforated brick \geq Hlz 12 $\rho \geq 1.0$ kg/dm ³		0.13	0.9	0.37	2.6	0.5	— ²⁾
Hollow block \geq Hbl 2		0.17	1.2	0.46	3.2	0.31	2.2
Solid brick made from lightweight concrete \geq V2		0.56	3.9	0.71	5.0	0.5	— ²⁾

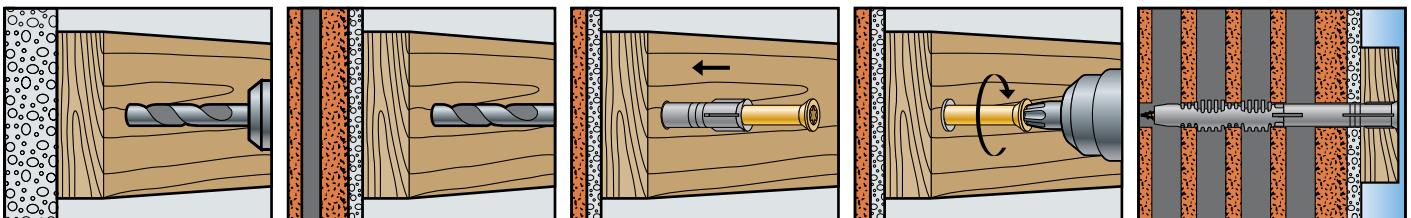
These values are applicable so long as the anchor is installed in accordance to the correct installation instructions, together with the appropriate safety screw.

The correct method for drilling the hole must be used.

¹⁾ Values restricted to those recommended for concrete.

²⁾ The substrates mode of failure is so variable. That values have not been included.

Installation diagram



fischer FUR universal frame fixing

Technical data



FUR-T – with zinc plated and passivated fischer safety screw for -Bit T30, T40, T50

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _s Max. fixing thick- ness mm	d _s x l _s fischer safety screw size mm	Qty. per pack
FUR 8 x 80 T	70110	8	90	70	80	10	6 x 85	50
FUR 8 x 100 T	70111	8	110	70	100	30	6 x 105	50
FUR 8 x 120 T	70112	8	130	70	120	50	6 x 125	50
FUR 10 x 80 T	88756	10	90	70	80	10	7 x 85	50
FUR 10 x 100 T	88757	10	110	70	100	30	7 x 105	50
FUR 10 x 115 T	88760	10	125	70	115	45	7 x 120	50
FUR 10 x 135 T	88758	10	145	70	135	65	7 x 140	50
FUR 10 x 160 T	88759	10	170	70	160	90	7 x 165	50
FUR 10 x 185 T	88761	10	195	70	185	115	7 x 190	50
FUR 10 x 200 T	88764	10	210	70	200	130	7 x 205	50
FUR 10 x 230 T	88762	10	240	70	230	160	7 x 235	50
FUR 14 x 100 T	48711	14	115	70	100	30	10 x 110	50
FUR 14 x 140 T	48712	14	155	70	140	70	10 x 150	50
FUR 14 x 165 T	48713	14	180	70	165	95	10 x 175	50
FUR 14 x 180 T	48714	14	195	70	180	110	10 x 190	50
FUR 14 x 240 T	48715	14	255	70	240	170	10 x 250	50
FUR 14 x 270 T	48716	14	285	70	270	200	10 x 280	50



FUR-T A4 – with A4 stainless steel screw, for -Bit T30, T40, T50

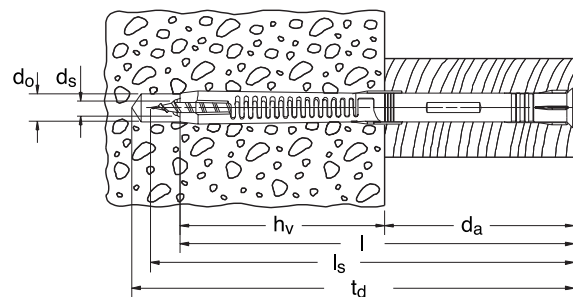
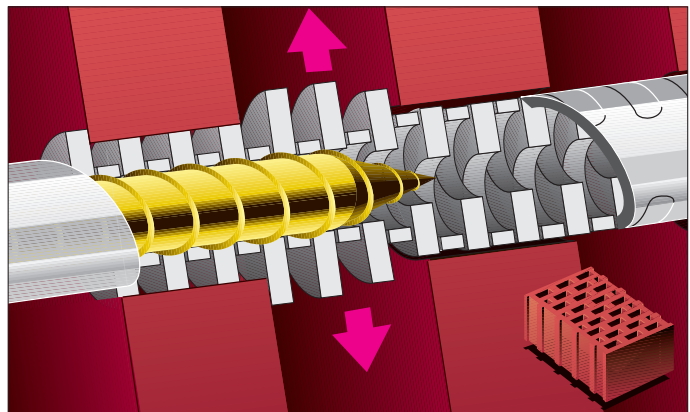
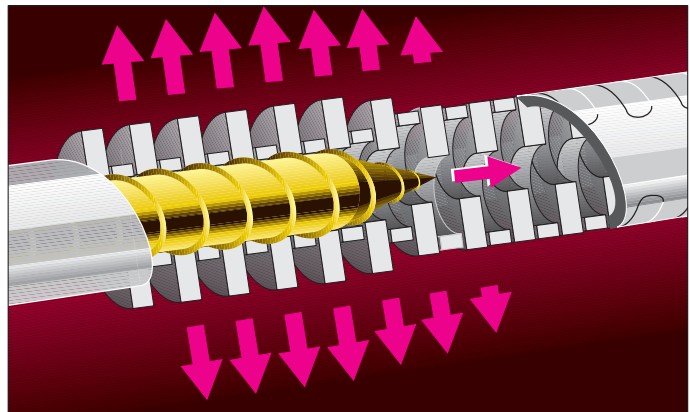
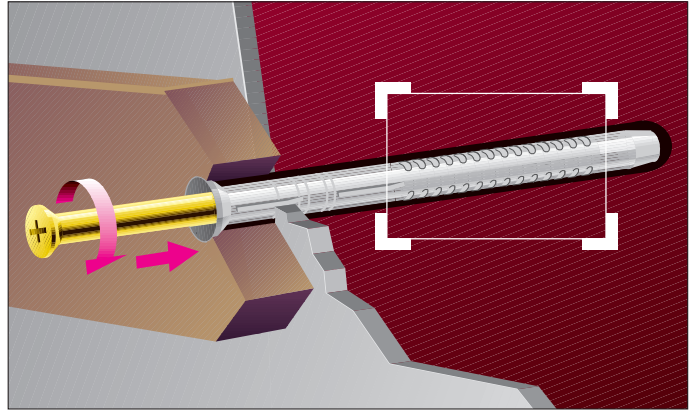
FUR 8 x 80 T A4	70120	8	90	70	80	10	6 x 85	50
FUR 8 x 100 T A4	70121	8	110	70	100	30	6 x 105	50
FUR 8 x 120 T A4	70122	8	130	70	120	50	6 x 125	50
FUR 10 x 80 T A4	88784	10	90	70	80	10	7 x 85	50
FUR 10 x 100 T A4	88785	10	110	70	100	30	7 x 105	50
FUR 10 x 115 T A4	88791	10	125	70	115	45	7 x 120	50
FUR 10 x 135 T A4	88786	10	145	70	135	65	7 x 140	50
FUR 10 x 160 T A4	88787	10	170	70	160	90	7 x 165	50
FUR 10 x 185 T A4	88788	10	195	70	185	115	7 x 190	50
FUR 10 x 200 T A4	88789	10	210	70	200	130	7 x 205	50
FUR 10 x 230 T A4	88790	10	240	70	230	160	7 x 235	50
FUR 14 x 140 T A4	48719	14	155	70	140	70	10 x 150	50
FUR 14 x 165 T A4	48720	14	180	70	165	95	10 x 175	50
FUR 14 x 180 T A4	48721	14	195	70	180	110	10 x 190	50



FUR-TF – with zinc plated and passivated screw, for -Bit T40

FUR 10 x 80 TF	70155	10	90	70	80	8	7 x 85	50
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Anchor function



fischer FUR universal frame fixing

Technical data



FUR-SS – with zinc plated and passivated fischer safety- wood screw, SW 10 or SW 13

Type	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	d _s x l _s fischer safety screw size mm	Qty. per. pack
FUR 8 x 80 SS*	70130	8	90	70	80	10	6 x 85	50
FUR 8 x 100 SS*	70131	8	110	70	100	30	6 x 105	50
FUR 8 x 120 SS*	70132	8	130	70	120	50	6 x 125	50
FUR 10 x 80 SS	88776	10	90	70	80	10	7 x 85	50
FUR 10 x 100 SS	88777	10	110	70	100	30	7 x 105	50
FUR 10 x 115 SS	88783	10	125	70	115	45	7 x 120	50
FUR 10 x 135 SS	88778	10	145	70	135	65	7 x 140	50
FUR 10 x 160 SS	88779	10	170	70	160	90	7 x 165	50
FUR 10 x 185 SS	88780	10	195	70	185	115	7 x 190	50
FUR 10 x 200 SS	88781	10	210	70	200	130	7 x 205	50
FUR 10 x 230 SS	88782	10	240	70	230	160	7 x 235	50

FUR-F SS – with zinc plated and passivated fischer safety- wood screw SW 17

FUR 14 x 80 F SS	48724	14	95	70	80	10	10 x 90	50
FUR 14 x 100 F SS	48725	14	115	70	100	30	10 x 110	50
FUR 14 x 140 F SS	48726	14	155	70	140	70	10 x 150	50
FUR 14 x 165 F SS	48727	14	180	70	165	95	10 x 175	50
FUR 14 x 180 F SS	48728	14	195	70	180	110	10 x 190	50
FUR 14 x 240 F SS	48729	14	255	70	240	170	10 x 250	50
FUR 14 x 270 F SS	48730	14	285	70	270	200	10 x 280	50

* for SW 10



FUR-SS A4 – with A4 stainless steel screw, for SW 10 or SW 13

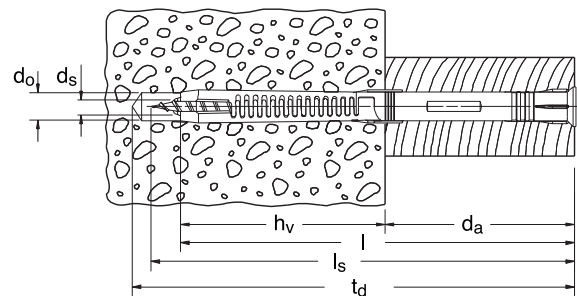
FUR 8 x 80 SS A4*	70140	8	90	70	80	10	6 x 85	50
FUR 8 x 100 SS A4*	70141	8	110	70	100	30	6 x 105	50
FUR 10 x 80 SS A4	88792	10	90	70	80	10	7 x 85	50
FUR 10 x 100 SS A4	88793	10	110	70	100	30	7 x 105	50
FUR 10 x 115 SS A4	88799	10	125	70	115	45	7 x 120	50
FUR 10 x 135 SS A4	88794	10	145	70	135	65	7 x 140	50
FUR 10 x 160 SS A4	88795	10	170	70	160	90	7 x 165	50
FUR 10 x 185 SS A4	88796	10	195	70	185	115	7 x 190	50
FUR 10 x 200 SS A4	88797	10	210	70	200	130	7 x 205	50
FUR 10 x 230 SS A4	88798	10	240	70	230	160	7 x 235	50

FUR-F SS A4 – with A4 stainless steel screw, for SW 17

FUR 14 x 80 F SS	48731	14	95	70	80	10	10 x 90	50
FUR 14 x 100 F SS	48732	14	115	70	100	30	10 x 110	50
FUR 14 x 140 F SS	48733	14	155	70	140	70	10 x 150	50
FUR 14 x 165 F SS	48734	14	180	70	165	95	10 x 175	50
FUR 14 x 180 F SS	48735	14	195	70	180	110	10 x 190	50
FUR 14 x 240 F SS	48736	14	255	70	240	170	10 x 250	50
FUR 14 x 270 F SS	48737	14	285	70	270	200	10 x 280	50

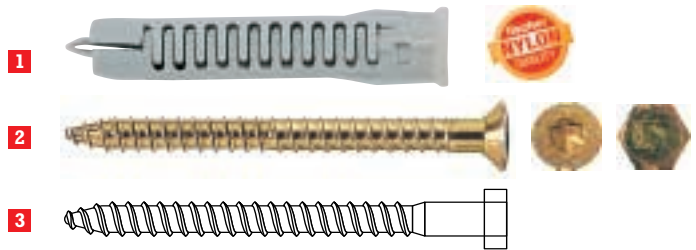
* for SW 10

Installation examples



fischer FURK universal frame fixing

- 1 Universal frame fixing FURK
- 2 fischer safety screw, zinc plated and passivated and A4 stainless steel
- 3 Wood screw



Approval



Building-inspectorate Approval for installation of cladding.

Description/Installation

- Short version for shallow drill-hole depth.
- Suitable for fischer safety screws **and** wood and chip-board screws.
- Building-inspectorate approval in conjunction with fischer safety screws.

Suitability

Ideal fixing for the installation of medium loads, also for objects such as radiators, sinks, wall cupboards, wardrobes, swivel arms etc.

Technical data

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchorage depth mm	l Fixing length mm	d _a Max. fixing thickness mm	d _s x l _s fischer safety screw size mm	Qty. per pack
FUR-K – without screw								
FURK 10 x 60 ¹⁾	88814	10	70	50	60	10	6-8 x 65	50
FURK 10 x 75 ¹⁾	88815	10	85	50	75	25	6-8 x 80	50
FUR-K – with zinc plated and passivated screw, for \odot-Bit T40 or \odot SW 13								
FURK 10 x 60 SS ²⁾	88816	10	70	50	60	10	7 x 65	50
FURK 10 x 75 T ²⁾	88818	10	85	50	75	25	7 x 80	50
FUR-K – with A4 stainless steel screw, for \odot SW 13								
FURK 10 x 60 SSA4 ²⁾	88817	10	70	50	60	10	7 x 65	50

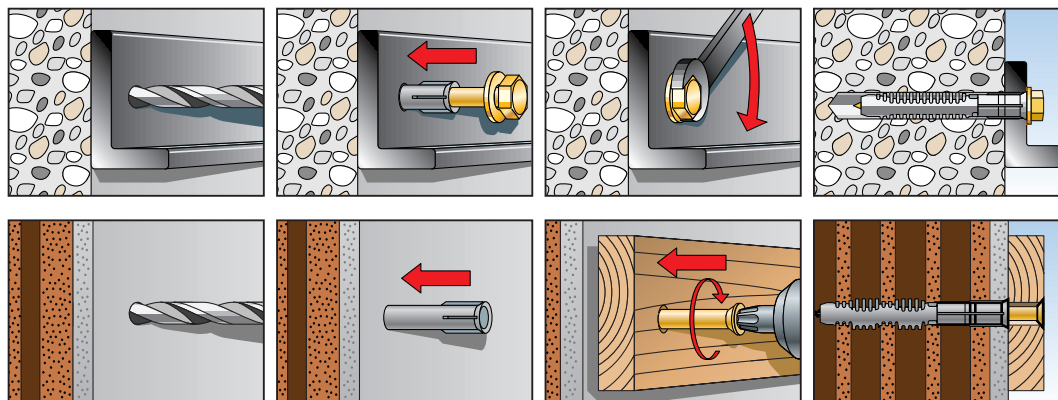
¹⁾ Approval only valid in conjunction with fischer safety screw \varnothing 7 mm, see page 37.
²⁾ with fischer safety screw, T = \odot , SS = \odot

Recommended loads F_{rec} [kN] and ultimate loads F_{u, m} [kN] (mean values) FUR-K 10 in conjunction with wood screw \varnothing 8 mm

Substrate	F _{rec} [kN]	F _{u, m} [kN]
Concrete \geq B15	1.2	8.6
Solid brick \geq Mz 12	0.8	- ¹⁾
Sand-lime solid brick \geq KS 12	0.8	6.6
Perforated brick \geq Hlz 12	0.2	- ¹⁾
Sand-lime perforated brick \geq KSL 6	0.2	- ¹⁾
Solid brick made from lightweight concrete \geq V 2	0.25	2.6

¹⁾ The failure of the substrate can vary so widely, that reproducible values cannot be stated for all materials.
 We recommend the use of an appropriate safety factor.

Installation diagram



fischer S-R frame fixing

The through fixing into concrete, solid bricks and blocks.

- 1 Frame fixing S-R
- 2 fischer safety screw, zinc plated and passivated and A4 stainless steel



Approval



Building-inspectorate
Approved for facades and
statically comparable
systems.

Suitability

Suitable for:

concrete, lightweight concrete, sand-lime solid bricks, solid red bricks, clinker bricks, solid pumice, perforated pumice, gypsum plasterboards, natural stone etc.

For fixing:

Timber battens, wooden laths, facade and roof substructures metal and plastic, window and door frames, metal profiles, insulants, fireproof doors, panels, cladding etc.

Technical data

Ultimate loads [kN] (mean values) of single S-R fixings

Anchorage substrate	Fixing type	S 8 R	S 10 R	S 12 R	S 14 R
Concrete \geq B15 (uncracked)		4.5	5.7	8.1	10.5
Solid brick \geq Mz 12 according to DIN 105)		4.2	5.3	7.0	7.0
Sand-lime solid brick M KS 12 (according to DIN 106)		4.2	5.3	7.0	7.0

We recommend the use of an appropriate safety factor.

Recommended load F_{rec} [kN]

Anchorage substrate	Fixing type	S 8 R	S 10 R	S 12 R	S 14 R
Concrete \geq B15 (uncracked)		0.9	1.1	1.3	1.3
Solid brick \geq Mz 12 according to DIN 105)		0.9	1.0	1.3	1.3
Sand-lime solid brick M KS 12 (according to DIN 106)		0.8	1.0	1.2	1.2

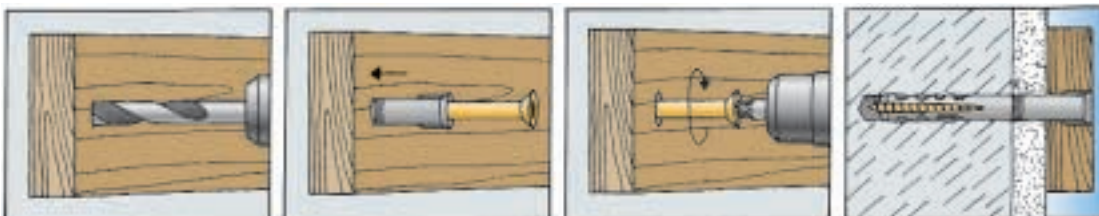
Description/Installation

- Expansion part is based on the construction of the fischer S-plug which has proven itself millions of times.
- Suitable for interior and exterior use (facade, roof).
- Comprehensive product range with a variety of safety screws, pre-assembled.
- Also available without screws.
- Building-inspectorate approval in Germany, France and Sweden.
- Optimum screw control and corrosion protection .
- Integrated setting lock prevents pre-expansion of the fixing .
- In the case of fixing sets (= pre-assembled) screw and fixing are perfectly matched.

Installation example



Installation diagram



fischer S-R frame fixing

Technical data



S-RS-Z – not pre-assembled
with zinc plated and passivated countersunk wood screw for Pozi-Bit size 2 or 3

Type	Art. No.	d ₀ Drill Ø mm	t ₃ Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	d _s x l _s fischer safety screw size mm	Qty. per pack
S 6 RS 60 Z	80640	6	70	30	60	30	4.5 x 65 ¹⁾	50
S 8 RS 60 Z	80644	8	70	50	60	10	5.5 x 65 ¹⁾	25
S 8 RS 80 Z	80645	8	90	50	80	30	5.5 x 85 ¹⁾	25



S-RT – pre-assembled
with zinc plated and passivated fischer safety screw for Bit T30 or T40

S 8 RT 80	83601	8	90	50	80	30	6 x 85	100
S 8 RT 100	83602	8	110	50	100	50	6 x 105	100
S 10 RT 80	80736	10	90	50	80	30	7 x 85	50
S 10 RT 100	80737	10	110	50	100	50	7 x 105	50
S 10 RT 115	80738	10	125	50	115	65	7 x 120	50
S 10 RT 135	80739	10	145	50	135	85	7 x 140	50
S 10 RT 160	80740	10	170	50	160	110	7 x 165	50
S 10 RT 185	83615	10	195	50	185	135	7 x 190	50
S 10 RT 230	83616	10	240	50	230	180	7 x 235	50
* S 12 RT 100	80560	12	110	60	100	40	10 x 105	50
* S 12 RT 135	80561	12	145	60	135	75	10 x 140	50
* S 14 RT 135	80564	14	145	70	135	65	10 x 140	50
* S 14 RT 160	80565	14	170	70	160	90	10 x 165	50
* S 14 RT 185	80566	14	195	70	185	115	10 x 190	50
* S 14 RT 230	80567	14	240	70	230	160	10 x 235	50

For matching ADT cover caps refer to page 37. – *not pre-assembled



S-RSS – pre-assembled
with zinc plated and passivated, hexagonal fischer safety wood screw SW 13 or 17

S 10 RSS 60	80612	10	70	50	60	10	7 x 65	50
S 10 RSS 70	80611	10	80	50	70	20	7 x 75	50
* S 12 RSS 70	80621	12	80	60	70	10	10 x 75	50
* S 12 RSS 70 A4	83632	12	80	60	70	10	10 x 75	50

*not pre-assembled



S-RT-F – pre-assembled, edge Ø 17 mm
with zinc plated and passivated fischer safety screw for Bit T30

S 8 RT 60 F	83605	8	70	50	60	8	6 x 65	100
S 8 RT 80 F	83606	8	90	50	80	30	6 x 85	100



S-RL-Z – not pre-assembled
with zinc plated and passivated fischer safety screw lock screw for Pozi bit size 4.

S 10 RL 80 Z	88600	10	90	50	80	30	7 x 85	50
S 10 RL 100 Z	88601	10	110	50	100	50	7 x 105	50
S 10 RL 115 Z	88602	10	125	50	115	65	7 x 120	50
S 10 RL 135 Z	88603	10	145	50	135	85	7 x 140	50
S 10 RL 160 Z	88604	10	170	50	160	110	7 x 165	50

For matching ADK cover caps refer to page 37.

Technical data



S-R – without screw
For matching screws refer to page 37.



Type	Art. No.	d ₀ Drill Ø mm	t ₃ Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	d _s x l _s fischer safety screw size mm	Qty. per pack
*S 6 R 35	50189	6	45	30	35	5	Ø 3.5–4.5 ¹⁾	100
*S 6 R 50	50190	6	60	30	50	20	Ø 3.5–4.5 ¹⁾	100
*S 6 R 60	50191	6	70	30	60	30	Ø 3.5–4.5 ¹⁾	100
*S 8 R 60	50195	8	70	50	60	10	6 x 65 ¹⁾	50
*S 8 R 80	50196	8	90	50	80	30	6 x 85 ¹⁾	50
S 10 R 60	50170	10	70	50	60	10	7 x 65	100
S 10 R 80	50172	10	90	50	80	30	7 x 85	200
S 10 R 100	50173	10	110	50	100	50	7 x 105	200
S 10 R 115	50174	10	125	50	115	65	7 x 120	200
S 10 R 135	50175	10	145	50	135	85	7 x 140	200
S 10 R 160	50176	10	170	50	160	110	7 x 165	100
S 10 R 185	50179	10	195	50	185	135	7 x 190	100
S 10 R 230	50180	10	240	50	230	180	7 x 235	100
S 12 R 100	50177	12	110	60	100	40	10 x 105	100
S 12 R 135	50178	12	145	60	135	75	10 x 140	100
S 14 R 90	59194	14	100	70	90	20	10 x 95	50
S 14 R 135	59175	14	145	70	135	65	10 x 140	50
S 14 R 160	59176	14	170	70	160	90	10 x 165	50
S 14 R 185	59177	14	195	70	185	115	10 x 190	50
S 14 R 200	59195	14	210	70	200	140	10 x 205	50
S 14 R 230	59178	14	240	70	230	160	10 x 235	50
S 14 R 260	59190	14	270	70	260	190	10 x 265	50
S 14 R 290	59191	14	300	70	290	220	10 x 295	50
S 14 R 320	59192	14	330	70	320	250	10 x 325	50
S 14 R 360	59193	14	370	70	360	290	10 x 365	50

*Without building-inspectorate approval.

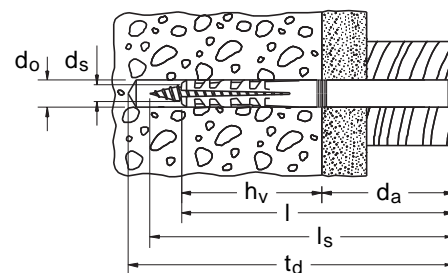
¹⁾Commercially available wood or chipboard screws.



S 8 R + WH – Hook fixing

Type	Art. No.	d ₀ Drill Ø mm	t ₃ Min. drill-hole depth from OK com- ponent to be attached mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	d _s x l _s Angle hook size mm	Qty. per pack
*S 8 R 60	50195	8	70	50	60	10		50
*WH 5.8x80	80912					20	5.8 x 80	50

*Without Approval, not pre-assembled.



FRAME FIXINGS

fischer S-H-R frame fixing

The push-through fixing for perforated and hollow bricks as well as solid building materials with low compressive strengths.

- 1 Frame fixing S-H-R
- 2 fischer safety screw, zinc plated and passivated and A4 stainless steel



Approvals



Approval for anchoring facade coverings and other statically comparable systems.



Boverket Typgodkännande nr 3228/88

Suitability

Suitable for:

perforated bricks, hollow blocks, sand-lime perforated bricks, aircrete, lightweight concrete, solid pumice stone and other building materials with low compressive strengths.

For fixing:

timber battens, wooden laths, skirting, facade and roof substructures, metal and plastic, window and door frames, metal profiles, insulants, fireproof doors, sheet metal, cladding etc.

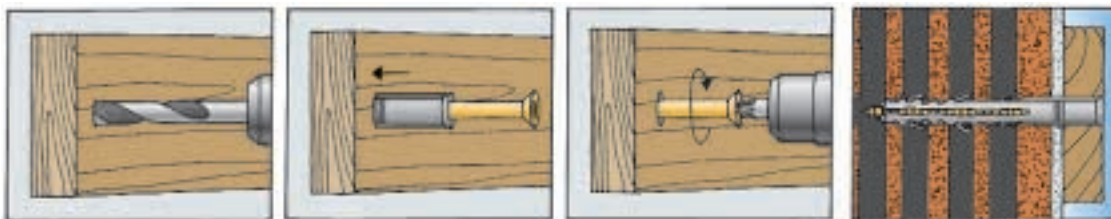
Description/Installation

- As for S-R
- With hole-punch for aircrete
 - = higher loads due to compressed material
 - = building-inspectorate Approval
- Long expansion length guarantees maximum load-bearing capacity.

Installation examples



Installation diagram



fischer S-H-R frame fixing

Technical data



S-H-RS-Z

with zinc plated and passivated countersunk wood screw for Pozi-Bit size 3

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d ₃ Max. fixing thick- ness mm	d ₃ x l ₃ fischer safety screw size mm	Qty. per pack
* S 8 H 100 RS-Z	80647	8	110	80	100	20	6 x 105	50
* S 8 H 120 RS-Z	80648	8	130	80	120	40	6 x 125	50

* Without building-inspectorate Approval, not pre-assembled.



S-H-RT – pre-assembled

with zinc plated and passivated fischer safety screw for Torx 30¹⁾ or T40

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d ₃ Max. fixing thick- ness mm	d ₃ x l ₃ fischer safety screw size mm	Qty. per pack
S 8 H 100 RT	80720	8	110	80	100	20	6 x 105 ¹⁾	50
S 8 H 120 RT	80721	8	130	80	120	40	6 x 125 ¹⁾	50
S 10 H 80 RT	83619	10	90	70	80	10	7 x 85	50
S 10 H 100 RT	83620	10	110	70	100	30	7 x 105	50
S 10 H 115 RT	83621	10	125	70	115	45	7 x 120	50
S 10 H 135 RT	83622	10	145	70	135	65	7 x 140	50
S 10 H 160 RT	83623	10	170	70	160	90	7 x 165	50
S 10 H 185 RT	83624	10	195	70	185	115	7 x 190	50
S 10 H 230 RT	83625	10	240	70	230	160	7 x 235	50
²⁾ S 14 H 135 RT	80552	14	145	90	135	45	10 x 140	50
²⁾ S 14 H 160 RT	80553	14	170	90	160	70	10 x 165	50
²⁾ S 14 H 185 RT	80554	14	195	90	185	95	10 x 190	50

¹⁾ Torx 30 (no building-inspectorate Approval).

²⁾ Not pre-assembled – For matching ADT cover caps refer to page 37.



S-H-RSS – pre-assembled

with zinc plated and passivated, hexagonal fischer safety wood screw SW 13 or 17

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d ₃ Max. fixing thick- ness mm	d ₃ x l ₃ fischer safety screw size mm	Qty. per pack
S 10 H 80 RSS	83640	10	90	70	80	10	7 x 85	50
S 10 H 100 RSS	83641	10	110	70	100	30	7 x 105	50
²⁾ S 14 H 100 RSS	80633	14	110	90	100	10	10 x 105	50
²⁾ S 14 H 230 RSS	89634	14	240	90	230	140	10 x 235	25

²⁾ not pre-assembled and SW 17



Aircrete hole punch GBS¹⁾

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	To mach	Qty. per pack
GBS 10 x 80	50590	9	85	S 10 H 80 R	1
GBS 10 x 100	50591	9	105	S 10 H 100 R	1
GBS 10 x 115	50592	9	120	S 10 H 115 R	1
GBS 10 x 135	50593	9	140	S 10 H 135 R	1
GBS 10 x 160	50594	9	165	S 10 H 160 R	1
GBS 10 x 185	50595	9	190	S 10 H 185 R	1
GBS 10 x 230	50596	9	235	S 10 H 230 R	1

¹⁾ In accordance with the Approval, the GBS hole punch must be used to make holes

Technical data



S-H-R – without screw

For matching screws refer to page 37.

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d ₃ Max. fixing thick- ness mm	d ₃ x l ₃ fischer safety screw size mm	Qty. per pack
* S 8 H 80 R	52171	8	90	80	80	–	6 x 85 ³⁾	100
* S 8 H 100 R	52168	8	110	80	100	20	6 x 105 ³⁾	100
* S 8 H 120 R	52169	8	130	80	120	40	6 x 125 ³⁾	100
S 10 H 80 R	52170	10 ¹⁾	90	70	80	10	7 x 85	200
S 10 H 100 R	52167	10 ¹⁾	110	70	100	30	7 x 105	200
S 10 H 115 R	52179	10 ¹⁾	125	70	115	45	7 x 120	200
S 10 H 135 R	52182	10 ¹⁾	145	70	135	65	7 x 140	200
S 10 H 160 R	52183	10 ¹⁾	170	70	160	90	7 x 165	100
S 10 H 185 R	52184	10 ¹⁾	195	70	185	115	7 x 190	100
S 10 H 230 R	52185	10 ¹⁾	240	70	230	160	7 x 235	100
S 14 H 100 R	59179	14	110	90	100	10	10 x 105	50
S 14 H 135 R	59180	14	145	90	135	45	10 x 140	50
S 14 H 160 R	59181	14	170	90	160	70	10 x 165	50
S 14 H 185 R	59182	14	195	90	185	95	10 x 190	50
S 14 H 230 R	52178	14	240	90	230	140	10 x 235	50
S 14 H 260 R	59183	14	270	90	260	170	10 x 265	50
S 14 H 290 R	59184	14	300	90	290	200	10 x 295	50
S 14 H 320 R	59185	14	330	90	320	230	10 x 325	50
S 14 H 360 R	59186	14	370	90	360	270	10 x 365	50
* S 16 H 100 R	59187	16	120	90	100	10	12 ²⁾	50
* S 16 H 135 R	59188	16	155	90	135	45	12 ²⁾	50
* S 16 H 160 R	59189	16	180	90	160	70	12 ²⁾	50

* Without Approval.

¹⁾ In accordance with the Approval, the GBS hole punch must be used to make holes in aircrete.

²⁾ Also suitable for screws with a metric M12 thread.

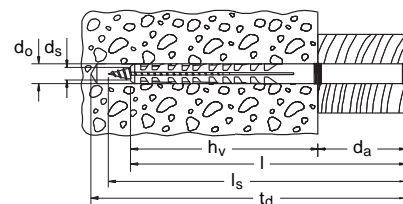
³⁾ Commercially available wood or chipboard screws.

Ultimate loads [kN] (mean values)

Anchorage substrate	Fixing type	S 8 H 80 R	S 10 H-R	S 14 H-R
Perforated brick Hlz 20		2.0	3.2	3.5
Solid pumice V4		1.5	2.6	3.0
Sand-lime perforated brick KSL 12		1.4	2.0	2.4

kN = Kilonewton (1 kN ≈ 100 kp)

We recommend the use of an appropriate safety factor.



Installation advice:

For installations in perforated and hollow bricks drill with a rotary action only (hammer switched off).

The frame fixings S 10 H-R only require an anchorage depth of 70 mm.

fischer GS screw eyes

The universal screw eye for nylon fixings and timber.

- 1 Screw eye GS
- 2 Fixing S 12 R
- 3 Fixing S 14 H-R



Suitability

Suitable for:

concrete, lightweight concrete, natural stone, solid blocks, perforated bricks, hollow blocks.

For fixing:

Ropes, chains, climbing scaffolds, lamps, suspension cables, washing lines, hanging flower baskets etc.

Technical data

zinc plated and passivated, strength class 4.6

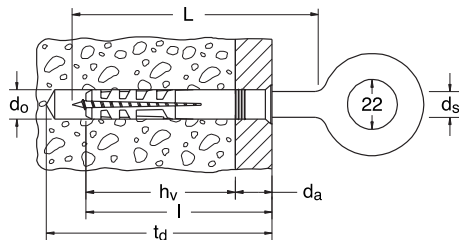
Type	Art. No.	Shaft dimensions d_s Ø mm	L length mm	Installation depth mm	To match fixing	Eye Ø mm	Qty. per pack
GS 8 x 80	80918	8	80	58	S 10	22	20
GS 8 x 100	80919	8	100	58	S 10	22	20
GS 8 x 120	80920	8	120	58	S 10	22	20
GS 10 x 160	80929	10	160		S 12 R, S 14 H-R, GB 14	30	20

Type	Art. No.	d_o Drill Ø mm	t_d Min. drill-hole depth for through fixing mm	h_v Min. anchorage depth mm	l Fixing length mm	d_a Max. fixing thickness mm	Quantity per pack
S 12 R 100	50177	12	110	60	100	40	100
S 12 R 135	50178	12	145	60	135	75	100
S 14 H 100 R	59179	14	110	90	100	10	50
S 14 H 135 R	59180	14	145	90	135	45	50

Description/Installation

- High load-bearing capacity in conjunction with the recommended fixings.
- The eye of the screw is welded to prevent bending open.

Installation example

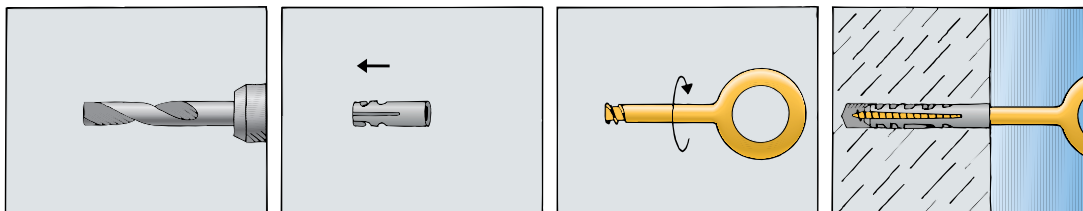


Ultimate loads [kN] (mean values)

	S 10	S 12 R	S 14 H...R
Concrete ≥ B15	4.7	7.2	
Solid brick Mz 12	4.4	7.0	
Sand-lime solid brick KS 12	4.0	5.9	
Perforated brick Hlz 12	2.5	2.5	3.5
Solid pumice V4	1.8	2.0	3.0
Sand-lime perforated brick KSL 12		2.1	2.4

We recommend the use of an appropriate safety factor.

Installation diagram



FRAME FIXINGS

fischer safety screws

In conjunction with fischer frame and aircrete fixings.



Countersunk head

Hexagon head



for -Bit T40
cover caps



for SW 13
and ADT[®] or 17

- Steel strength 6.8 or A 4-70, thereby high permissible bending moments and high torsional strength.
- Considerably increased thread core cross-section, thereby higher expansion forces and higher load-bearing capacity.
- At least 5 µ, zinc plated and passivated thereby increased corrosion protection. Also approved for facades, see approval, section 3.3.2. Stainless steel A4 for corrosion-resistant fixings.

Screw driving options:

- Bit – easy to assembly and suitable for cover caps
- Pozi-Bit** – the conventional countersunk screw
- Hexagon** – mainly for the installation of metal parts

The fischer safety screw SH-T for -bits with substantial advantages:

- High torque transmission
- Only slight counter-pressure during installation
- No slippage of bit
- No damage to screw head
- Only 1 bit (T40) for all screws
- High tool service life
- Matching cover caps for all screws



Dimension mm	Quantity per pack	Safety screw with hexagon head, zinc plated and passivated		Safety screw with hexagon head A4 stainless steel		Safety screw with countersunk head for -bit, zinc plated and passivated		Safety screw with countersunk head for -bit, A4 stainless steel	
		Art. No.	Width across lead	Art. No.	Width across lead	Art. No.	T-size	Art. No.	T-size
5 x 85	200					89230	Z-Gr. 2 ¹⁾	89240	Z-Gr. 2 ¹⁾
7 x 65	200	80404	13	80260	13				
7 x 85	200	80405	13	80261	13	89170	40	89244	40
7 x 105	200	80406	13	80262	13	89172	40	89246	40
7 x 120	200	80407	13	80263	13	89174	40	89248	40
7 x 140	200	80408	13	80264	13	89176	40	89250	40
7 x 165	200	80409	13	80265	13	89178	40	89252	40
7 x 190	100	80410	13	80274	13	89180	40	89254	40
7 x 235	100	80411	13	80273	13	89182	40	89256	40
10 x 95	50	80412	17	80266	17				
10 x 105	50	80413	17	80271	17	89186	40		
10 x 140	50	80415	17	80267	17	89188	40	89262	40
10 x 165	50	80416	17	80268	17	89190	40	89264	40
10 x 190	50	80417	17	80269	17	89192	40	89266	40
10 x 205	50	88645	17	88646	17	88647	40	88648	40
10 x 235	50	80418	17	80270	17	89194	40	89268	40
10 x 265	50	80419	17	80275	17	89207	40	89271	40
10 x 295	50	80420	17	80276	17	89208	40	89272	40
10 x 325	50	80426	17	80277	17	89209	40	89273	40
10 x 365	50	80427	17	80278	17	89210	40	89274	40

¹⁾ Cross-drive screwdriver Z.

fischer ADT cover caps

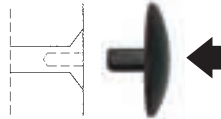
for all -screws with T 40 bit.



Type	Art. No.	Cap Ø mm	To match safety screw SH-T	Quantity per pack
ADT 15 W white	60326	15	Ø 7	100
ADT 15 HB light brown	60327	15	Ø 7	100
ADT 15 DB dark brown	60329	15	Ø 7	100
ADT 15 S black	60325	15	Ø 7	100
ADT 18 W white	60334	18	Ø 10	100
ADT 18 DB dark brown	60337	18	Ø 10	100

fischer ADK cover caps

for all fischer LS-Z screws.



Type	Art. No.	Cap Ø mm	Pin length mm	Quantity per pack
ADK 18 W white	60298	18	9	100
ADK 18 DB dark brown	60300	18	9	100

fischer F-S/F-HS window frame fixing

The expansion fixing made of high-quality nylon.

- 1 Window frame fixing F-S
- 2 Window frame fixing F-HS



Suitability

Suitable for:

concrete, solid bricks, sand-lime solid bricks, perforated bricks, sand-lime perforated bricks, hollow blocks, solid pumice, aircrete, natural stone.

For fixing:

window and door frames made of metal, timber, plastic, wooden laths, etc.

Description

- Plastic sleeve prevents contact corrosion and thermal bridges.
- The locking lugs the collar allow stand-off installation without additional wedging.
- Wide range with countersunk and cheese heads.
- Cover caps available in white and dark brown.

Technical data



F-S – with zinc plated and passivated countersunk screw and cross-drive head Z 3
Screw head Ø 10 mm and 12 mm

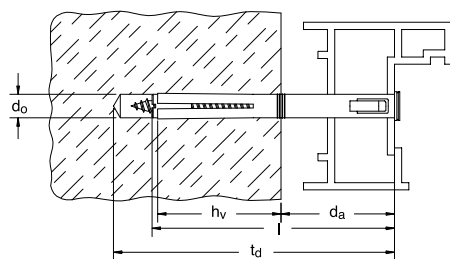
Type	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	Max. fixing thick- ness mm	d _a Fixing edge Ø mm	Qty. per pack
F 8 S 100	88635	8	115	40	100	50	13	50
F 8 S 120	88636	8	135	40	120	70	10	50
F 8 S 140	88637	8	155	40	140	90	13	50
F 10 S 75	88625	10	90	50	75	15	12	50
F 10 S 100	88626	10	115	50	100	40	12	50
F 10 S 120	88627	10	135	50	120	60	12	50
F 10 S 140	88628	10	155	50	140	80	12	50
F 10 S 165	88629	10	180	50	165	105	12	50



F 10 HS – with zinc plated and passivated cheese head with cross-drive recess Z 3
Screw head Ø 13.5 mm

F 10 HS 120	50912	10	135	50	120	60	12	50
F 10 HS 140	50913	10	155	50	140	80	12	50
F 10 HS 165	50914	10	180	50	165	105	12	50

For ultimate loads refer to next page.



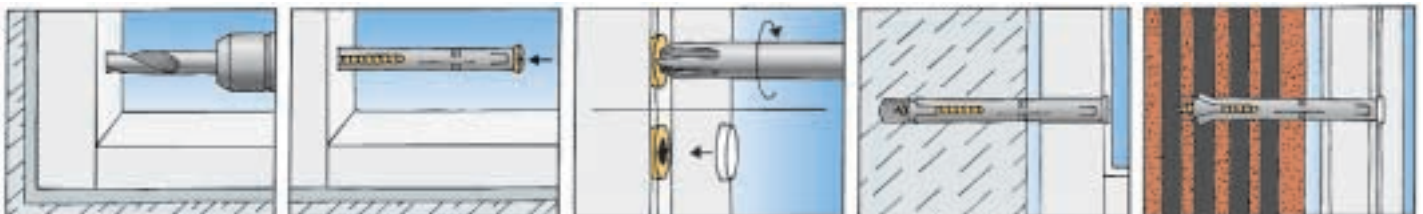
Cover caps for F-S
Cross-drive Z countersunk screws

Type	Art. No.	Ø mm	Quantity per pack
ADF 12 W weiß	60275	12	100

Cover cap for F 10 HS

ADH 15 W white	50916	15	3.5	100
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Installation diagram



fischer F-M metal frame fixing

For rapid and stable installation of window and door frames.

1 Metal frame fixing F-M



1

Suitability

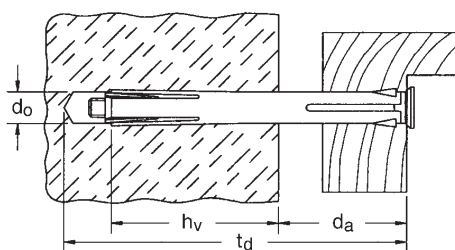
Suitable for:

concrete, solid bricks, sand-lime solid bricks, perforated bricks, sand-lime perforated bricks, hollow blocks solid pumice, aircrete, natural stone.

For fixing: window and door frames made of metal, timber and plastic, etc.

Description

- Through fixing for high lateral force.
- For further details refer to the F-S fixing.



Ultimate loads [kN] (mean values)

	F 8 S	F 10 S/F 10 HS	F 10 M
Concrete ≥ B 25	3.1	5.9	5.5
Solid brick ≥ Mz 12	3.6	5.0	5.1
Sand-lime solid brick ≥ KS 12	3.6	5.0	5.1
Solid brick made from lightweight concrete ≥ V 2	1.0	-	1.9
Sand-lime perforated brick ≥ KSL 6	1.0	-	2.2

We recommend the use of an appropriate safety factor.

Technical data



F 8 M – with zinc plated and passivated, flat mushroom head screw and cross-drive recess Z 2 screw head Ø 9 mm

Type	Art. No.	d_o Drill Ø mm	t_d Min. drill-hole depth for through fixing mm	h_v Min. anchor- age depth mm	l Fixing length mm	d_a Max. fixing thickness mm	Quantity per pack
F 8 M 72	88660	8	90	30	72	42	100
F 8 M 92	88662	8	110	30	92	62	100
F 8 M 112	88664	8	130	30	112	82	100
F 8 M 132	88666	8	150	30	132	102	100



F 10 M – with zinc plated and passivated countersunk screw and cross-drive head Z 3 screw head Ø 13 mm

F 10 M 72	88670	10	90	30	72	42	100
F 10 M 92	88672	10	110	30	92	62	100
F 10 M 112	88674	10	130	30	112	82	100
F 10 M 132	88676	10	150	30	132	102	100
F 10 M 152	88678	10	170	30	152	122	100
F 10 M 182	88680	10	200	30	182	152	50
F 10 M 202	61064	10	220	30	202	172	50



ADM 8



ADM 10



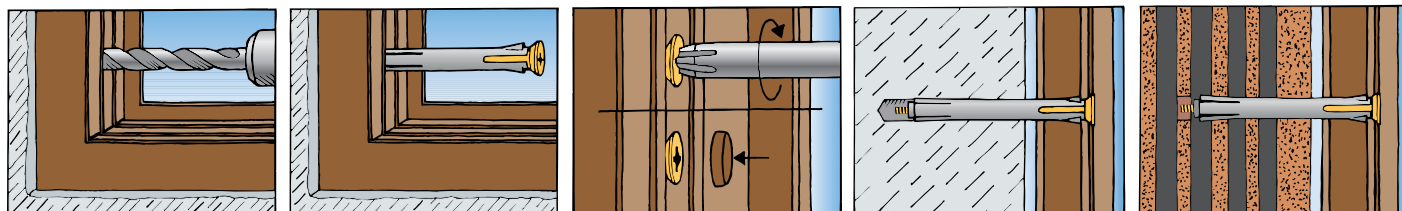
ASM 10

Cover caps for F 8 M and F 10 M

Type	Art. No.	Quantity per pack
ADM 8 W white	88684 Ø 10 suitable for F 8 M	100
ADM 8 DB dark brown	88686 Ø 10 suitable for F 8 M	100
ADM 10 W white	88688 Ø 15 suitable for F 10 M	100
ADM 10 DB dark brown	88690 Ø 15 suitable for F 10 M	100
ASM 10 W* white	60320 Ø 16 suitable for F 10 M	100
ASM 10 DB* dark brown	60321 Ø 16 suitable for F 10 M	100


* flat, with over-lap.

Installation diagram



For your notes

Frame fixings



High performance steel anchors

High performance
steel anchors



HIGH PERFORMANCE STEEL ANCHORS

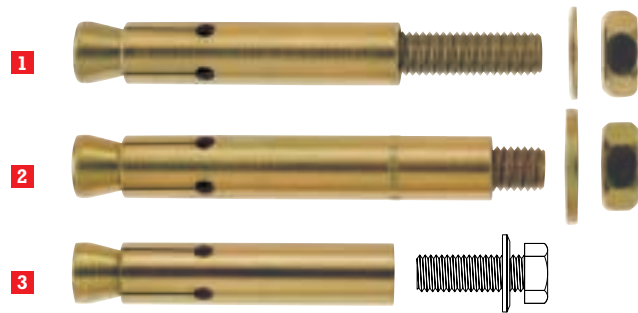
fischer FZA Zykon anchor

Stress-free undercut anchor !

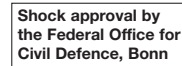
- 1 Bolt anchor FZA
- 2 Through anchor FZA-D
- 3 Internally threaded anchor FZA-I (see also FZEA)

Material: zinc plated and passivated steel and stainless steel A4.

Also available in highly corrosion-resistant stainless steel material 1.4529



Approvals



Size of anchors as per test certificate

Suitability

Suitable for:

normal concrete \geq B15, dense natural stone.

For fixing:

steelwork in general, railings, cable trays, anchor rails, machines, brackets, gates, staircases, ladders, facades, windows, etc.

- Atmospheres which are contaminated with high levels of chloride, sulphur dioxide and high humidity, cause high levels of corrosion (e.g. indoor swimming pools, chemical industries, polluted coastal regions).

- For these difficult anchoring conditions, fischer produce certain anchors in the high alloy stainless steel, material 1.4529.

Description

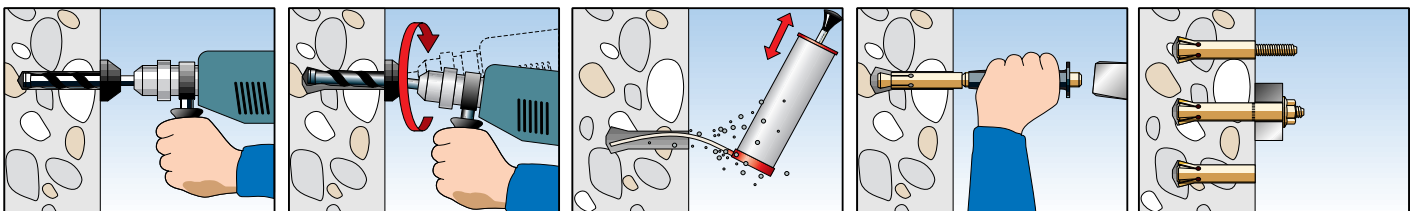
- With European approval for cracked concrete.
- Positive form-locking in the undercut drill-hole.
- High ultimate (mean values) and recommended loads in both the compression or tensile zones of concrete.
- Reduced axial- and edge spacing (safety for planners and installers).
- Simple installation – just one drill bit required for drilling and undercutting the hole (no need to change tools).
- Also available as hammer-set internally threaded anchor (economical, time saving see FZEA).
- Wide product range.
- Building-inspectorate Approved in many countries, incl. USA.

Installation advice

The anchor is installed by inserting it into the undercut hole. With the use of the appropriate setting tool and hammer. The anchor sleeve is driven over the end of the cone bolt to form-lock with the base material. A further option is to use the setting tool which fits over the end of the FZUB drill bit and sets the anchor in the same way as describe but, uses the hammer action of the drilling machine instead.

Correct installation is guaranteed when the anchor sleeve of the FZA and FZA-I sits either flush or just below the surface of the concrete. Additional installation safety is provided by the green ring on the anchor thread which appear after correct installation of the FZA and FZA-D. Incorrect installation is therefore virtually impossible.

Installation diagram

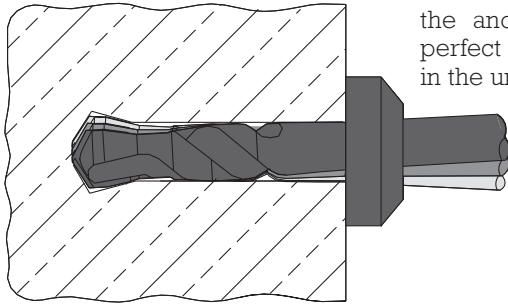


fischer FZA Zykon anchor

Installation sequence

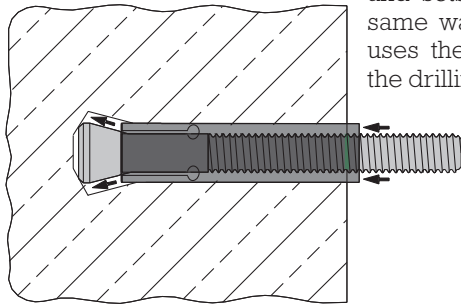
The drill-hole

is produced in one operation. A cylindrical hole is produced to the required depth. After which, with the same drill bit the undercut hole is made. The hole geometry is always ensured to be correct, as the drill bit has a depth stop to prevent the hole from being too deep. The motion to produce the undercut is defined by the drill bit's own geometry and the ability to move the drill bit in such a way that the bottom of the hole is enlarged. Therefore, the anchor will be a perfect form-locking fit in the undercut hole.



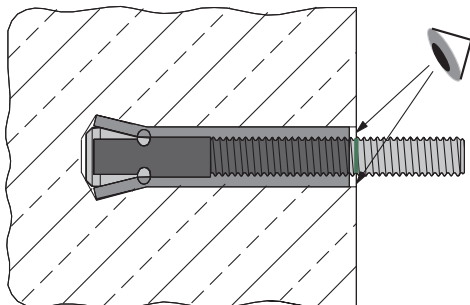
The Zykon anchor

The anchor is installed by inserting it into the undercut hole. With the use of the appropriate setting tool and hammer. The anchor's sleeve is driven over the end of the cone bolt to form-lock with the base material. A further option is to use the setting tool which fits over the end of the FZUB drill bit and sets the anchor in the same way as described but, uses the hammer action of the drilling machine instead.



The check:

Just a glance. The anchor sleeve sits either flush with the surface of the drill hole or just below. The green marker ring is visible. The anchor can be loaded immediately after the installation torque has been applied.



Installation examples



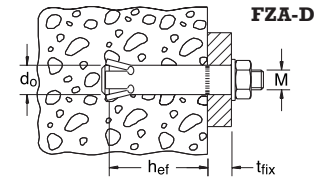
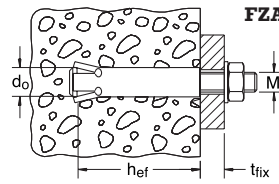
High performance steel anchors

fischer FZA Zykon anchor



Technical data

Zykon bolt anchor FZA



Type	Art. No.	d ₀ Drill Ø mm	h _{ef} Eff. anchor- age depth mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty. per pack
Zinc plated and passivated steel (material tapered bolt: strength class 8.8)							
FZA 10 x 40 M 6/10	60712	10	40	10	M 6	10	25
FZA 12 x 40 M 8/15	60715	12	40	15	M 8	13	25
FZA 14 x 40 M10/25	60718	14	40	25	M10	17	25
FZA 12 x 50 M 8/15	60716	12	50	15	M 8	13	20
FZA 14 x 60 M10/25	60719	14	60	25	M10	17	10
FZA 18 x 80 M12/25	60721	18	80	25	M12	19	10
FZA 22 x 100 M16/60	60724	22	100	60	M16	24	10
FZA 22 x 125 M16/60	60725	22	125	60	M16	24	6
A4 stainless steel (material 1.4401)							
FZA 10 x 40 M 6/10 A4	60772	10	40	10	M 6	10	25
FZA 10 x 40 M 6/35 A4	60771	10	40	35	M 6	10	25
FZA 12 x 40 M 8/15 A4	60775	12	40	15	M 8	13	25
FZA 14 x 40 M10/25 A4	60778	14	40	25	M10	17	20
FZA 12 x 50 M 8/15 A4	60776	12	50	15	M 8	13	20
FZA 12 x 50 M 8/50 A4	60774	12	50	50	M 8	13	20
FZA 14 x 60 M10/25 A4	60779	14	60	25	M10	17	10
FZA 14 x 60 M10/50 A4	60766	14	60	50	M10	17	10
FZA 18 x 80 M12/25 A4	60781	18	80	25	M12	19	10
FZA 18 x 80 M12/55 A4	60767	18	80	55	M12	19	10
FZA 22 x 100 M16/60 A4	60782	22	100	60	M16	24	10
FZA 22 x 125 M16/60 A4	60768	22	125	60	M16	24	6

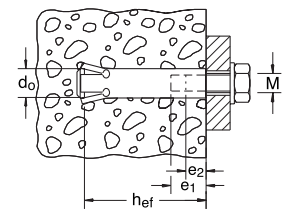
Type	Art. No.	d ₀ Drill Ø mm	h _{ef} Eff. anchor- age depth mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty. per pack
Stainless steel (material 1.4529)							
High corrosion-resistant stainless steel (material 1.4529)							
FZA 10 x 40 M 6/10 C	96214	10	40	10	M 6	10	25
FZA 10 x 40 M 6/35 C	96361	10	40	35	M 6	10	25
FZA 12 x 40 M 8/15 C	96215	12	40	15	M 8	13	25
FZA 14 x 40 M 10/25 C	96228	14	40	25	M10	17	25
FZA 12 x 50 M 8/15 C	96227	12	50	15	M 8	13	20
FZA 12 x 50 M 8/50 C	96362	12	50	50	M 8	13	20
FZA 14 x 60 M 10/25 C	96216	14	60	25	M10	17	10
FZA 14 x 60 M 10/50 C	96358	14	60	50	M10	17	10
FZA 18 x 80 M 12/25 C	96315	18	80	25	M12	19	10
FZA 18 x 80 M 12/55 C	96359	18	80	55	M12	19	10
FZA 22 x 100 M 16/60 C	96364	22	100	60	M16	24	10
FZA 22 x 125 M 16/60 C	96360	22	125	60	M16	24	6
FZA 12 x 50 M 8 D/10 C	96319	12	40	10	M 8	13	25
FZA 12 x 60 M 8 D/10 C	96353	12	50	10	M 8	13	25
FZA 12 x 80 M 8 D/30 C	96354	12	50	30	M 8	13	25
FZA 14 x 80 M 10 D/20 C	96355	14	60	20	M10	17	10
FZA 18 x 100 M 12 D/20 C	96356	18	80	20	M12	19	10
FZA 18 x 130 M 12 D/50 C	96357	18	80	50	M12	19	10

Zykon through-anchor FZA-D



Type	Art. No.	d ₀ Drill Ø mm	h _{ef} Eff. anchor- age depth mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty. per pack
Zinc plated and passivated (material tapered bolt: strength class 8.8)							
FZA 12 x 50 M 8 D/10	60652	12	40	10	M 8	13	25
FZA 12 x 60 M 8 D/10	60653	12	50	10	M 8	13	25
FZA 12 x 80 M 8 D/30	60654	12	50	30	M 8	13	25
FZA 14 x 80 M10 D/20	60657	14	60	20	M10	17	10
FZA 14 x 100 M10 D/40	60658	14	60	40	M10	17	10
FZA 18 x 100 M12 D/20	60684	18	80	20	M12	19	10
FZA 18 x 130 M12 D/50	60685	18	80	50	M12	19	10
FZA 22 x 125 M16 D/25	60663	22	100	25	M16	24	10
A4 stainless steel (material 1.4401)							
FZA 12 x 50 M 8 D/10 A4	60664	12	40	10	M 8	13	25
FZA 12 x 60 M 8 D/10 A4	60665	12	50	10	M 8	13	25
FZA 12 x 80 M 8 D/30 A4	60666	12	50	30	M 8	13	25
FZA 14 x 80 M10 D/20 A4	60669	14	60	20	M10	17	10
FZA 14 x 100 M10 D/40 A4	60670	14	60	40	M10	17	10
FZA 18 x 100 M12 D/20 A4	60672	18	80	20	M12	19	10
FZA 18 x 130 M12 D/50 A4	60673	18	80	50	M12	19	10
FZA 22 x 125 M16 D/25 A4	60675	22	100	25	M16	24	10

Zykon internally-threaded anchor FZA-I






Min. screw quality 8.8 or A4-70

Type	Art. No.	d ₀ Drill Ø mm	h _{ef} Eff. anchor- age depth mm	Internal thread	e ₂ Screw-in depth mm min.	e ₁ max.	Qty. per pack
Zinc plated and passivated (material tapered bolt: strength class 8.8)							
FZA 12 x 40 M 6I	60758	12	40	M 6	8	13	25
FZA 14 x 60 M 8I	60760	14	60	M 8	11	17	20
FZA 18 x 80 M10I	60761	18	80	M10	13	21	10
FZA 22 x 100 M12I	60763	22	100	M12	15	25	10
FZA 22 x 125 M12I	60769	22	125	M12	15	25	10
A4 stainless steel (material 1.4401)							
FZA 12 x 40 M 6I A4	60783	12	40	M 6	8	13	25
FZA 12 x 50 M 6I A4	60784	12	50	M 6	8	13	25
FZA 14 x 60 M 8I A4	60786	14	60	M 8	11	17	20
FZA 18 x 80 M10I A4	60787	18	80	M10	13	21	10
FZA 22 x 100 M12I A4	60788	22	100	M12	15	25	10
FZA 22 x 125 M12I A4	60770	22	125	M12	15	25	10

The correct installation of fischer Zykon anchors according to the Approval is only possible with the following original fischer Zykon tools

In all cases the FZUB Zykon drill bit and the FZE or FZUE setting tools are required.

Drilling and setting tools		Suitable for fixing types				material: zinc plated and passivated, A4 stainless steel and high corrosion-resistant stainless steel DIN 1.4529	Qty, per pack
Type	Art. No.	Bolt anchor	Through-anchor	Internally threaded anchor			
 <p>FZUB drill bit Only approved for Zykon anchor and Zykon hammer set anchor</p>	FZUB 10 x 40	60622	FZA 10 x 40 M 6	—————	—————	1	
	FZUB 12 x 40	60623	FZA 12 x 40 M 8	—————	FZA 12 x 40 M 6 I	1	
	FZUB 12 x 50	60627	FZA 12 x 50 M 8	FZA 12 x 50 M 8 D/10	—————	1	
	FZUB 12 x 60	60625	—————	FZA 12 x 60 M 8 D/10	—————	1	
	FZUB 12 x 80	60626	—————	FZA 12 x 80 M 8 D/30	—————	1	
	FZUB 14 x 40	60624	FZA 14 x 40 M 10	—————	—————	1	
	FZUB 14 x 60	60628	FZA 14 x 60 M 10	—————	FZA 14 x 60 M 8 I	1	
	FZUB 14 x 80	60629	—————	FZA 14 x 80 M 10 D/20	—————	1	
	FZUB 14 x 100	60630	—————	FZA 14 x 100 M 10 D/40	—————	1	
	FZUB 18 x 80	60634	FZA 18 x 80 M 12	—————	FZA 18 x 80 M 10 I	1	
	FZUB 18 x 100	60632	—————	FZA 18 x 100 M 12 D/20	—————	1	
	FZUB 18 x 130	60633	—————	FZA 18 x 130 M 12 D/50	—————	1	
	FZUB 22 x 100	60636	FZA 22 x 100 M 16	—————	FZA 22 x 100 M 12 I	1	
	FZUB 22 x 125	60638	FZA 22 x 125 M 16	FZA 22 x 125 M 16 D/25	FZA 22 x 125 M 12 I	1	
 <p>FZUE¹⁾ machine setting tool For attachment to the drill bit</p>	FZUE 10	60640	FZA 10 x ... M 6	—————	—————	1	
	FZUE 12	60641	FZA 12 x ... M 8	FZA 12 x ... M 8 D	—————	1	
	FZUE 14	60642	FZA 14 x ... M 10	FZA 14 x ... M 10 D	—————	1	
	FZUE 18	60643	FZA 18 x ... M 12	FZA 18 x ... M 12 D	—————	1	
 <p>FZE setting tool Incl centering pin for internally threaded anchor, for installation with a hammer</p>	FZE 10	60740	FZA 10 x ... M 6	—————	—————	1	
	FZE 12	60741	FZA 12 x ... M 8	FZA 12 x ... M 8 D	FZA 12 x ... M 6 I	1	
	FZE 14	60742	FZA 14 x ... M 10	FZA 14 x ... M 10 D	FZA 14 x ... M 8 I	1	
	FZE 18	60743	FZA 18 x ... M 12	FZA 18 x ... M 12 D	FZA 18 x ... M 10 I	1	
	FZE 22	60744	FZA 22 x ... M 16	FZA 22 x ... M 16 D	FZA 22 x ... M 12 I	1	

¹⁾ Not suitable for internally threaded anchor and the following bolt anchors: FZA 12 x 50 M8/50 A4, FZA 14 x 60 M10/50 A4 and FZA 18 x 80 M12/55 A4.

Ultimate loads $F_{u, m}$ [kN] (mean values, non-cracked concrete) of single anchors subjected to tensile and shear loads

Bolt anchor FZA		10 x 40 M6	12 x 40 M8	14 x 40 M10	12 x 50 M8	14 x 60 M10	18 x 80 M12	22 x 100 M16	22 x 125 M16	
Tensile loads	B25 gvz	$N_{u, m}$	16.1*	17.1	17.1	23.9	31.4	48.3	67.5	94.3
	A4	$N_{u, m}$	14.1*	17.1	17.1	23.9	31.4	48.3	67.5	94.3
	B55 gvz	$N_{u, m}$	16.1*	25.3	25.3	29.3*	46.4*	67.4*	100.1	125.6*
	A4	$N_{u, m}$	14.1*	25.3	25.3	25.6*	40.6*	59.0*	100.1	110.0*
Shear loads	≥ B25 gvz	$V_{u, m}$	9.6*	17.6*	27.8*	17.6*	27.8*	40.5*	75.4*	75.4*
	A4	$V_{u, m}$	8.4*	15.4*	24.4*	15.4*	24.4*	35.4*	65.9*	65.9*

Through-anchor FZA-D		12 x 50 M8D/10	12 x 60 M8D/10 12 x 80 M8D/30	14 x 80 M10D/20 14 x 100 M10D/40	18 x 100 M12D/20 18 x 130 M12D/50	22 x 125 M16D/25	
Tensile loads	B25 gvz	$N_{u, m}$	17.1	23.9	31.4	48.3	67.5
	A4	$N_{u, m}$	17.1	23.9	31.4	48.3	67.5
	B55 gvz	$N_{u, m}$	25.3	29.3*	46.4*	67.4*	100.1
	A4	$N_{u, m}$	25.3	25.6*	40.6*	59.0*	100.1
Shear loads	≥ B25 gvz	$V_{u, m}$	23.8*	23.8*	33.6*	53.1*	85.3*
	A4	$V_{u, m}$	25.4*	25.4*	34.5*	56.2*	85.5*

Internally threaded anchor		12 x 40 M6I	12 x 50 M6I	14 x 60 M8I	18 x 80 M10I	22 x 100 M12I	22 x 125 M12I	
Tensile load	B25 gvz ¹⁾	$N_{u, m}$	16.1*	16.1*	23.0*	26.9*	63.0*	63.0*
	A4 ²⁾	$N_{u, m}$	13.4*	13.4*	18.0*	22.7*	53.2*	53.2*
	B55 gvz ¹⁾	$N_{u, m}$	16.1*	16.1*	23.0*	26.9*	63.0*	63.0*
	A4 ²⁾	$N_{u, m}$	13.4*	13.4*	18.0*	22.7*	53.2*	53.2*
Shear loads	≥ B25 gvz ¹⁾	$V_{u, m}$	9.6*	9.6*	17.6*	27.8*	40.5*	40.5*
	A4 ²⁾	$V_{u, m}$	8.4*	8.4*	15.4*	24.4*	35.4*	35.4*

* The load-bearing capacity of the steel is decisive.

¹⁾ These values apply to the use of screws of strength class 8.8

²⁾ These values apply to the use of screws of strength class A4-700

We recommend the use of an appropriate safety factor.

fischer FZA Zykon anchor

Maximum recommended load F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40^{1)2)}$ in **non-cracked** concrete

Bolt anchor FZA			10 x 40 M6	12 x 40 M8	14 x 40 M10	12 x 50 M8	14 x 60 M10	18 x 80 M12	22 x 100 M16	22 x 125 M16		
Tensile load	non-cracked concrete ³⁾	B25 gvz	4.5	5.4	5.4	6.3	10.0	15.3	21.4	30.0		
		A4	4.5	5.4	5.4	6.3	10.0	15.3	21.4	30.0		
		B55 gvz	6.7	8.0	8.0	9.4	14.8	22.7	31.8	44.4		
		A4	5.4*	8.0	8.0	9.4	14.8	22.6*	31.8	42.1*		
		non-cracked concrete ⁴⁾	B25 gvz	3.2	3.8	3.8	4.8	8.0	13.8	21.4	30.0	
			A4	3.2	3.8	3.8	4.8	8.0	13.8	21.4	30.0	
	non-cracked concrete ⁴⁾	B55 gvz	4.7	5.6	5.6	7.1	11.8	20.5	31.8	44.4		
		A4	4.7	5.6	5.6	7.1	11.8	20.5	31.8	42.1*		
		Shear load	non-cracked concrete ³⁾	B25 gvz	4.6*	7.1	7.1	8.4*	13.3*	19.3*	35.9*	35.9*
				A4	3.2*	5.9*	7.1	5.9*	9.3*	13.6*	25.2*	25.2*
				B55 gvz	4.6*	8.4*	10.5*	8.4*	13.3*	19.3*	35.9*	35.9*
			non-cracked concrete ⁴⁾	A4	3.2*	5.9*	9.3*	5.9*	9.3*	13.6*	25.2*	25.2*
B25 gvz	4.6*			4.9	4.9	7.4	13.3*	19.3*	35.9*	35.9*		
A4	3.2*			4.9	4.9	5.9*	9.3*	13.6*	25.2*	25.2*		
non-cracked concrete ⁴⁾	B55 gvz	4.6*	7.3	7.3	8.4*	13.3*	19.3*	35.9*	35.9*			
	A4	3.2*	5.9*	7.3	5.9*	9.3*	13.6*	25.2*	25.2*			

Maximum recommended load F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40^{1)2)}$ in **cracked** concrete

Bolt anchor FZA			10 x 40 M6	12 x 40 M8	14 x 40 M10	12 x 50 M8	14 x 60 M10	18 x 80 M12	22 x 100 M16	22 x 125 M16		
Tensile load	cracked concrete ³⁾ (w ~ 0.4 mm)	B25 gvz	2.9	3.5	3.5	4.1	6.5	9.9	13.9	19.4		
		A4	2.9	3.5	3.5	4.1	6.5	9.9	13.9	19.4		
		B55 gvz	4.4	5.2	5.2	6.1	9.6	14.7	20.6	28.8		
		A4	4.4	5.2	5.2	6.1	9.6	14.7	20.6	28.8		
		cracked concrete ⁴⁾ (w ~ 0.4 mm)	B25 gvz	2.1	2.5	2.5	3.1	5.2	8.9	13.9	19.4	
			A4	2.1	2.5	2.5	3.1	5.2	8.9	13.9	19.4	
	cracked concrete ⁴⁾ (w ~ 0.4 mm)	B55 gvz	3.1	3.7	3.7	4.6	7.7	13.3	20.6	28.8		
		A4	3.1	3.7	3.7	4.6	7.7	13.3	20.6	28.8		
		Shear load	cracked concrete ³⁾ (w ~ 0.4 mm)	B25 gvz	4.6	4.6	4.6	6.4	12.9	19.3*	27.8	35.9*
				A4	3.2*	4.6	4.6	5.9*	9.3*	13.6*	25.2*	25.2*
				B55 gvz	4.6*	6.8	6.8	8.4*	13.3*	19.3*	35.9*	35.9*
		cracked concrete ⁴⁾ (w ~ 0.4 mm)	A4	3.2*	5.9*	6.8	5.9*	9.3*	13.6*	25.2*	25.2*	
B25 gvz	3.2		3.2	3.2	4.8	10.3	17.9	27.8	35.9*			
A4	3.2		3.2	3.2	4.8	9.3*	13.6*	25.2*	25.2*			
cracked concrete ⁴⁾ (w ~ 0.4 mm)	B55 gvz	4.6	4.7	4.7	7.1	13.3*	19.3*	35.9*	35.9*			
	A4	3.2*	4.7	4.7	5.9*	9.3*	13.6*	25.2*	25.2*			

* The load-bearing capacity of the steel is decisive

1) Corresponding axial and edge spacing:

Tensile load: $s \geq s_{cr.sp.}$ $c \geq c_{cr.sp.}$

Shear load: The shear load influences the corresponding axial and edge spacing as does the given structural component thickness and edge reinforcement. For these reasons no values can be given.

2) The value $\gamma_F = 1.40$ is derived from the relationship between that of the dead and service loads.

For deviating safety coefficients the recommended loads must be altered accordingly.

3) Non-reinforced and normal reinforced concrete.

4) Reinforced concrete with close reinforcement.

The load values for FZA-D through-anchors and FZA-I internally threaded anchors can be obtained on request.

For further detailed informations to "European Technical Approvals ETAs" and its values, please contact fischer technical service department (see last page for contacts).

For your notes



High performance
steel anchors

fischer FZEA Zykon hammerset anchors

The economic undercut anchor with an internal thread!

1 fischer Zykon hammerset anchor FZEA

Material: zinc plated and passivated steel, A4 stainless steel and high corrosion resistant stainless steel, material 1.4529



Approvals



Approved for cracked concrete



Shock-tested, B2S approval for shockproof anchors in civilian shelters.



Approved for use with fixed water sprinkler systems, from M8.



Shock approval by the Federal Office for Civil Defence, Bonn;



Fire resistance classification up to F 90

Suitability

Suitable for:

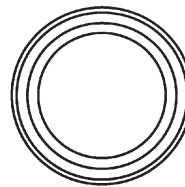
concrete \geq B15, dense natural stone.

For fixing:

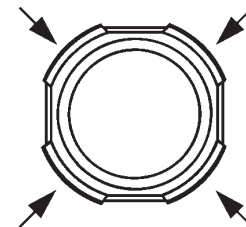
pipelines, pipe brackets, ventilation pipes, sprinkler systems, suspended ceilings, gratings, railings, facades, flat and profiled steel.

Correct installation is guaranteed when the anchor sleeve is flush with the surface of the concrete and the 4 impressions are visible.

Before installation



After correct installation



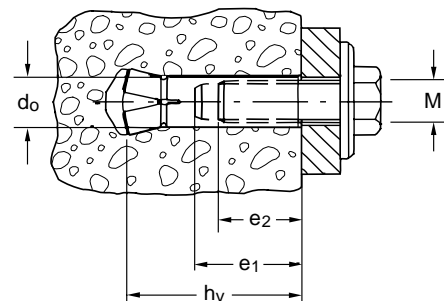
4 impressions for visual control

Description/Installation

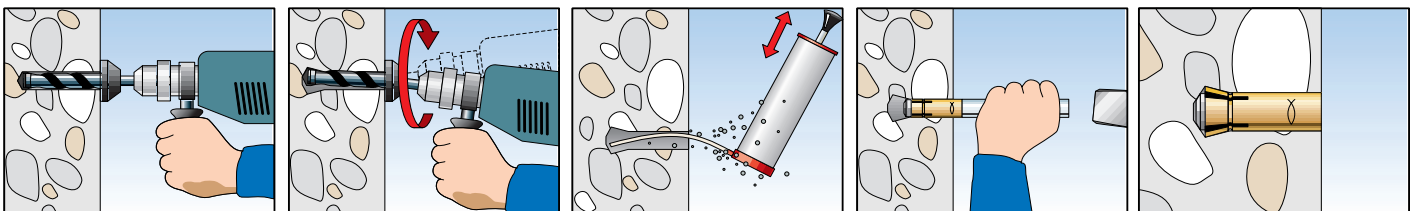
- Form- locking of the anchor sleeve with the undercut hole by hammer setting the anchors internal cone.
- Reduced setting energy.
- Suitable for the concrete tensile zones.
- Further details can be found under the FZA product information.
- Visual installation check (see drawing).

To determine the thread or bolt length:

- Min. thread penetration depth into anchor e_2
- + Thickness of object to be attached
- = Required length,
- in case of threaded bolt additionally
- + Thickness of washer and nut



Installation diagram



fischer FZEA Zykon hammerset anchors

Technical data



Load class [kN]	Type	Art. No.	d ₀ Drill Ø mm	h _v Anchorage depth mm	Internal thread	e ₂ screw-in depth mm min.	e ₁ max.	Qty. per pack
FZEA – zinc plated and passivated steel								
1.5	FZEA 10 x 40 M 8	60694	10	40	M 8	11	17	100
1.5	FZEA 12 x 40 M 10	60695	12	40	M 10	13	19	100
1.5	FZEA 14 x 40 M 12	60696	14	40	M 12	15	21	50



FZEA – A4 stainless steel (material 1.4401)

1.5	FZEA 10 x 40 M 8 A4	60697	10	40	M 8	11	17	100
1.5	FZEA 12 x 40 M 10 A4	60698	12	40	M 10	13	19	100
1.5	FZEA 14 x 40 M 12 A4	60699	14	40	M 12	15	21	50

FZEA – high corrosion resistant stainless steel (material 1.4529)

FZEA 10 x 40 M 8 C	96236	10	40	M 8	11	17	100
FZEA 12 x 40 M 10 C	96237	12	40	M 10	13	19	100
FZEA 14 x 40 M 12 C	96238	14	40	M 12	15	21	50

Maximum recommended load F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40^{1) 2)}$

Zykon hammerset anchor FZEA		10x40 M8	12x40 M10	14x40 M12	
Tensile load non-cracked concrete ³⁾	B25 gvz ⁵⁾	4.5	5.4	5.4	
	A4 ⁶⁾	4.5	5.4	5.4	
	B55 gvz ⁵⁾	6.7	8.0	8.0	
	A4 ⁶⁾	6.7	8.0	8.0	
	non-cracked concrete ⁴⁾	B25 gvz ⁵⁾	3.2	3.8	3.8
		A4 ⁶⁾	3.2	3.8	3.8
B55 gvz ⁵⁾		4.7	5.6	5.6	
A4 ⁶⁾		4.7	5.6	5.6	
Shear load non-cracked concrete ³⁾		B25 gvz ⁵⁾	5.1*	5.4	5.4
		A4 ⁶⁾	4.1*	5.4*	5.4
	B55 gvz ⁵⁾	5.1*	6.2*	7.5*	
	A4 ⁶⁾	4.1*	5.4*	6.5*	
	non-cracked concrete ⁴⁾	B25 gvz ⁵⁾	3.8	3.8	3.8
		A4 ⁶⁾	3.8	3.8	3.8
B55 gvz ⁵⁾		5.1*	5.6	5.6	
A4 ⁶⁾		4.1*	5.4*	5.6	
Tensile load cracked concrete ³⁾ (w ~ 0.4 mm)		B25 gvz ⁵⁾	2.9	3.5	3.5
		A4 ⁶⁾	2.9	3.5	3.5
	B55 gvz ⁵⁾	4.4	5.2	5.2	
	A4 ⁶⁾	4.4	5.2	5.2	
	cracked concrete ⁴⁾ (w ~ 0.4 mm)	B25 gvz ⁵⁾	2.1	2.5	2.5
		A4 ⁶⁾	2.1	2.5	2.5
B55 gvz ⁵⁾		3.1	3.7	3.7	
A4 ⁶⁾		3.1	3.7	3.7	
Shear load cracked concrete ³⁾ (w ~ 0.4 mm)		B25 gvz ⁵⁾	3.5	3.5	3.5
		A4 ⁶⁾	3.5	3.5	3.5
	B55 gvz ⁵⁾	5.1*	5.2	5.2	
	A4 ⁶⁾	4.1*	5.2	5.2	
	cracked concrete ⁴⁾ (w ~ 0.4 mm)	B25 gvz ⁵⁾	2.5	2.5	2.5
		A4 ⁶⁾	2.5	2.5	2.5
B55 gvz ⁵⁾		3.7	3.7	3.7	
A4 ⁶⁾		3.7	3.7	3.7	

* The load-bearing capacity of the steel is decisive.

¹⁾ Corresponding axial and edge spacing:

Tensile load: $s \geq s_{cr,sp}$, $c \geq c_{cr,sp}$

Shear/oblique load: The shear load influences the corresponding axial and edge spacing as does the given structural component thickness and edge reinforcement. For these reasons no values can be given.

²⁾ The value $\gamma_F = 1.40$ is derived from the relationship between that of the dead and service loads. For deviating safety coefficients the recommended loads must be altered accordingly.

³⁾ Not-reinforced and normally reinforced concrete.

⁴⁾ Reinforced concrete with close reinforcement.




⁵⁾ These values apply to screws of strength class 8.8.

⁶⁾ These values apply to screws of strength class A4-70.

Tools

The correct installation of fischer Zykon anchors according to the approval is only possible with the following original fischer Zykon tools.

In most cases the FZUB Zykon drill bit and the FZED or FZEM setting tools are required.

Drilling and setting tools	Type	Art. No.	fits fischer Zykon anchor	Qty. per pack
	FZUB 10 x 40	60622	FZEA 10 x 40	1
	FZUB 12 x 40	60623	FZEA 12 x 40	1
	FZUB 14 x 40	60624	FZEA 14 x 40	1
	FZED 10 x 40 M 8	60645	FZEA 10 x 40	1
	FZED 12 x 40 M 10	60646	FZEA 12 x 40	1
	FZED 14 x 40 M 12	60647	FZEA 14 x 40	1
	FZEM 10 x 40 M 8	60648	FZEA 10 x 40	1
	FZEM 12 x 40 M 10	60649	FZEA 12 x 40	1
	FZEM 14 x 40 M 12	60650	FZEA 14 x 40	1

Installation example



Ultimate loads F_{u, m} [kN] (mean values, non-cracked concrete) of single anchors subjected to tensile, shear and oblique loads

Zykon hammerset anchor FZEA		10x40 M8	12x40 M10	14x40 M12
Tensile loads	B25 gvz ¹⁾	N _{u,m}	17.1	17.1
	A4 ²⁾	N _{u,m}	17.1	17.1
	B55 gvz ¹⁾	N _{u,m}	18.0*	21.5*
	A4 ²⁾	N _{u,m}	17.4*	22.7*
Shear/oblique load	≥ B25 gvz ¹⁾	V _{u,m}	10.8*	12.9*
	A4 ²⁾	V _{u,m}	10.4*	13.6*

* The load-bearing capacity of the steel is decisive.

¹⁾ These values apply to the use of screws of strength class 8.8

²⁾ These values apply to the use of screws of strength class A4-70.

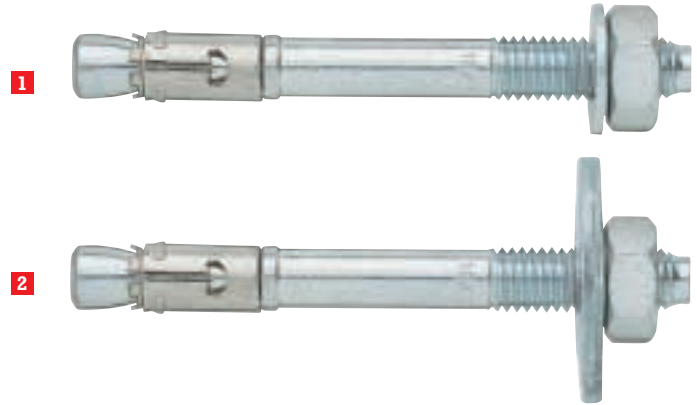
We recommend the use of an appropriate safety factor.

fischer Anchor bolt FAZ

The anchor for the tensile zone, with European Technical Approval.



- 1 fischer FAZ anchor bolt
 - 2 fischer FAZ anchor bolt with large washer
- Material: zinc plated and passivated steel



Approvals



Suitability

Suitable for:
concrete \geq B15, dense natural stone.

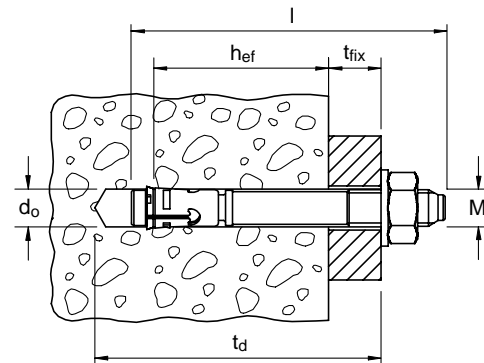
For fixing:
all heavy-duty installations such as cross beams, rails, brackets, machines, cable trays, safety equipment etc.

Description

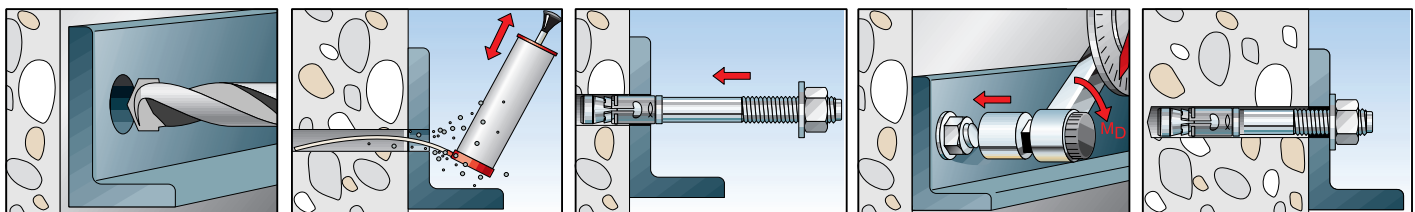
The high performance of the fischer FAZ anchor bolt is a result of its newly developed expansion clip. It's shape bears a close resemblance to the twin expansion sleeve of the fischer high performance anchor. The patented shape of two overlapping expansion segments results in an even distribution of the loads applied to the concrete. This design sets new benchmarks in performance and application.

Advantages

- With building-inspectorate approval for the concrete tensile and compression zone.
- European approval in accordance with the latest safety requirements.
- Patented expansion clip for even load distribution.
- Allows small axial and edge spacings.
- Ideally suited for through fixing.

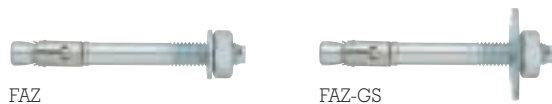


Installation diagram



fischer Anchor bolt FAZ

Technical data



Type	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for through fixings mm	h _{eff} effekt. an- chor- age depth mm	l Fixing length mm	t _{fix} Max. fixing thick- ness mm	Thread	Width across nut	Qty per pack
FAZ 8/10	14611	8	75	45	75	10	M 8	13	50
FAZ 8/10 GS	16079	8	75	45	75	10	M 8	13	50
FAZ 8/30	14612	8	95	45	95	30	M 8	13	50
FAZ 8/50	14613	8	115	45	115	50	M 8	13	50
FAZ 8/100	14614	8	165	45	165	100	M 8	13	25
FAZ 8/150	14615	8	215	45	215	150	M 8	13	20
FAZ 10/10	14616	10	90	60	93	10	M 10	17	50
FAZ 10/10 GS	16080	10	90	60	93	10	M 10	17	50
FAZ 10/30	14617	10	110	60	113	30	M 10	17	25
FAZ 10/50	14618	10	130	60	133	50	M 10	17	20
FAZ 10/80	14619	10	160	60	163	80	M 10	17	20
FAZ 10/100	14620	10	180	60	183	100	M 10	17	20
FAZ 10/150	14621	10	230	60	233	150	M 10	17	20
FAZ 12/10	14622	12	105	70	108	10	M 12	19	20
FAZ 12/10 GS	16081	12	105	70	108	10	M 12	19	20
FAZ 12/30	14623	12	125	70	128	30	M 12	19	20
FAZ 12/50	14624	12	145	70	148	50	M 12	19	20
FAZ 12/80	14625	12	170	70	178	80	M 12	19	20
FAZ 12/100	14626	12	195	70	198	100	M 12	19	20
FAZ 12/150	14627	12	245	70	248	150	M 12	19	10
FAZ 12/200	14628	12	295	70	298	200	M 12	19	10
FAZ 16/25	14629	16	140	85	146	25	M 16	24	10
FAZ 16/50	14630	16	165	85	171	50	M 16	24	10
FAZ 16/100	14631	16	215	85	221	100	M 16	24	10
FAZ 16/150	14632	16	265	85	271	150	M 16	24	10
FAZ 16/150 GS	16082	16	265	85	271	150	M 16	24	10
FAZ 16/200	14633	16	315	85	321	200	M 16	24	10
FAZ 16/200 GS	16083	16	315	85	321	200	M 16	24	10
FAZ 16/250*	14634	16	365	85	371	250	M 16	24	10
FAZ 16/300*	14635	16	415	85	421	300	M 16	24	10

GS = with large washer
* not included in the approval notice

Ultimate loads F_{u, m} [kN] (mean values) in cracked and non-cracked concrete

Type		FAZ M8	FAZ M10	FAZ M12	FAZ M16
Tensile loads in non-cracked concrete	B25	13.2	21.6	27.5	45.7
Tensile loads in cracked concrete	B25	10.2	15.0	23.4	30.6
Shear loads*	B25	18.5	31.3	43.8	62.4

* The load-bearing capacity of the steel is decisive.
We recommend the use of an appropriate safety factor.

For further detailed informations to “European Technical Approvals ETAs” and its values, please contact fischer technical service department (see last page for contacts).

Installation examples



High performance steel anchors

Maximum recommended load F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40^{1) 2)}$ in **cracked** and **non-cracked** concrete

Fixing type		FAZ M8	FAZ M10	FAZ M12	FAZ M16	
Tensile load	cracked concrete ³⁾ (w ~ 0.4 mm)	B25 gvz	1.9	3.6	4.7	7.9
	non-cracked concrete ³⁾	B25 gvz	3.6	6.3	7.9	13.9
Shear load	cracked and non-cracked concrete ³⁾	B25 gvz	6.2*	9.5*	14.3*	19.0*

* The load-bearing capacity of the steel is decisive.

1) Corresponding axial and edge spacing:

Tensile load: $s \geq s_{cr,sp}$, $c \geq c_{cr,sp}$

Shear load: The shear load influences the corresponding axial and edge spacing as does the given structural component thickness and edge reinforcement. For these reasons no values can be given.

2) The value $\gamma_F = 1.40$ is derived from the relationship between that of the dead and service loads. For deviating safety coefficients the recommended loads must be altered accordingly.

3) Non-reinforced and normal reinforced concrete.

fischer FH high performance anchor

With new double clip for maximum performance.

- 1 FH-H
- 2 FH-B
- 3 FH-S
- 4 FH-SK

Material:
zinc plated and passivated steel and A4 stainless steel

Approval



Suitability

Suitable for:
concrete \geq B15, dense natural stone.

For fixing:
steelwork in general, cable trays, brackets, anchor rails, pipelines, pipe clips, rubber-metal connections, gates, staircases, railings, machines, supports, steel ladders, scaffolding.

Description/Installation

- Higher permissible loads in cracked concrete.
- The newly designed double expansion clip noticeably reduces axial and edge spacing.
- The European Technical Approval with the highest possible category, called Option 1, ensures the necessary high levels of safety in cracked concrete.
- Unique new improved expansion sleeve and clip design have been so optimised that anti-rotation and installation features have been considerably improved.
- The increased product range with countersunk heads in zinc plated and passivated steel, also A4 stainless steel, offer even greater versatility.
- Ideal for the attachment of architectural steel and metal fabrications, as the FH is now available in zinc plated and blue passivated.

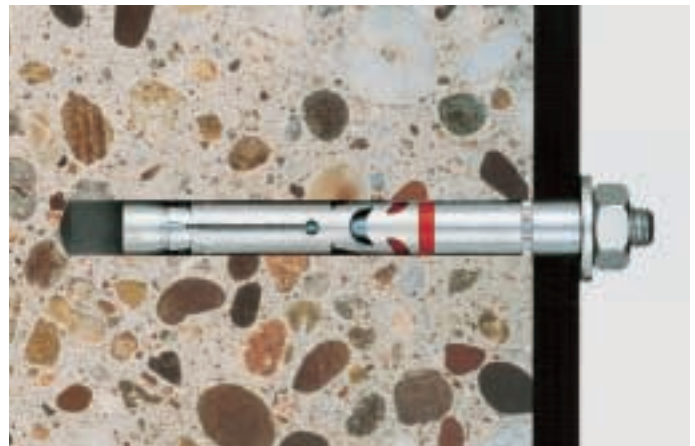


The FH is available in 6 versions:

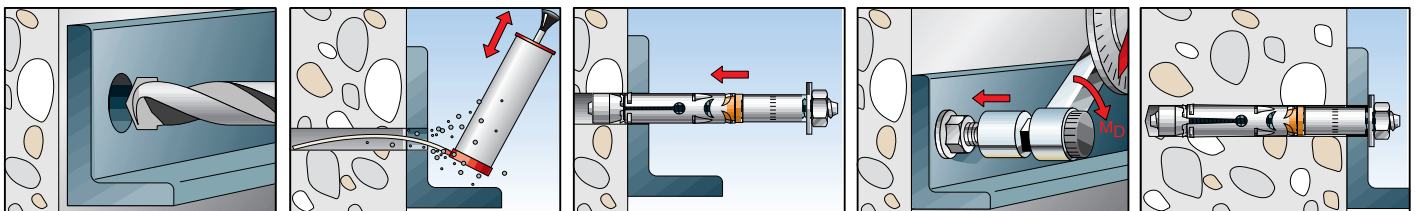
- FH-H – with dome nut*
- FH-B – with hexagon nut*
- FH-S – with hexagon screw*
- FH-SK – with countersunk head
- FH-B – with A4 stainless steel hexagon nut
- FH-S – with A4 stainless steel hexagon screw

* with European Technical Approval (ETA)

Installation example



Installation diagram



fischer FH high performance anchor

Technical data



FH-B – zinc plated and passivated steel with threaded bolt and nut

Type	Art. No.	d _o Drill Ø mm	t _d Min. Drill-hole depth for fixing mm	h _{ef} Min. Anchor- age depth mm	l Fixing length mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty per pack
FH 10/ – B	45000	10	70	50	85	0	M 6	10	50
FH 10/ 10 B	45001	10	80	50	85	10	M 6	10	50
FH 10/ 25 B	45002	10	95	50	100	25	M 6	10	50
FH 10/ 50 B	45003	10	120	50	125	50	M 6	10	50
FH 10/100 B	45004	10	170	50	175	100	M 6	10	25
FH 12/ – B	45005	12	80	60	100	0	M 8	13	50
FH 12/ 10 B	45006	12	90	60	100	10	M 8	13	50
FH 12/ 25 B	45007	12	105	60	115	25	M 8	13	50
FH 12/ 50 B	45008	12	130	60	140	50	M 8	13	25
FH 12/100 B	45009	12	180	60	190	100	M 8	13	25
FH 15/ – B	45010	15	90	70	115	0	M 10	17	25
FH 15/ 10 B	45011	15	100	70	115	10	M 10	17	25
FH 15/ 25 B	45012	15	115	70	130	25	M 10	17	25
FH 15/ 50 B	45013	15	140	70	155	50	M 10	17	25
FH 15/100 B	45014	15	190	70	205	100	M 10	17	20
FH 18 x 80/ – B	45015	18	105	80	130	0	M 12	19	20
FH 18 x 80/ 10 B	45016	18	115	80	130	10	M 12	19	20
FH 18 x 80/ 25 B	45017	18	130	80	145	25	M 12	19	20
FH 18 x 80/ 50 B	45018	18	155	80	170	50	M 12	19	20
FH 18 x 80/100 B	45019	18	205	80	220	100	M 12	19	10
FH 18 x 100/ – B	45026	18	125	100	150	0	M 12	19	20
FH 18 x 100/ 10 B	45027	18	135	100	150	10	M 12	19	20
FH 18 x 100/ 25 B	45020	18	150	100	165	25	M 12	19	10
FH 18 x 100/ 50 B	45021	18	175	100	190	50	M 12	19	10
FH 18 x 100/100 B	45022	18	225	100	240	100	M 12	19	10
FH 24/ – B	45028	24	150	125	182	0	M 16	24	20
FH 24/ 10 B	45029	24	160	125	182	10	M 16	24	20
FH 24/ 25 B	45023	24	175	125	197	25	M 16	24	10
FH 24/ 50 B	45024	24	200	125	222	50	M 16	24	10
FH 24/100 B	45025	24	250	125	272	100	M 16	24	5

A4 stainless steel (material 1.4401)

Type	Art. No.	d _o Drill Ø mm	t _d Min. Drill-hole depth for fixing mm	h _{ef} Min. Anchor- age depth mm	l Fixing length mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty per pack
FH 10/ – BA4	45210	10	70	50	85	0	M 6	10	50
FH 10/ 10 BA4	45211	10	80	50	85	10	M 6	10	50
FH 10/ 25 BA4	45090	10	95	50	100	25	M 6	10	20
FH 10/ 50 BA4	45091	10	120	50	125	50	M 6	10	20
FH 12/ – BA4	45212	12	80	60	100	0	M 8	13	50
FH 12/ 10 BA4	45213	12	90	60	100	10	M 8	13	50
FH 12/ 25 BA4	45092	12	105	60	115	25	M 8	13	50
FH 12/ 50 BA4	45093	12	130	60	140	50	M 8	13	25
FH 12/100 BA4	45214	12	180	60	190	100	M 8	13	20
FH 15/ – BA4	45215	15	90	70	115	0	M 10	17	20
FH 15/ 10 BA4	45216	15	100	70	115	10	M 10	17	20
FH 15/ 25 BA4	45094	15	115	70	130	25	M 10	17	25
FH 15/ 50 BA4	45095	15	140	70	155	50	M 10	17	25
FH 15/100 BA4	45217	15	190	70	205	100	M 10	17	10
FH 18x100/ – BA4	45218	18	125	100	150	0	M 12	19	20
FH 18x100/ 10 BA4	45219	18	135	100	150	10	M 12	19	20
FH 18x100/ 25 BA4	45096	18	150	100	165	25	M 12	19	10
FH 18x100/ 50 BA4	45097	18	175	100	190	50	M 12	19	10
FH 18x100/100 BA4	45220	18	225	100	240	100	M 12	19	10

FH-S A4 not included in the approval notice.

Technical data



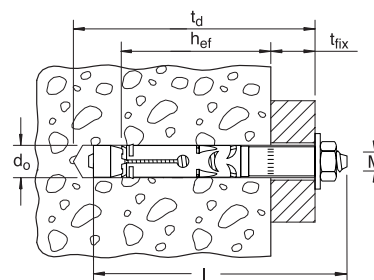
FH-S – zinc plated and passivated steel with hexagon screw

Type	Art. No.	d _o Drill Ø mm	t _d Min. Drill-hole depth for fixing mm	h _{ef} Min. Anchor- age depth mm	l Fixing length mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty per pack
FH 10/ – S	45069	10	80	50	74	0	M 6	10	50
FH 10/10 S	45030	10	90	50	84	10	M 6	10	50
FH 10/25 S	45031	10	105	50	99	25	M 6	10	50
FH 10/50 S	45032	10	130	50	124	50	M 6	10	50
FH 12/ – S	45070	12	90	60	85	0	M 8	13	50
FH 12/10 S	45033	12	100	60	95	10	M 8	13	50
FH 12/25 S	45034	12	115	60	110	25	M 8	13	50
FH 12/50 S	45035	12	140	60	135	50	M 8	13	25
FH 15/ – S	45071	15	105	70	101	0	M 10	17	25
FH 15/10 S	45036	15	115	70	111	10	M 10	17	25
FH 15/25 S	45037	15	130	70	126	25	M 10	17	25
FH 15/50 S	45038	15	155	70	151	50	M 10	17	25
FH 18 x 80/ – S	45072	18	115	80	113	0	M 12	19	20
FH 18 x 80/10 S	45039	18	125	80	123	10	M 12	19	20
FH 18 x 80/25 S	45040	18	140	80	138	25	M 12	19	20
FH 18 x 80/50 S	45041	18	165	80	163	50	M 12	19	20
FH 18 x 100/ – S	45073	18	135	100	133	0	M 12	19	20
FH 18 x 100/10 S	45074	18	145	100	143	10	M 12	19	20
FH 18 x 100/25 S	45042	18	160	100	158	25	M 12	19	10
FH 18 x 100/50 S	45043	18	185	100	183	50	M 12	19	10
FH 24/10 S	45075	24	175	125	175	10	M 16	24	10
FH 24/25 S	45044	24	190	125	190	25	M 16	24	10
FH 24/50 S	45045	24	215	125	215	50	M 16	24	10

A4 stainless steel (material 1.4401)

Type	Art. No.	d _o Drill Ø mm	t _d Min. Drill-hole depth for fixing mm	h _{ef} Min. Anchor- age depth mm	l Fixing length mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty per pack
FH 10/ – S A4	45221	10	80	50	74	0	M 6	10	50
FH 10/10 S A4	45222	10	90	50	84	10	M 6	10	50
FH 10/25 S A4	45100	10	105	50	99	25	M 6	10	20
FH 10/50 S A4	45101	10	130	50	124	50	M 6	10	20
FH 12/ – S A4	45223	12	90	60	85	0	M 8	13	50
FH 12/10 S A4	45224	12	100	60	95	10	M 8	13	50
FH 12/25 S A4	45102	12	115	60	110	25	M 8	13	20
FH 12/50 S A4	45103	12	140	60	135	50	M 8	13	20
FH 15/ – S A4	45225	15	105	70	101	0	M 10	17	50
FH 15/10 S A4	45226	15	115	70	111	10	M 10	17	50
FH 15/25 S A4	45104	15	130	70	126	25	M 10	17	20
FH 15/50 S A4	45105	15	155	70	151	50	M 10	17	10
FH 18 x 100/ – S A4	45227	18	135	100	133	0	M 12	19	10
FH 18 x 100/10 S A4	45228	18	145	100	143	10	M 12	19	10
FH 18 x 100/25 S A4	45106	18	160	100	158	25	M 12	19	10
FH 18 x 100/50 S A4	45107	18	185	100	183	50	M 12	19	10

FH-S A4 not included in the approval.



High performance steel anchors

fischer FH high performance anchor

Technical data



FH-H – zinc plated and passivated steel with threaded bolt and dome nut

Type	Art. No.	d _o Drill Ø mm	t _d Min. Drill-hole depth for fixing mm	h _{ef} Min. Anchor- age depth mm	l Fixing length mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Width across nut	Qty. per pack
FH 10/10 H*	45055	10	90	50	90	10	M 6	10	50
FH 10/25 H*	45056	10	100	50	105	25	M 6	10	50
FH 10/50 H*	45057	10	125	50	130	50	M 6	10	50
FH 12/25 H	45058	12	115	60	120	25	M 8	13	50
FH 12/50 H	45059	12	140	60	145	50	M 8	13	25
FH 15/25 H	45060	15	130	70	135	25	M 10	17	25
FH 15/50 H	45061	15	155	70	160	50	M 10	17	25
FH 18 x 80/10 H	45062	18	125	80	135	10	M 12	19	20
FH 18 x 80/25 H	45063	18	140	80	150	25	M 12	19	20
FH 18 x 80/50 H	45064	18	165	80	175	50	M 12	19	20
FH 18 x 100/25 H	45065	18	160	100	170	25	M 12	19	10
FH 18 x 100/50 H	45066	18	185	100	195	50	M 12	19	10
FH 24/25 H	45067	24	190	125	200	25	M 16	24	10
FH 24/50 H	45068	24	215	125	225	50	M 16	24	10

* not included in the approval notice.

Technical data



FH-SK – zinc plated and passivated steel with countersunk head

Type	Art. No.	d _o Drill Ø mm	t _d Min. Drill-hole depth for fixing mm	h _{ef} Min. Anchor- age depth mm	l Fixing length mm	t _{fix} Max. fixing thick- ness mm	M Thread	SW Hexa- gon socket	Qty. per pack
FH 12/10 SK	45080	12	100	60	90	10	M 8	5	50
FH 12/50 SK	45081	12	140	60	130	50	M 8	5	50
FH 15/10 SK*	45082	15	115	70	105	10	M 10	6	25
FH 15/50 SK*	45083	15	155	70	145	50	M 10	6	25

FH-SK not included in the approval notice.

* FH 15 SK with countersunk screw and washer
(head Ø = 24.5 mm, head height = 5.8 mm)

Maximum recommended load F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40^{1)2)}$ in **cracked** and **non-cracked** concrete

High performance anchor FH		FH 10 M6	FH 12 M8	FH 15 M10	FH 18/80 M12	FH 18/100 M12	FH 24 M16	
Tensile load	cracked concrete ³⁾	B25 gvz	1.7	3.9	5.3	8.3	8.3	16.5
	non-cracked concrete ³⁾	B25 gvz	3.9	3.9	6.6	8.3	11.6	19.8
Shear load	cracked and non-cracked concrete ³⁾	B25 gvz	4.6*	8.0*	13.1*	18.9*	18.9*	35.4*
		A4						

* The load-bearing capacity of the steel is decisive.

1) Corresponding axial and edge spacing:

Tensile load: $s \geq s_{cr,sp}$, $c \geq c_{cr,sp}$

Shear load: The shear load influences the corresponding axial and edge spacing as does the given structural component thickness and edge reinforcement. For these reasons no values can be given.

2) The value $\gamma_F = 1.40$ is derived from the relationship between that of the dead and service loads. For deviating safety coefficients the recommended loads must be altered accordingly.

3) Non-reinforced and normal reinforced concrete.

Ultimate loads F_{u, m} [kN] (mean values) for a single anchor in cracked or non-cracked concrete subjected to tensile, shear or oblique loads, without edge or axial spacing. An appropriate safety factor must be taken into consideration.

High performance anchor FH		FH 10 M6	FH 12 M8	FH 15 M10	FH 18/80 M12	FH 18/100 M12	FH 24 M16	
Tensile load	B25 gvz	N _{u,m}	16.1	21.8	32.7	44.1	56.6	94.3
	A4	N _{u,m}	16.1	21.8	–	–	–	–
Shear load	≥ B25 gvz	V _{u,m}	15.2	23.1	37.9	55.7	55.7	105.7
	A4	V _{u,m}	17.0	25.5	42.0	–	61.8	–

We recommend the use of an appropriate safety factor.

For further detailed informations to “European Technical Approvals ETAs” and its values, please contact fischer technical service department (see last page for contacts).

For your notes



High performance
steel anchors

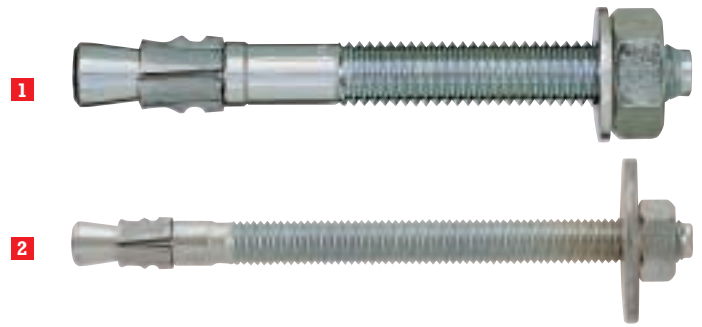
fischer FBN Bolt

The flexible anchor – for economical performance.

1 fischer Bolt FBN

2 fischer Bolt FBN with large washer

Material: zinc plated and passivated steel



Approval



Suitability

Suitable for:

concrete \geq B15, dense natural stone.

For fixing:

steel constructions, metal profiles, sole plates, brackets, railings, windows, gratings, machines, timber constructions, beams, purlins, supports etc.

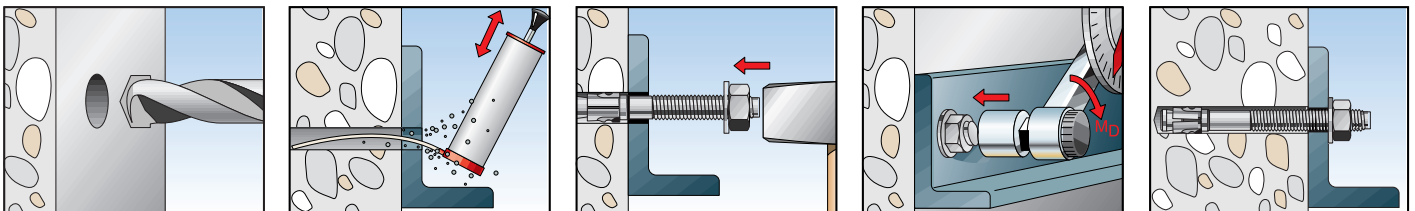
Description/Installation

- The new fischer FBN Bolt now offers even more possibilities with the increased fixing thickness and longer thread.
- Geometrically optimised expansion clip allows even better performance, even in lower quality concrete.
- Installation with the FBN is now even more economical.
- The zinc plated and blue passivated the FBN is ideal for applications with steel fabrications and architectural metal work.
- For structural timber applications, we now offer a dedicated range with a large washer, according to DIN 440.

Installation example



Installation diagram



fischer FBN Bolt

Technical data



FBN – zinc plated and passivated

Type	Im-print on head	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for drill-through fixing mm	h _{ef} Eff. Anchor- age depth mm	l Over- all length mm	t _{fix} Max. fixing thickness mm	M Thread Ø x length	Qty per pack
FBN 6/5*	–	45130	6	45	20	40	5	M 6 x 16	100
FBN 6/10*	–	45136	6	50	25	55	10	M 6 x 30	100
FBN 6/30*	–	45137	6	70	25	75	30	M 6 x 30	100
FBN 8/5	–	45131	8	55	35	58	5	M 8 x 23	100
FBN 8/10+23	B	45138	8	73	48/35	76	10/23	M 8 x 41	50
FBN 8/30+43	F	45139	8	93	48/35	96	30/43	M 8 x 61	50
FBN 8/50+63	K	45140	8	113	48/35	116	50/63	M 8 x 81	50
FBN 8/100+113	P	45141	8	163	48/35	166	100/113	M 8 x 130	25
FBN 10/5	–	45132	10	65	42	69	5	M 10 x 31	50
FBN 10/15+23	C	45142	10	83	50/42	89	15/23	M 10 x 51	50
FBN 10/50+58	K	45143	10	118	50/42	124	50/58	M 10 x 87	20
FBN 10/100+108	P	45144	10	168	50/42	174	100/108	M 10 x 134	20
FBN 10/140+148	S	45145	10	208	50/42	214	140/148	M 10 x 174	20
FBN 10/160+168	T	45146	10	228	50/42	234	160/168	M 10 x 194	20
FBN 12/5	–	45133	12	75	50	83	5	M 12 x 41	20
FBN 12/15+35	C	45147	12	105	70/50	113	15/35	M 12 x 71	20
FBN 12/30+50	F	45148	12	120	70/50	128	30/50	M 12 x 86	20
FBN 12/45+65	I	45149	12	135	70/50	143	45/65	M 12 x 103	20
FBN 12/100+120	N	45150	12	190	70/50	202	100/120	M 12 x 137	20
FBN 16/10	–	45134	16	98	64	109	10	M 16 x 54	10
FBN 16/25+45	E	45151	16	133	84/64	144	25/45	M 16 x 89	10
FBN 16/50+70	K	45152	16	158	84/64	169	50/70	M 16 x 114	10
FBN 16/100+120	P	45153	16	208	84/64	221	100/120	M 16 x 166	10
FBN 20/10*	–	45135	20	111	70	120	10	M 20 x 50	10
FBN 20/20	–	45154	20	151	100	165	20	M 20 x 50	10
FBN 20/60	–	45155	20	191	100	205	60	M 20 x 90	10
FBN 20/120	–	45156	20	251	100	265	120	M 20 x 90	10
FBN 20/250	–	45157	20	381	100	395	250	M 20 x 90	5

* Not included in approval notice.

Ultimate loads F_{u, m} [kN] (mean values) for a single anchor in cracked or non-cracked concrete subjected to tensile, shear or oblique loads, without edge or axial spacing. An appropriate safety factor must be taken into consideration.

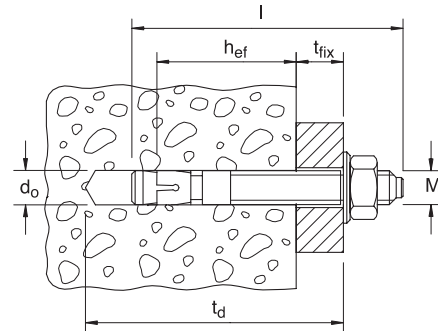
Type		FBN 8	FBN 10	FBN 12	FBN 16	FBN 20
Anchorage depth	h _{ef} (mm)	48	50	70	84	100
Ultimate loads [kN] for tensile loads in uncracked concrete of strength classes	B25	15.9	21.8	36.1	48.9	72.8
	B55	18.5	27.3	47.3	60.5	119.2
Characteristic axial spacing	s (cm)	18	25	35	45	47
Characteristic edge spacing	c (cm)	6	11	15.5	19	19
Ultimate loads [kN] for shear loads in uncracked concrete of the following strength class for the following axial and edge spacings	B25	12.5	20.4	38.1	46.3	84.7
Axial spacing	s (cm)	21	30	36	39	42
Edge spacing	c (cm)	7	10	12	13	14
Min. component thickness	h _{min} (cm)	10	10	14	17	20



FBN – with large washer, according to DIN 440, outer diameter ca. 3.5 x d

Type	Im-print on head	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for drill-through fixing mm	h _{ef} Eff. Anchor- age depth mm	l Over- all length mm	t _{fix} Max. fixing thickness mm	M Thread Ø x length	Qty per pack
FBN 12/ 80+100 GS N	N	45160	12	170	70/50	182	80/100	M12 x 137	20
FBN 12/100+120 GS P	P	45161	12	190	70/50	202	100/120	M12 x 157	20
FBN 12/120+140 GS R	R	45162	12	210	70/50	222	120/140	M12 x 177	20
FBN 12/140+160 GS S	S	45163	12	230	70/50	242	140/160	M12 x 197	10
FBN 12/160+180 GS T	T	45164	12	250	70/50	262	160/180	M12 x 217	10
FBN 12/200+220 GS V	V	45165	12	290	70/50	302	200/220	M12 x 257	10
FBN 12/250+270 GS W	W	45166	12	340	70/50	352	250/270	M12 x 307	10
FBN 16/100+120 GS P	P	45167	16	208	84/64	221	100/120	M16 x 166	10
FBN 16/140+160 GS S	S	45168	16	248	84/64	261	140/160	M16 x 196	10
FBN 16/160+180 GS T	T	45169	16	268	84/64	281	160/180	M16 x 216	10
FBN 16/200+220 GS V	V	45170	16	308	84/64	321	200/220	M16 x 256	10
FBN 16/250+270 GS W	W	45171	16	358	84/64	371	250/270	M16 x 306	10
FBN 16/300+320 GS X	X	45172	16	408	84/64	421	300/320	M16 x 356	10

- 1) Min. anchorage depth for recommended load / the min. anchorage depth can be reduced to the following for increased fixing thickness together with a corresponding reduction in the load.
- 2) Fixing thickness for recommended load / the fixing thickness can be increased together with a corresponding reduction in the load.



Recommended loads F_{rec} [kN] for a single anchor in cracked or non-cracked concrete, subjected to tensile, shear or oblique loads, taking into account the respective installation characteristics and structural dimensions.

Type		FBN 8	FBN 10	FBN 12	FBN 16	FBN 20
Anchorage depth	h _{ef} (mm)	48	50	70	84	100
Recommended loads [kN] for tensile loads in non-cracked concrete of strength classes	B25	3.9	4.5	9.7	11.7	15.6
	B55	5.8	6.6	14.5	17.4	23.2
Characteristic axial spacing	s (cm)	18	25	35	45	47
Characteristic edge spacing	c (cm)	6	11	15.5	19	19
Recommended loads [kN] for shear loads in non-cracked concrete of the following strength class for the following axial and edge spacings	B25	2.8	4.1	6.7	9.3	12.8
	B55	4.2	6.1	10.0	13.5	19.1
Axial spacing	s (cm)	21	30	36	39	42
Edge spacing	c (cm)	7	10	12	13	14
Min. component thickness	h _{min} (cm)	10	10	14	17	20

For further detailed informations to “European Technical Approvals ETAs” and its values, please contact fischer technical service department (see last page for contacts).

fischer FB Bolt

Technical data



FB – zinc plated and passivated steel

Type	Art. No.	d ₀ Drill Ø mm	t _d Min. drill- hole depth for through fixing mm	h _y Min. Anchor- age depth mm	l Fixing length mm	d _s Max. fixing thick- ness mm	SW Width across nut	M _D Torque Nm	Qty. per pack
FB 6/ 10	51020	6	65	40	65	10	10	7.5	50
FB 6/ 30	51024	6	85	40	85	30	10	7.5	50



FB – A4 stainless steel (material 1.4401)

FB 8/10 A4	51144	8	65	40	72	10	13	15	50
FB 8/50 A4	51148	8	105	40	112	50	13	15	25
FB 10/15 A4	51041	10	85	50	94	15	17	45	20
FB 10/50 A4	51042	10	120	50	129	50	17	45	20
FB 12/20 A4	51047	12	105	60	114	20	19	65	20
FB 12/50 A4	51049	12	135	60	144	50	19	65	20
FB 16/25 A4	51082	16	135	80	148	25	24	110	10
FB 16/50 A4	51083	16	160	80	173	50	24	110	10

Ultimate loads F_{u, m} [kN] (mean values, non-cracked concrete) of single anchors with large axial and edge spacings

FB bolt				FB 6	FB 8	FB 10	FB 12	FB 16
Tensile loads	B25	A4	N _{u, m}	8.6	14.5	19.6*	29.2*	48.3
	B55	A4	N _{u, m}	9.2*	16.7*	19.6*	29.2*	71.6
Shear loads	≥ B25	A4	V _{u, m}	9.1*	19.2*	23.5*	34.1*	71.4*

* The load-bearing capacity of the steel is decisive

Maximum recommended load F_{rec} [kN] in accordance with the CC-method for single anchors with large axial and edge spacings calculated with $\gamma_F = 1.40^{1) 2)}$ in **non-cracked** concrete

FB bolt				FB 6	FB 8	FB 10	FB 12	FB 16
Tensile loads	non-cracked concrete ³⁾	B25	A4	2.7	3.3	5.5	7.6	11.7
		B55	A4	2.7*	4.9	7.7*	11.2	17.3
Shear loads	non-cracked concrete ³⁾	B25	A4	2.1*	4.8*	6.9	11.0*	17.2*
		B55	A4	2.1*	4.8*	7.4*	11.0*	17.2*

* Steel strength decisive.

1) Relevant axial and edge spacings:

Tensile load: $s \geq s_{cr, sp}$, $c \geq c_{cr, sp}$

Shear load: The shear load is influenced by both axial and edge spacings together, with the structural thickness and edge reinforcement having also an influencing effect. For this reason no values can be given.

2) The value $\gamma_F = 1.40$ is determined for common relationship between dead load and variable load. For deviations from the partial safety factors, the appropriate alterations should be made to the recommended load.

3) Non-reinforced and normally reinforced concrete.

Installation examples



For your notes



High performance
steel anchors

fischer FSA Sleeve anchor

The economical through bolt for all applications not requiring Approvals.

1 fischer Sleeve anchor FSA-S

2 fischer Sleeve anchor FSA-B

Material: zinc plated and passivated steel.



Suitability

Suitable for:

concrete \geq B15 and dense natural stone.

For fixing:

Railings, hand rails, gratings, supports, consoles, machines, metal constructions, metal profiles.

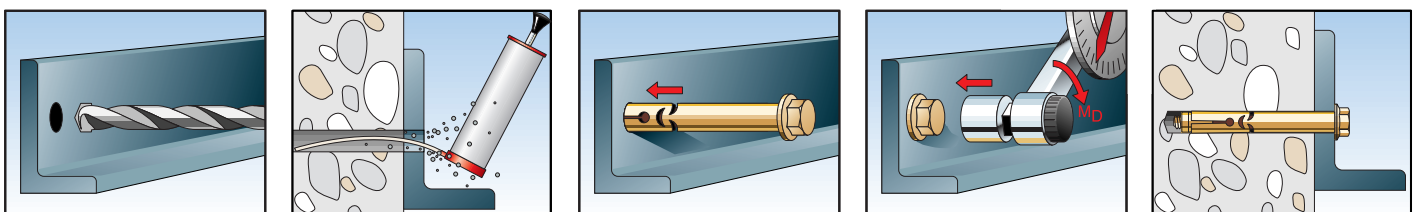
Description/Installation

- For through fixing.
- Torque controlled, safe expansion.
- Highest reliability.
- Simple design provides an excellent cost-performance ratio.
- The computer optimised anchor cone and co-ordinated expansion sleeve provide safe expansion.
- Extensive expansion length ensures improved performance in poor materials.
- The installation depth mark indicates correct or incorrect installation every time.
- A spigot head ensures that the thread will not be damaged during installation. Straight forward de-mounting of the anchor is also possible.

Installation example



Installation diagram



fischer FSA Sleeve anchor

Technical data



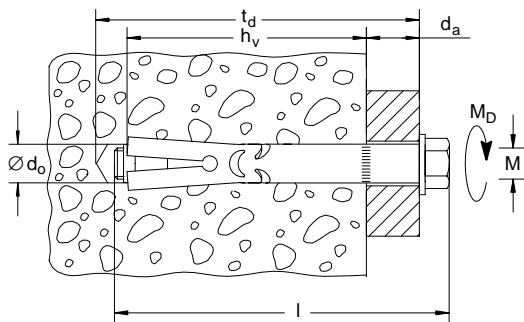
FSA-S – zinc plated and passivated, with screw and conical nut

Type	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	M Thread mm	SW Width across nut	Qty. per pack
FSA 8/15 S	68520	8	65	35	67	15	M 6	10	50
FSA 8/40 S	68521	8	90	35	92	40	M 6	10	50
FSA 8/65 S	68522	8	115	35	117	65	M 6	10	50
FSA 10/10 S	68523	10	65	40	68	10	M 8	13	20
FSA 10/35 S	68524	10	90	40	93	35	M 8	13	20
FSA 10/60 S	68525	10	115	40	118	60	M 8	13	20
FSA 12/10 S	68526	12	75	50	84	10	M10	15	20
FSA 12/25 S	68527	12	90	50	99	25	M10	15	20
FSA 12/50 S	68528	12	115	50	124	50	M10	15	20



FSA-B – zinc plated and passivated, with conical bolt and hexagon nut

Type	Art. No.	d _o Drill Ø mm	t _d Min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	M Thread mm	SW Width across nut	Qty. per pack
FSA 8/15 B	68500	8	65	35	69	15	M 6	10	50
FSA 8/40 B	68501	8	90	35	94	40	M 6	10	50
FSA 8/65 B	68502	8	115	35	119	65	M 6	10	50
FSA 10/10 B	68503	10	65	40	69	10	M 8	13	20
FSA 10/35 B	68504	10	90	40	94	35	M 8	13	20
FSA 10/60 B	68505	10	115	40	119	60	M 8	13	20
FSA 12/10 B	68506	12	75	50	81	10	M10	15	20
FSA 12/25 B	68507	12	90	50	96	25	M10	15	20
FSA 12/50 B	68508	12	115	50	121	50	M10	15	20
FSA 12/75 B	68509	12	140	50	146	75	M10	15	20



Technical data

Ultimate loads F_{u, m} [kN] (mean values) and recommended loads F_{rec} [kN] for a single anchor in non-cracked concrete

Anchor type/thread		FSA 8	FSA 10	FSA 12
F _{u, m}	B15	8.1	10.2	14.1
	B25	10.5	13.1	18.3
F _{rec}	B15	1.5	2.5	4.0
	B25	2.0	3.0	5.0
Recommended bending moment	(Nm)	5.2	12.9	25.7
Axial spacing	(cm)	7	8	10
Edge distance	(cm)	5	6	6
Min. component thickness	(cm)	7	8	10
Installation torque	(Nm)	10	25	40

We recommend the use of an appropriate safety factor.

Installation examples



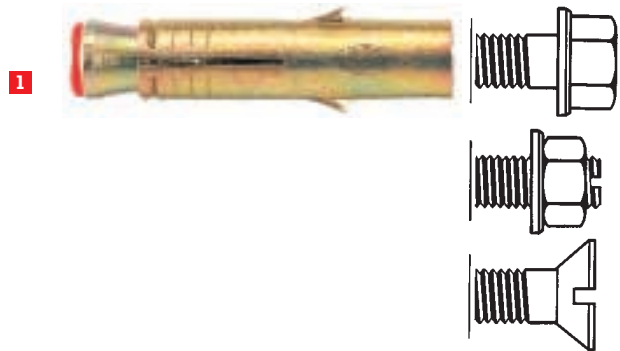
High performance steel anchors

fischer SL M-N heavy-duty anchor

The steel socket anchor for flush anchoring.

1 Heavy-duty anchor SLM-N

Material:
zinc plated and passivated steel and A4 stainless steel.



Approvals



Suitability

Suitable for:
concrete \geq B15.

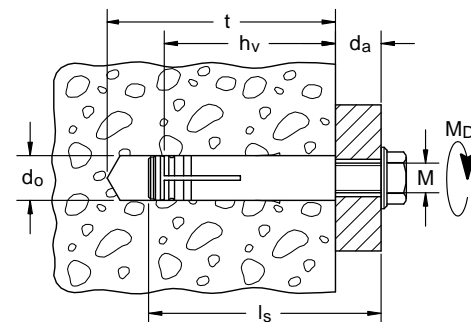
For fixing:
Railings, gratings, support, consoles, head and sole plates, machines, base frames, gates, shelf feet.

Determination of the thread or bolt length l_s :

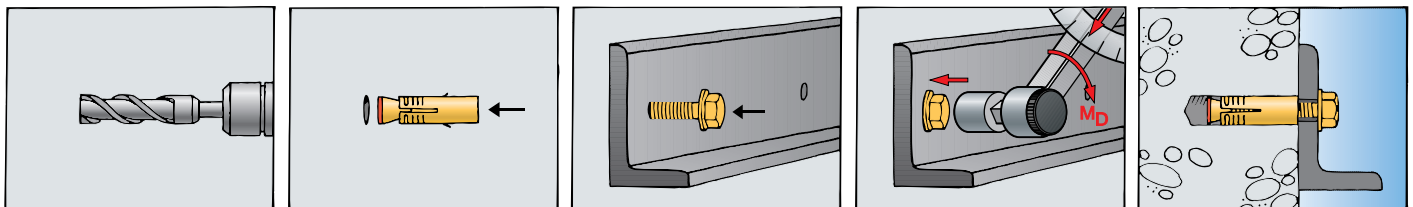
Length of fischer fixing SLM-N
+ thickness of attachment d_a
= screw length
(in the case of threaded rods
+ thickness of washer and nut)

Description/Installation

- Choice of screws and bolts with a metric thread.
- Universal and versatile application.
- Anchor tightens after only a few turns (= positive expansion).
- locking lugs prevent rotation during installation.
- zinc plated and passivated and A4 stainless steel.



Installation diagram



fischer SL M-N heavy-duty anchor

Technical data



SLM-N – zinc plated and passivated steel

Type	Art. No.	d ₀ Drill Ø mm	t Min. drill- hole depth mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _g Max. fixing thick- ness mm	Thread	Qty. per pack
SLM 6 N	50520	10	50	35	42		M 6	50
SLM 8 N	50521	12	60	45	52		M 8	25
SLM 10 N	50522	16	70	50	60		M 10	20
SLM 12 N	50523	18	85	60	75		M 12	20
*SLM 16	50556	24	110	62	90		M 16	10
*SLM 20	50557	30	130	77	110		M 20	5
*SLM 24	50558	35	150	90	125		M 24	5

* Not included in approval notice.



SLM-N A4 – A4 stainless steel



SLM 8 N A4	50526	12	60	45	52		M 8	25
SLM 10 N A4	50527	16	70	50	60		M 10	20

* Not included in approval notice.



SLM-N/S – with zinc plated and passivated steel screw

SL M 8 N/S 60	50409	12	60	45	52	10	M 8	20
SL M 10 N/S 80	50413	16	70	50	60	20	M 10	10

Recommended load F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40^{1) 2)}$

Heavy-duty fixing SL M-N/SL M		SL M 6 N	SL M 8 N	SL M 10 N	SL M 12 N	SL M 16	SL M 20	SL M 24
Tensile load non-cracked concrete ³⁾	B25 gvz ⁵⁾	2.7	4.4	5.2	7.6	8.0	11.0	13.9
	A4 ⁶⁾	–	4.4	5.2	–	–	–	–
	B55 gvz ⁵⁾	4.0	6.6	7.7	11.2	11.8	16.3	20.6
	A4 ⁶⁾	–	6.6	7.7	–	–	–	–
non-cracked concrete ⁴⁾	B25 gvz ⁵⁾	2.3	3.6	4.3	6.1	6.4	9.7	13.2
	A4 ⁶⁾	–	3.6	4.3	–	–	–	–
	B55 gvz ⁵⁾	3.4	5.3	6.4	9.0	9.6	14.4	19.6
	A4 ⁶⁾	–	5.3	6.4	–	–	–	–
Shear load non-cracked concrete ³⁾	B25 gvz ⁵⁾	4.0	5.9	6.9	18.1	19.0	26.3	33.2
	A4 ⁶⁾	–	5.9	6.9	–	–	–	–
	B55 gvz ⁵⁾	4.6*	8.4*	10.2	19.3*	28.2	39.0	49.3
	A4 ⁶⁾	–	5.9	9.3*	–	–	–	–
non-cracked concrete ⁴⁾	B25 gvz ⁵⁾	2.7	4.3	5.2	14.5	15.4	23.3	31.5
	A4 ⁶⁾	–	4.3	5.2	–	–	–	–
	B55 gvz ⁵⁾	4.0	6.3	7.7	19.3*	22.8	34.5	46.8
	A4 ⁶⁾	–	5.9*	7.7	–	–	–	–

* The load-bearing capacity of the steel is decisive.

¹⁾ Corresponding axial and edge spacing:

Tensile load: $s \geq s_{cr,sp}$, $c \geq c_{cr,sp}$

Shear load: The shear load influences the corresponding axial and edge spacing as does the given structural component thickness and edge reinforcement. For these reasons no values can be given.

²⁾ The value $\gamma_F = 1.40$ is derived from the relationship between that of the dead and service loads. For deviating safety coefficients the recommended loads must be altered accordingly.

³⁾ Non-reinforced and normal reinforced concrete.

⁴⁾ Reinforced concrete with close reinforcement.

⁵⁾ These values apply to the use of screws of strength class 8.8.

⁶⁾ These values apply to the use of screws of strength class A4-70.

Installation examples



Ultimate loads [kN] (mean values, non-cracked concrete) of anchors subjected to tensile and shear loads

Heavy-duty anchor SL M-N/SL M			SL M 6 N	SL M 8 N	SL M 10 N	SL M 12 N	SL M 16	SL M 20	SL M 24
Tensile load	B25 gvz ¹⁾	N _{u,m}	11.2	18.4	23.9	31.4	33.0	45.6	57.6
	A4 ¹⁾	N _{u,m}	–	16.3	21.5	–	–	–	–
	B55 gvz ¹⁾	N _{u,m}	16.1*	27.2	35.4	46.6	48.9	67.6	85.5
	A4 ¹⁾	N _{u,m}	–	24.2	31.9	–	–	–	–
Shear load	$\geq B25$ gvz ¹⁾	V _{u,m}	9.6*	17.6*	27.8*	40.5*	75.4*	117.6*	170.0*
	A4 ¹⁾	V _{u,m}	–	15.4*	24.4*	–	–	–	–

* The load-bearing capacity of the steel is decisive.

¹⁾ Values stated apply to the use of screws of strength class 8.8 or A4-70.

We recommend the use of an appropriate safety factor.

High performance steel anchors

HIGH PERFORMANCE STEEL ANCHORS

fischer EA hammerset anchor

The simple hammerset anchor with an internal thread.

1 Hammerset anchor EA

Material:

zinc plated and passivated steel and A4 stainless steel

1



Approvals



Approved for uncracked concrete and anchorage of lightweight ceiling panels and counter ceiling



Approved for use with fixed water sprinkler systems



Dossier NPO.021



from M10 thread



EA M 8 x 40
M 10, M 12

Suitability

Suitable for: concrete \geq B15.

For fixing:

Flat and profiled steel, pipelines, suspended ceilings, ventilation pipes, sprinkler systems, threaded rods, assembly support, gratings, railings, facades etc.

Installation example



Description/Installation

- Economic and quick installation.
- Complete product range (zinc plated and passivated and A4 stainless steel).
- Shallow drill-hole depth.
- Controlled installation (setting tool matched to anchor = displacement-controlled impact installation).
- Attachment can be loosened at any time.
- On request also available with imperial thread (inch sizes).

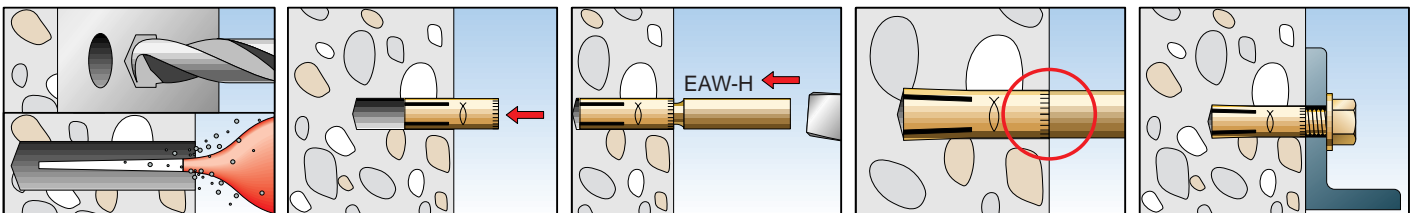
Determining the thread or bolt length:

min. screw penetration into anchor e min.
+ thickness of attachment

= thread length

(in the cases of threaded rods
+ thickness of washer and nut)

Installation diagram



fischer EA hammerset anchor

Technical data



EA – zinc plated and passivated steel

Type	Art. No.	d ₀ Drill Ø mm	t Min. Drill- hole depth mm	h _v Min. anchor- age depth mm	l Fixing length mm	M Thread	Screw-in depth min. max. mm mm		Qty. per pack
EA M 6 ¹⁾	60811	8	25	25	25	M 6	6	12	100
EA M 8	60812	10	30	30	30	M 8	8	13	100
EA M 8x40	60821	10	40	40	40	M 8	8	20	50
EA M 10	60813	12	40	40	40	M 10	10	17	50
EA M 12	60814	15	50	50	50	M 12	12	22	25
EA M 16	60816	20	65	65	65	M 16	16	27	20
EA M 20	60818	25	80	80	80	M 20	20	34	10



EA – A4 stainless steel (material: 1.4401)



Type	Art. No.	d ₀ mm	t mm	h _v mm	l mm	M Thread	Screw-in depth min. max. mm mm		Qty. per pack
EA M 6 A4 ¹⁾	60825	8	25	25	25	M 6	6	12	100
EA M 8 A4 ¹⁾	60826	10	30	30	30	M 8	8	13	100
EA M 10 A4	60827	12	40	40	40	M 10	10	17	50
EA M 12 A4	60828	15	50	50	50	M 12	12	22	25
EA M 16 A4	60829	20	65	65	65	M 16	16	27	20

¹⁾ only as part of approval for lightweight counter ceilings . . .



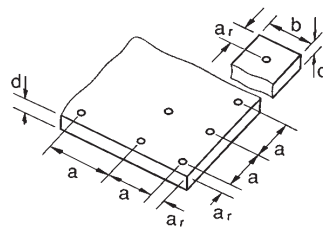
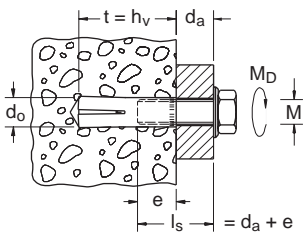
EA – zinc plated and passivated steel, for diamond drills and saws

Type	Art. No.	d ₀ mm	t mm	h _v mm	l mm	M Thread	Screw-in depth min. max. mm mm	
EA M 12 D	77094	16	50	50	50	M 12	12	22



Setting tools

Setting tool	Art. No.	fits	Qty.
EAW H 6	60836	fits EA M 6	1
EAW H 8	60837	fits EA M 8	1
EAW H 8x40	60846	fits EA M 8x40	1
EAW H 10	60838	fits EA M 10	1
EAW H 12	60839	fits EA M 12 and EA M 12 D	1
EAW H 16	60841	fits EA M 16	1
EAW H 20	60843	fits EA M 20	1



Ultimate loads [kN] (mean values, non-cracked concrete) for single anchors under tensile and shear loads

Hammerset anchor EA			EA M6	EA M8	EA M8x40	EA M10	EA M12	EA M16	EA M20
Tensile load	B25 gvz ¹⁾	N _{u,m}	8.4	11.1	16.9*	17.0	23.5	30.0	46.0
	A4 ¹⁾	N _{u,m}	8.4	11.1	–	17.0	23.5	30.0	–
	B55 gvz ¹⁾	N _{u,m}	10.1*	16.5	16.9*	19.5*	35.4	52.3*	70.0
	A4 ¹⁾	N _{u,m}	12.5	16.3*	–	20.7*	35.4	52.5	–
Shear load	≥ B25 gvz ¹⁾	V _{u,m}	6.0*	10.1*	10.1*	11.7*	21.2*	31.4*	50.3*
	A4	V _{u,m}	8.1*	9.8*	–	12.4*	22.5*	36.8*	–

* The load-bearing capacity of the steel is decisive.

¹⁾ Values stated apply to the use of screws of strength class 5.6 or A4-70 and depend on observation of the min. screw-in depth.

We recommend the use of an appropriate safety factor.

Installation examples



High performance steel anchors

For your notes



High performance
steel anchors

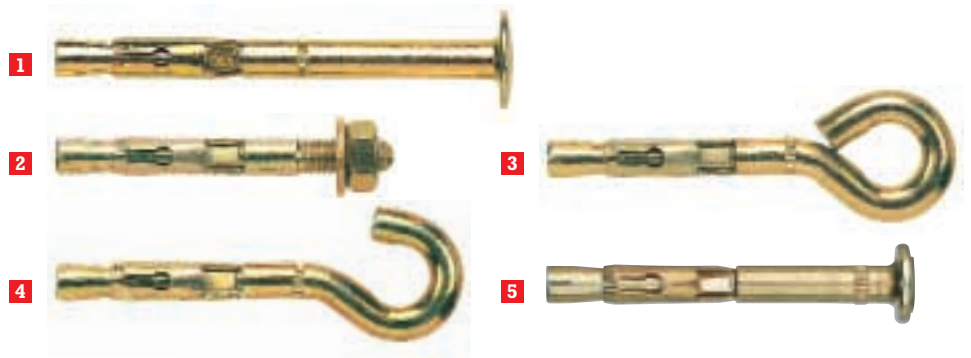
HIGH PERFORMANCE STEEL ANCHORS

fischer FNA nail anchor

For hammer-set installation in concrete.

- 1 FNA with nail head
- 2 FNA with M6 and M8 thread
- 3 FNA with eye
- 4 FNA with hook
- 5 FNA for channels

Material:
zinc plated and passivated steel



Approvals



Approval for cracked concrete, lightweight counter ceilings and ceiling covers.



For fixing sizes and construction method refer to fire certificate

Suitability

Suitable for: concrete \geq B15.

For fixing:

Laths, timber battens, timber substructures metal partitions, chains, ropes, punched tapes, wire hangers, extension nuts with threaded rods, fire partitions, ventilation pipes, suspended ceilings etc.

Description

- Economic and quick installation, especially for suspended ceilings and partitions
- Reduced drilling effort: only 6 mm drill diameter
- Simple hammer-set installation (only 2 hammer blows)
- Many options of head (nail head, thread, eye, hook)
- Long fixing thickness for bridging insulation, render etc.

Technical data

Ultimate loads [kN] (mean values) tensile load in **non-cracked** concrete of strength class B25.

Anchorage depth h_{ef} [mm]	[kN]	Axial spacing s [cm]	Edge spacing c [cm]
30	5.8	10	6
40	6.2*	12	8

* Load-bearing capacity of the steel.
We recommend the use of an appropriate safety factor.

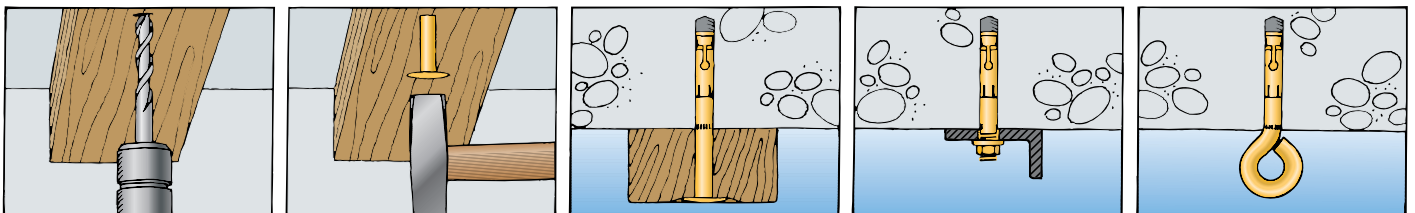
Recommended load F_{rec} [kN] tensile load in **non-cracked** concrete of strength class B25.

Anchorage depth h_{ef} [mm]	F_{rec} [kN]	Axial spacing s [cm]	Edge spacing c [cm]
30	2.2	10	6
40	2.6	12	8

Recommended load F_{rec} [kN] for the installation of light suspended ceilings and ceiling panels in **cracked** concrete ($w \sim 0.3-0.4$ mm).

Anchorage depth h_{ef} [mm]	F_{rec} [kN]	Axial spacing s [cm]	Edge spacing c [cm]
30	0.5	6	5
40	0.8	6	6

Installation diagram



fischer FNA nail anchor

Technical data



With nail head Ø 15 mm

Type	Art. No.	d _o Drill Ø mm	t _d Min. drill- hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thick- ness mm	M Thread mm	SW Width across nut	Qty. per pack
FNA 6 x 30/ 5	50938	6	50	30	45	5			100
FNA 6 x 30/ 30	50940	6	75	30	71	30			50
FNA 6 x 30/ 50	50942	6	95	30	91	50			50
FNA 6 x 30/ 75	50941	6	115	30	111	75			50
FNA 6 x 30/100	50943	6	150	30	145	100			50
FNA 6 x 30/120	50944	6	170	30	165	120			50
FNA 6 x 40/ 5	50936	6	60	40	55	5			50



with M6 and M8 thread

*FNA 6 x 30 M 6/5	50920	6	50	30	52	5	M 6	10	100
*FNA 6 x 40 M 8/5	50951	6	55	40	55	5	M 8	13	50
*FNA 6 x 40 M 8-15 OM	50952	6	55	40	65	15	M 8	OM ¹⁾	50

* max. installation torque = 4 Nm ¹⁾ OM = without nut



with eye Ø 10 mm

FNA 6 x 30 OE	50922	6	45	30	64				50
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with hook Ø 10 mm

*FNA 6 x 30 H	50921	6	45	30	64				50
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* not included in building-inspectorate Approval



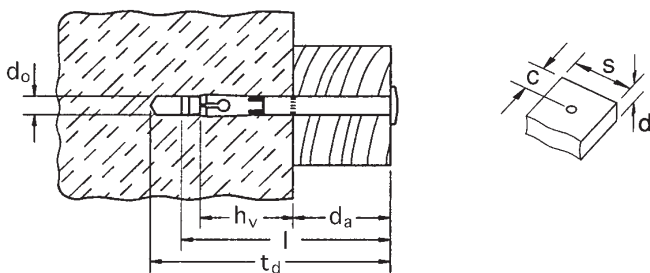
for attachment to rail

FNA 6 x 40 S	50947	6	60	40	55	5			50
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Art. No. 61547

Machine setting tool FNS 6 M with SDS-bit for quick installation of the FNA 6 x 40 S with a hammer drill.



Installation examples



High performance steel anchors

HIGH PERFORMANCE STEEL ANCHORS

fischer MR wall screw

Bolt anchor with setting pin.

1 MR wall screw



Suitability

Suitable for: concrete \geq B15

For fixing:

gratings, railings, machines, profiled steel etc.

Description

- Expansion/ displacement by hitting the hardened steel pin
- Small drill-hole (= bolt diameter)
- Complete unit
- Attachment can be loosened again.

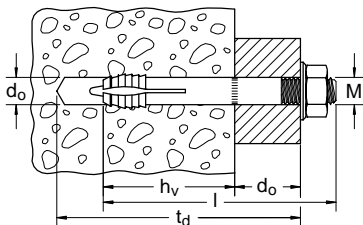
Technical data

Type	Art. No.	d_o Drill Ø mm	t_d Min. drill- hole depth for through fixing mm	h_v Min. anchor- age depth mm	l Fixing length mm	d_s Max. fixing thick- ness mm	SW Width across nut	Thread	Qty. per pack
MR 6	50582	6	55	30	55	18	10	M 6	50
MR 8	50583	8	70	40	70	22	13	M 8	25
MR 10	50584	10	85	50	85	24	17	M10	20
MR 12	50585	12	100	60	100	27	19	M12	10

Ultimate loads [kN] (mean values)

Anchorage substrate	MR 6	MR 8	MR 10	MR 12
Concrete \geq B 25	5	7.2	13	21

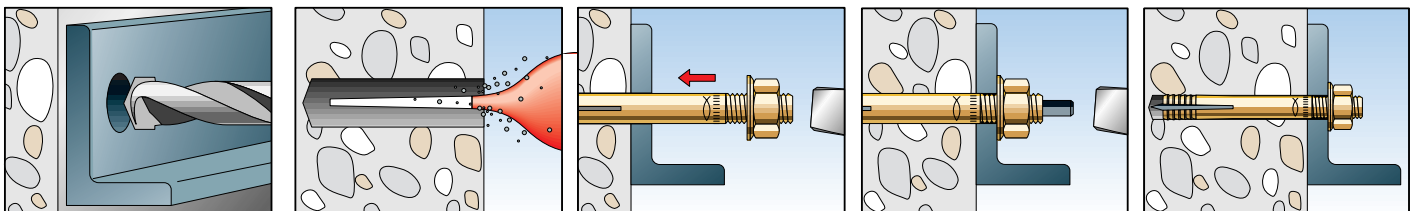
We recommend a safety coefficient of 4 for these loads.



Installation examples



Installation diagram



Bonded Anchors/Capsules/ Injection Systems



Bonded Anchors/Capsules/
Injection Systems

fischer FCR combi resin-bonded anchor

The benchmark for greater safety in the tension zone.

- 1 Resin capsule RM
- 2 Anchor rod FCR-A

Material: zinc plated and passivated steel, A4 stainless steel, and highly corrosion-resistant steel, material 1.4529



Approval



Approved for cracked concrete.

Shock approval by the Federal Office for Civil Defence, Bonn

°C	
+20	20 min.
+10	30 min.
0	1 h
-5	5 h

Bear in mind the setting times!

Suitability

Suitable for:

concrete ≥ B15, dense natural stone.

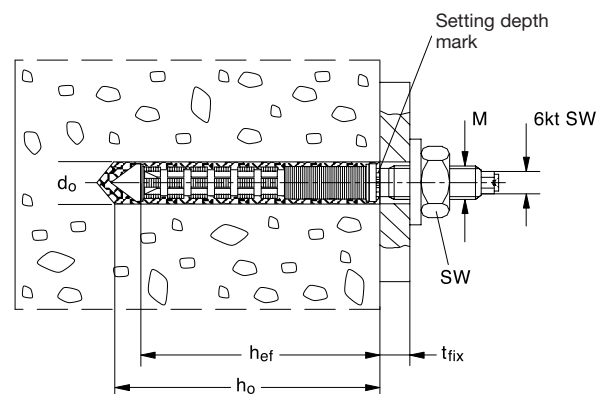
For fixing:

all installations, which require the highest level of safety – including those in narrow concrete components. Ideal for use in facade constructions and for anchoring structural connections, machines and brackets.

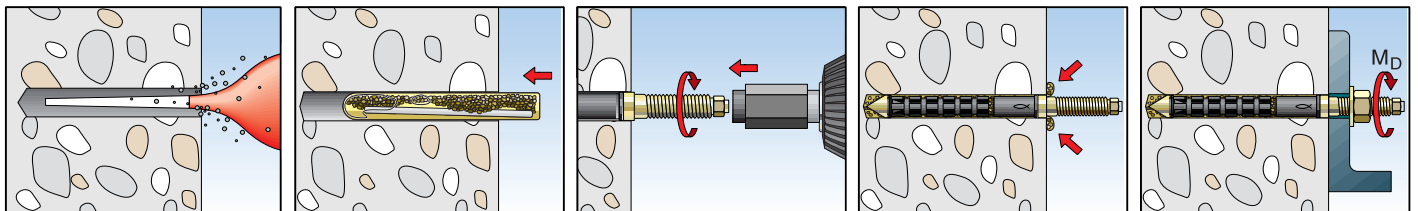
- In atmospheres containing high levels of chloride, sulphur dioxide and humidity, the fixing is exposed to high levels of corrosion (e.g. in indoor swimming pools, chemical industries).
- For a permanently safe installation, fischer offers the threaded rod part made from a highly corrosion-resistant stainless steel, material 1.4529.

Description/Installation

- Post-expansion of the anchor rod where cracks in the concrete tensile zone may occur.
- Installation without special tools.
- Minimal axial and edge spacing (stress-free installation).
- Styrene-free resin cartridge (low odour).
- Large product range.
- Unlimited suitability for cracked concrete.
- Installation with conventional methods for undercut drill-holes.



Installation diagram



Bonded Anchors/Capsules/Injection Systems

fischer FCR combi resin-bonded anchor

Technical data



Resin capsule R M

Type	Art. No.	Suitable for threaded rods	Quantity per pack
R M 8	50270	FCR-A 10 x 60	10
R M 10	50271	FCR-A 10 x 60	10
R M 12	50272	FCR-A 12 x 80, FCR-A 12 x 100	10
R M 16	50273	FCR-A 16 x 125	10
R M 20	50274	FCR-A 20 x 170	10



Anchor rod FCR-A – zinc plated and passivated steel

Type	Art. No.	d ₀ Drill Ø mm	h ₀ Drill-hole depth mm	h _{eff.} effekt. anchor- age depth mm	t _{fix.} Max. fixing thick- ness mm	SW hexa- gon	SW hexa- gon nut	Suitable for resin capsule	Qty. per pack
FCR-A 10 x 60/20	61150	12	80	70	20	7	17	RM 8	10
FCR-A 10 x 60/60	61151	12	80	70	60	7	17	RM 8	10
FCR-A 12 x 80/30	61160	14	105	90	30	8	19	RM 12	10
FCR-A 12 x 80/60	61161	14	105	90	60	8	19	RM 12	10
FCR-A 12 x 80/165*	61157	14	105	90	165	8	19	RM 12	10
FCR-A 12 x 100/30	61162	14	125	110	30	8	19	RM 12	10
FCR-A 12 x 100/60	61163	14	125	110	60	8	19	RM 12	10
FCR-A 16 x 125/30	61168	18	150	135	30	12	24	RM 16	10
FCR-A 16 x 125/60	61169	18	150	135	60	12	24	RM 16	10
FCR-A 20 x 170/60	61172	25	190	170	60	14	30	RM 20	10

* Oversized washer in accordance with DIN 440, max. fix. thickness 100–165 mm.



Anchor rod FCR-A – A4 stainless steel (material: 1.4401)

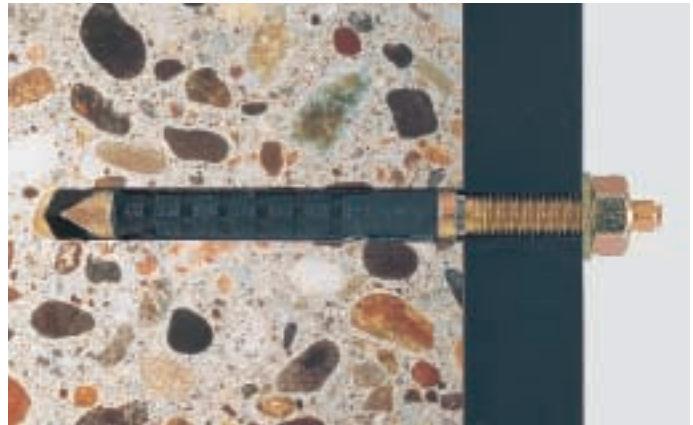


Type	Art. No.	d ₀ Drill Ø mm	h ₀ Drill-hole depth mm	h _{eff.} effekt. anchor- age depth mm	t _{fix.} Max. fixing thick- ness mm	SW hexa- gon	SW hexa- gon nut	Suitable for resin capsule	Qty. per pack
FCR-A 10 x 60/20 A4	61152	12	80	70	20	7	17	RM 8	10
FCR-A 10 x 60/60 A4	61153	12	80	70	60	7	17	RM 8	10
FCR-A 12 x 80/30 A4	61164	14	105	90	30	8	19	RM 12	10
FCR-A 12 x 80/60 A4	61165	14	105	90	60	8	19	RM 12	10
FCR-A 12 x 100/30 A4	61166	14	125	110	30	8	19	RM 12	10
FCR-A 12 x 100/60 A4	61167	14	125	110	60	8	19	RM 12	10
FCR-A 16 x 125/30 A4	61170	18	150	135	30	12	24	RM 16	10
FCR-A 16 x 125/60 A4	61171	18	150	135	60	12	24	RM 16	10
FCR-A 20 x 170/60 A4	61173	25	190	170	60	14	30	RM 20	10

Anchor rod FCR-A – highly corrosion-resistant stainless steel (material: 1.4529)

Type	Art. No.	Drill Ø mm	effekt. drill- hole depth mm	effekt. anchor- age depth mm	Max. fixing thick- ness mm	Suitable for resin capsule	SW hexa- gon nut	Qty. per pack
FCR-A 10 x 60/20 C	96220	12	80	70	20	50271/50270	17	10
FCR-A 10 x 60/60 C*	96312	12	80	70	60	50271/50270	17	10
FCR-A 12 x 80/30 C	96221	14	105	90	30	50272	19	10
FCR-A 12 x 80/60 C	96351	14	105	90	60	50272	19	10
FCR-A 12 x 100/30 C	96222	14	125	110	30	50272	19	10
FCR-A 12 x 100/60 C*	96313	14	125	110	60	50272	19	10
FCR-A 16 x 125/60 C*	96314	18	150	135	60	50273	24	10
FCR-A 20 x 170/60 C	96352	25	195	180	60	50274	30	10

Installation examples



Machine setting tool RA-SDS, Art. No. 62420

1 setting tool for all FCR-A anchor rods and RGM threaded rods with hexagon insert. The matching machine screw with a hexagon socket is supplied with every anchor rod.

fischer FCR combi resin-bonded anchor
Ultimate loads $F_{u,m}$ [kN] (mean values, cracked concrete) for a single anchor¹⁾

Combi resin bonded anchor FCR			FCR 10 x 60	FCR 12 x 80	FCR 12 x 100	FCR 16 x 125	FCR 20 x 170
Tensile load	B25 gvz	$N_{u,m}$	23.3	32.3	42.0*	53.9	96.9
		A4	22.4	32.3	43.8	53.9	96.9
	B55 gvz	$N_{u,m}$	30.2*	45.3*	45.3*	74.8*	106.9*
		A4	34.6	46.5*	46.5*	67.3*	125.5*
Shear load	\geq B25 gvz	$V_{u,m}$	19.6*	29.6*	29.5*	48.6*	64.1*
		A4	22.9*	30.2*	30.2*	43.8*	75.3*

* The load-bearing capacity of the steel is decisive. – ¹⁾ These ultimate loads apply to room temperature. We recommend the use of an appropriate safety factor.

For ultimate loads in non-cracked concrete refer to resin anchor R.
Recommended loads F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40$ ^{1) 2) 5)}

Combi resin bonded anchor FCR			FCR 10 x 60	FCR 12 x 80	FCR 12 x 100	FCR 16 x 125	FCR 20 x 170
Tensile load	non-cracked concrete ³⁾	B25 gvz	8.4	12.3	12.4	19.7	37.8
		A4	8.4	12.3	12.4	19.7	37.8
		B55 gvz	12.5	18.2	18.4	29.2	51.9*
		A4	10.5*	18.2	18.4	26.4*	44.5*
	non-cracked concrete ⁴⁾	B25 gvz	8.4	12.3	12.4	19.7	37.8
		A4	8.4	12.3	12.4	19.7	37.8
		B55 gvz	12.5	18.2	18.4	29.2	51.9*
		A4	10.5*	18.2	18.4	26.4*	44.5*
Shear load	non-cracked concrete ³⁾	B25 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*
		B55 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*
	non-cracked concrete ⁴⁾	B25 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*
		B55 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*

Recommended loads F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacing, calculated with $\gamma_F = 1.40$ ^{1) 2) 5)}

Combi resin bonded anchor FCR			FCR 10 x 60	FCR 12 x 80	FCR 12 x 100	FCR 16 x 125	FCR 20 x 170
Tensile load	cracked concrete ³⁾ (w ~ 0.4 mm)	B25 gvz	5.8	8.4	10.7	14.6	23.2
		A4	5.8	8.4	10.7	14.6	23.2
		B55 gvz	8.6	12.5	15.9	21.6	34.4
		A4	8.6	12.5	15.9	21.6	34.4
	cracked concrete ⁴⁾ (w ~ 0.4 mm)	B25 gvz	5.8	8.4	10.7	14.6	23.2
		A4	5.8	8.4	10.7	14.6	23.2
		B55 gvz	8.6	12.5	15.9	21.6	34.4
		A4	8.6	12.5	15.9	21.6	34.4
Shear load	cracked concrete ³⁾ (w ~ 0.4 mm)	B25 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*
		B55 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*
	cracked concrete ⁴⁾ (w ~ 0.4 mm)	B25 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*
		B55 gvz	8.6*	11.2*	11.2*	21.4*	24.9*
		A4	6.3*	12.4*	12.4*	15.8*	26.7*

* The load-bearing capacity of the steel is decisive

¹⁾ Corresponding axial and edge spacing

Tensile load: $s \geq s_{cr.sp}$, $c \geq c_{cr.sp}$

Shear load: In the case of shear loads the corresponding neighbouring axial and edge spacing affect each other and additionally depend on the thickness of the structural component and the edge reinforcement. For this reason no values can be given.

²⁾ The value $\gamma_F = 1.40$ applies to the relationship between dead load and service load. For deviating partial safety factors the recommended load must be changed accordingly.

³⁾ Un-reinforced and normal reinforced concrete.

⁴⁾ Heavily reinforced concrete.

⁵⁾ For permanent temperatures of $\leq +80^\circ\text{C}$ in the anchorage substrate, in the area immediately around the resin.

For your notes



Bonded Anchors / Capsules /
Injection Systems

fischer R resin anchor

For stress-free resin anchoring.

- 1 Resin capsule RM
- 2 Threaded rod RGM

Material: zinc plated and passivated steel, A4 stainless steel, and highly corrosion-resistant stainless steel, material 1.4529



Approvals



Suitability

Suitable for:
concrete \geq B15, dense natural stone.

For fixing:
steelwork in general, supports, rails, head and base plates, warehouse racking, consoles, railings, windows, protective planks, scaffolding, sign bridges, routing devices, machines, facades, shuttering etc.

Description/Installation

- High permissible loads in the concrete compressive zone (= uncracked concrete).
- Well-accepted product for synthetic resin fixing.
- Reduced axial and edge spacings.
- Styrene-free material (low odour).
- Simple installation.
- Extensive range of threaded rods.



°C	Setting time
+20	20 min.
+10	30 min.
0	1 h
-5	5 h

Bear in mind the setting times!

Technical data

Ultimate loads [kN] (mean values, non-cracked concrete) of single anchors³⁾

Reaction anchor R			R 8	R 10	R 12	R 16	R 20	R 24	R 30
Tensile load	B25 gvz ¹⁾	N _{u,m}	19.0*	30.2*	43.8*	66.4*	122.8	174.0	230.0
	A4	N _{u,m}	22.2	33.0	48.6	66.4	122.8	174.0	–
	\geq B45 gvz ¹⁾	N _{u,m}	19.0*	30.2*	43.8*	81.6*	127.4*	183.6*	286.0
	gvz ²⁾	N _{u,m}	25.0	36.4	55.0	84.0	163.0	218.0	286.0
Shear load	\geq B25 gvz ¹⁾	V _{u,m}	11.4*	18.1*	26.3*	49.0*	76.4*	110.1*	175.0*
	gvz ²⁾	V _{u,m}	17.6*	27.8*	40.5*	75.4*	117.6*	169.4*	269.3*
	A4	V _{u,m}	15.4*	24.4*	35.4*	65.9*	102.9*	105.6*	–
		V _{u,m}							

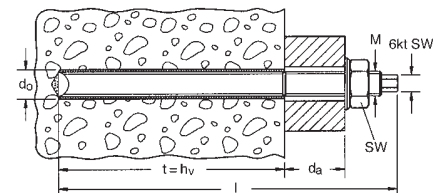
* The load-bearing capacity of the steel is decisive.
¹⁾ When using fischer anchor rods of strength class 5.8 (standard anchor rods).
²⁾ When using fischer anchor rods of strength class 8.8 (special sizes, not part of the stand. range).
³⁾ These ultimate loads apply to room temperature.
 We recommend the use of an appropriate safety factor.

For ultimate loads in cracked concrete refer to Combi resin bonded anchor FCR.

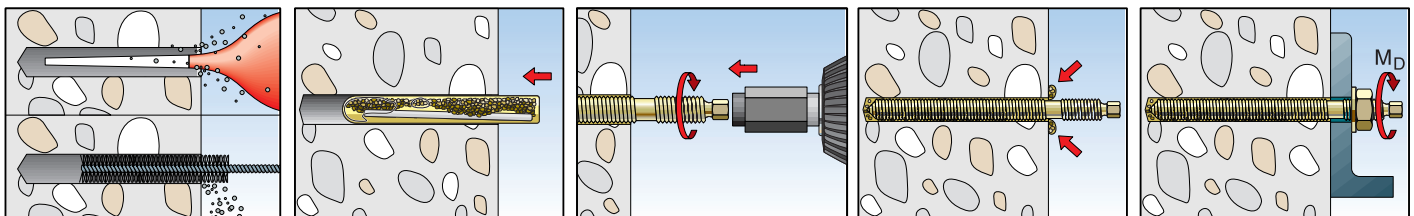
Recommended load F_{rec} [kN] in accordance with CC-method for single anchors with large axial and edge spacings, calculated with $\gamma_F = 1.40$ ^{1) 2) 6)}

Reaction anchor R		R 8	R 10	R 12	R 16	R 20	R 24	R 30
Tensile load	B25 gvz ⁴⁾	5.1	7.6	11.3	15.4	28.6	40.5	53.8
	A4 ⁵⁾	5.1	7.6	11.3	15.4	28.6	40.5	–
	B45 gvz ⁴⁾	5.8	8.5	12.8	19.5	37.9	50.7	66.5
	A4 ⁵⁾	5.8	8.5	12.8	19.5	37.9	50.7	–
Shear load	B25 gvz ⁴⁾	5.5*	8.7*	12.6*	23.5*	36.8*	52.9*	84.1*
	A4 ⁵⁾	5.9*	9.3*	13.6*	25.2*	39.4*	51.6*	–

¹⁾ Corresponding axial and edge spacings: * The load-bearing capacity of the steel is decisive
 Tensile load: $s \geq s_{cr,sp}$, $c \geq c_{cr,sp}$
 Shear load: In the case of shear loads the corresponding neighbouring axial and edge spacings affect each other and additionally depend on the thickness of the structural component and the edge reinforcement. For this reason no values can be given.
²⁾ The value $\gamma_F = 1.40$ applies to the relationship between dead load and service load. For deviating partial safety factors the recommended load must be changed accordingly.
³⁾ Un-reinforced and normal reinforced concrete.
⁴⁾ These values apply to the use of fischer anchor rods of strength class 5.8.
⁵⁾ These values apply to the use of fischer anchor rods of strength class A4-70.
⁶⁾ For a permanent temperature of $\leq +50^\circ\text{C}$ in the anchorage substrate, in the area around the resin. For a short time the temperature may rise to $\leq +120^\circ\text{C}$.



Installation diagram



fischer R resin anchor

Technical data



Resin capsule R M

Type	Art. No.	d ₀ Drill Ø mm	t Min. drill-hole depth mm	h _v Min. anchorage depth mm	Fits threaded rods	Quantity per pack
R M 8	50270	10	80	80	M 8	10
R M 10	50271	12	90	90	M 10	10
R M 12	50272	14	110	110	M 12	10
R M 16	50273	18	125	125	M 16	10
R M 20	50274	25	170	170	M 20	10
R M 24	50275	28	210	210	M 24	5
R M 30	50276	35	280	280	M 30	5



Threaded rod RGM with washer, hexagon nut and hex. external drive


Steel quality 5.8, electroplated

Type	Art. No.	h _v Min. anchorage depth mm	d _s Max. fixing thickness mm	l Threaded rod length mm	SW hexa- gon nut	Fits	Qty. per pack
RG M 8 x 110	50256	80	13	110	5	RM 8	10
RG M 8 x 150	95698	80	60	150	5	RM 8	10
RG M 8 x 250	95699	80	160	250	5	RM 8	10
RG M 8 x 350 ¹⁾	95717	80	260	350	-	RM 8	10
RG M 10 x 130	50257	90	20	130	7	RM 10	10
RG M 10 x 165	50280	90	57	165	7	RM 10	10
RG M 10 x 190	50281	90	82	190	7	RM 10	10
RG M 10 x 250	95703	90	150	250	7	RM 10	10
RG M 10 x 350 ¹⁾	95718	90	250	350	-	RM 10	10
RG M 10 x 500 ¹⁾	95719	90	400	500	-	RM 10	10
RG M 12 x 160	50258	110	25	160	8	RM 12	10
RG M 12 x 220	50283	110	90	220	8	RM 12	10
RG M 12 x 250	50284	110	120	250	8	RM 12	10
RG M 12 x 300	50285	110	170	300	8	RM 12	10
RG M 12 x 380 ¹⁾	95720	110	255	380	-	RM 12	10
RG M 12 x 600 ¹⁾	95721	110	475	600	-	RM 12	10
RG M 16 x 165	50287	125	13	165	12	RM 16	10
RG M 16 x 190	50259	125	35	190	12	RM 16	10
RG M 16 x 250	50288	125	98	250	12	RM 16	10
RG M 16 x 300	50289	125	148	300	12	RM 16	10
RG M 16 x 380 ¹⁾	95722	125	235	380	-	RM 16	10
RG M 16 x 500 ¹⁾	95723	125	355	500	-	RM 16	10
RG M 16 x 750 ¹⁾	95724	125	605	750	-	RM 16	10
RG M 20 x 260	50260	170	65	260	12	RM 20	10
RG M 20 x 350	95707	170	155	350	12	RM 20	10
RG M 20 x 500 ¹⁾	95725	170	305	500	-	RM 20	10
RG M 20 x 750 ¹⁾	95726	170	555	750	-	RM 20	10
RG M 24 x 300*	50261	210	65	300	8	RM 24	10
RG M 24 x 400 ¹⁾	95727	210	165	400	-	RM 24	10
RG M 24 x 600 ¹⁾	95728	210	365	600	-	RM 24	5
RG M 30 x 380*	50262	280	65	380	8	RM 30	5
RG M 30 x 500 ¹⁾	95730	280	185	500	-	RM 30	5
RG M 30 x 750 ¹⁾	95729	280	435	750	-	RM 30	5

* With internal hexagon. ¹⁾ Straight cut.

Setting tool (internal hex. nut) for an adjust. chuck are enclosed with every pack of anchor rods.

Resin anchor-threaded rod RG M

Highly corrosion-resistant stainless steel (material 1.4529) 

Type	Art. No.	Drill Ø mm	Min. drill- hole depth mm	Min. anchor- age depth mm	Max. fixing thickness mm	Fits resin capsule	SW (width across) hexagon nut	Qty. per pack
RG M 8 x 110 C	96316	10	80	80	13	50270	13	10
RG M 10 x 130 C	96217	12	90	90	20	50271	17	10
RG M 12 x 160 C	96218	14	110	110	25	50272	19	10
RG M 16 x 190 C	96238	18	125	125	35	50273	24	10

Technical data, Installation examples



Threaded rod RGM with washer, hexagon nut and hex. external drive

A4 stainless steel (material: 1.4401) 

Type	Art. No.	h _v Min. anchorage depth mm	d _s Max. fixing thickness mm	l Threaded rod length mm	SW hexa- gon nut	Fits	Qty. per pack
RG M 8 x 110 A4	50263	80	13	110	5	RM 8	10
RG M 8 x 150 A4	50293	80	60	150	5	RM 8	10
RG M 8 x 250 A4	95700	80	160	250	5	RM 8	10
RG M 8 x 350 A4 ¹⁾	95708	80	260	350	-	RM 8	10
RG M 10 x 130 A4	50264	90	20	130	7	RM 10	10
RG M 10 x 165 A4	50294	90	57	165	7	RM 10	10
RG M 10 x 190 A4	50296	90	90	190	7	RM 10	10
RG M 10 x 250 A4	95701	90	150	250	7	RM 10	10
RG M 10 x 350 A4 ¹⁾	95709	90	250	350	-	RM 10	10
RG M 12 x 160 A4	50265	110	25	160	8	RM 12	10
RG M 12 x 220 A4	50297	110	95	220	8	RM 12	10
RG M 12 x 250 A4	95702	110	125	250	8	RM 12	10
RG M 12 x 300 A4	95705	110	175	300	8	RM 12	10
RG M 12 x 380 A4 ¹⁾	95710	110	255	380	-	RM 12	10
RG M 12 x 600 A4 ¹⁾	95711	110	475	600	-	RM 12	10
RG M 16 x 165 A4	95704	125	13	165	12	RM 16	10
RG M 16 x 190 A4	50266	125	35	190	12	RM 16	10
RG M 16 x 250 A4	50298	125	105	250	12	RM 16	10
RG M 16 x 300 A4	50299	125	155	300	12	RM 16	10
RG M 16 x 380 A4 ¹⁾	95712	125	235	380	-	RM 16	10
RG M 16 x 500 A4 ¹⁾	95713	125	355	500	-	RM 16	10
RG M 20 x 260 A4	50267	170	65	260	12	RM 20	10
RG M 20 x 350 A4	95706	170	155	350	12	RM 20	10
RG M 20 x 500 A4 ¹⁾	95714	170	305	500	-	RM 20	10
RG M 24 x 300 A4*	50268	210	65	300	8	RM 24	10
RG M 24 x 400 A4 ¹⁾	95715	210	165	400	-	RM 24	1
RG M 24 x 600 A4 ¹⁾	95716	210	365	600	-	RM 24	5

* With internal hexagon. ¹⁾ Straight cut.



fischer FHP hammer-set glass capsule

For stress-free anchoring reinforcement starter bars.

1 fischer hammer-set glass capsule FHP



styrene-free

Suitability

Suitable for:
concrete.

For fixing:
reinforcement starter bars, etc.

Description/Installation

- Special combination of resin and hardener.
- Starter bars can be hammered in (= quick installation).
- To achieve maximum load characteristics the use of 2 capsules is recommended, one on top of the other the other.
- Collar to prevent spillage and splashes.
- Capsule can be inserted in any direction.
- Unusually high shelf life of 24 months.
- With paste-like hardener.

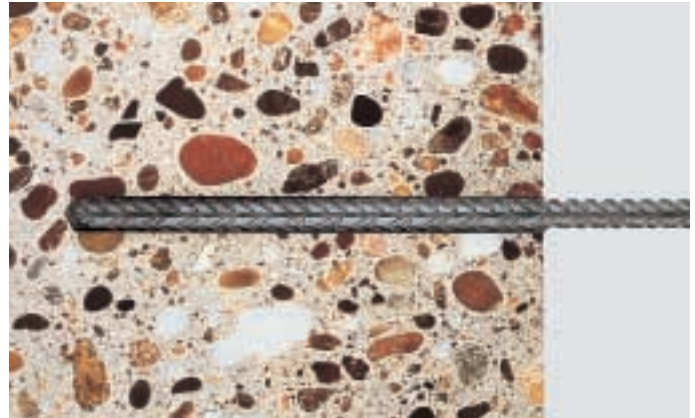
Installation advice

- Drill the hole with a normal hammer drill. Clean out the drill-hole thoroughly (blow or vacuum).
- Check the FHP capsule before insertion into the drill-hole. If the capsule is not damaged, the resin should flow within the capsule like honey. Place into the hole.
- Clean the starter bar (free of oil/grease). Attach splash card to starter bar. Observe safety instruction.
- Hammer the starter bar into the drill-hole, until it reaches the bottom of the drill-hole

°C	≥ 20	20 min.
	+10 - +20	30 min.
	± 0 - +10	1 h
	-5 - ± 0	5 h

Bear in mind the setting times!

Installation example



Technical data

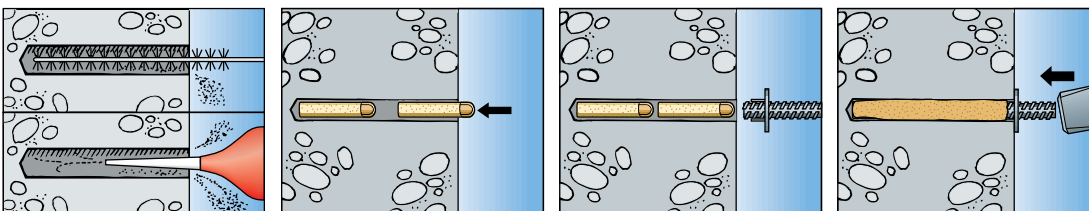
Ultimate loads $F_{u, m}$ [kN] (mean values) and recommended loads F_{rec} [kN] with 2 capsules for each installation.

Type	Concrete reinforcement bar \varnothing (mm)	$F_{u, m} \geq B25$ (25 N/mm ²) and BST 420/500	$F_{rec} \geq B25$ (25 N/mm ²) and BST 420/500
FHP 10	10	47	12
FHP 12	12	63	17
FHP 16	14	90	22
FHP 16	16	109	29
FHP 20	20	158	38

We recommend the use of an appropriate safety factor.

Type	Art. No.	Reinforcement bar \varnothing mm	d_b Drill \varnothing mm	Drill-hole depth mm	No. of capsules per installation	Quantity per pack	Shipping quantity
FHP 10	52520	10	13	180/90	2/1	10	500
FHP 12	52521	12	15	220/110	2/1	10	500
FHP 16	52522	14	18	250/125	2/1	10	250
FHP 16	52522	16	20	280/140	2/1	10	250
FHP 20	52523	20	24	360/180	2/1	10	100

Installation diagram



For your notes



Bonded Anchors / Capsules /
Injection Systems

fischer FIS V injection anchor

For professional expansion-free anchoring.



- 1 FIS V 360 S
- 2 FIS static mixer
- 3 FIS VS 150 C



Approval currently in preparation

Suitability

With anchor sleeve/anchor sleeve with net suitable for: vertical perforated bricks, sand-lime perforated bricks, hollow blocks, pumice hollow planks, hollow filler block floor and other perforated bricks.

Without anchor sleeve suitable for: concrete, light-weight concrete, natural stone, solid red bricks, sand-lime solid bricks, solid pumice stone and other solid materials.

For fixing:

machines, gratings, gates, handrails, brackets, pipelines, sanitary items, cable trays etc.

To match:

FIP P (article no. 58026), FIP PG (article no. 58027).

Advantages

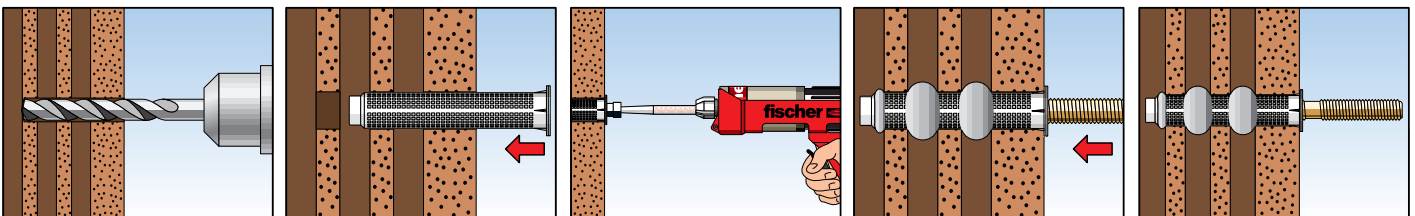
- Styrene-free hybrid resin mortar
- Re-usability of opened cartridges
- Requires low application pressure
- No separate mixing required
- Environmentally friendly
- Expansion-free anchoring
- Suitable for nearly all substrates

Description

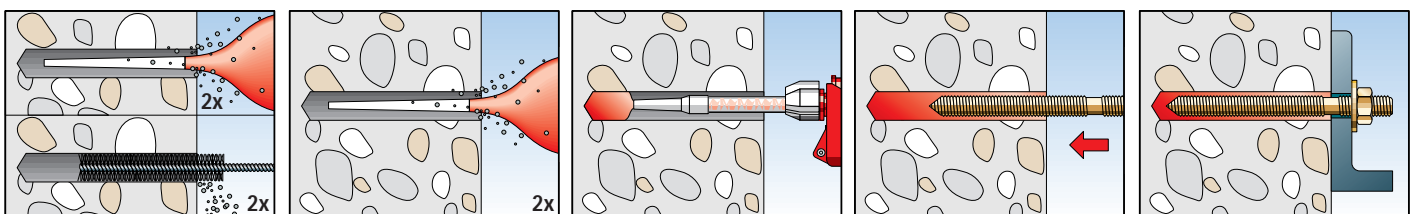
The fischer FIS V injection anchor contains a styrene-free, quick-setting, high quality hybrid resin mortar, which is characterised by its universal suitability for many applications. The 2 components are safely mixed together inside the static mixer. A simple exchange of the static mixer allows the renewed use of cartridges after they have been opened.

Installation diagram

in perforated brick with anchor sleeve



in solid materials without anchor sleeve



Bonded Anchors/Capsules/
Injection Systems

fischer Injection anchoring system FIS V with threaded rods
Recommended loads F_{rec} [kN] in non-cracked concrete with large edge and axial spacings.
Anchor characteristics

Type/ thread				FIS V M 8	FIS V M 10	FIS V M 12	FIS V M 16	FIS V M 20	FIS V M 24	FIS V M 30
Tensile load N_{rec}	gvz and A4	\geq B25	[kN]	6.0	8.5	11.5	15.0	23.5	30.0	56.5
		B25	[kN]	4.0	6.0	8.0	13.5	22.0	32.5	70.0
		B35	[kN]	4.5	7.0	9.5	16.0	26.0	38.5	70.0
Shear load V_{rec}	gvz and A4	B45	[kN]	5.2	8.0	11.0	18.0	29.5	44.0	70.0
		steel gvz 5.8	[Nm]	10.7	21.4	37.4	94.9	186.0	321.0	642.0
Rec. bending moment	A4-70		[Nm]	12.1	24.1	42.1	107.0	209.0	201.0	402.0
Nominal drill-hole diameter	d_o	[mm]		10–12	12–14	14–16	18–20	24	28	35
Drill hole depth/setting depth	h_o/h_s	[mm]		90	110	120	160	200	250	320
Edge distance $c_{cr,N}$		[mm]	85	110	130	165	210	250	375	
Min. edge distance ¹⁾	c_{min}	[mm]		40	45	55	65	85	105	140
Axial spacing	$s_{cr,N}$	[mm]		170	220	260	330	420	500	750
Min. axial spacing ¹⁾	s_{min}	[mm]		40	45	55	65	85	105	140
Max. torque on anchoring	T_{inst}	[Nm]		10	20	40	80	150	200	400
Min. component thickness	h_{min}	[mm]		130	150	180	220	280	330	500
Resin volume for drill-hole size stated	ca.	[cm ³]		4.5–8	6.5–12	9.5–16	17–28	45	69	125

¹⁾ For $c_{min} \leq c_{cr,N}$ and for $s_{min} \leq s_{cr,N}$ the N_{rec} and V_{rec} must be reduced: see introduction to heavy-duty fixings.

Ultimate loads $F_{u, m}$ (mean values)
Tensile loads $N_{u, m}$

Designation	Concrete strength class	FIS V M 8	FIS V M 10	FIS V M 12	FIS V M 16	FIS V M 20	FIS V M 24	FIS V M 30	
$N_{u, m}$ ²⁾ [kN]	electroplated and A4 stainless steel	B25 ¹⁾	29.0	41.5	55.5	84.5	114.5	145.5	289.5
Min. ultimate load of the anchor rod	electroplated 5.8	[kN]	18.3	29.0	42.2	78.5	122.5	176.5	280.5
	A4/70 stainless steel	[kN]	25.6	40.6	59.0	109.9	171.5	176.5	280.5

¹⁾ Cause of failure: composite fracture or concrete fracture when used with threaded rod of steel grade 8.8.

²⁾ The mean ultimate loads stated here depend on diligent cleaning of the drill-hole as per installation instructions.

Shear loads $V_{u, m}$

Designation	Concrete strength class	FIS V M 8	FIS V M 10	FIS V M 12	FIS V M 16	FIS V M 20	FIS V M 24	FIS V M 30	
$V_{u, m}$ ²⁾ [kN]	electroplated 5.8	B25 ¹⁾	11.0	17.4	25.3	47.1	73.5	105.9	168.3
$V_{u, m}$ ²⁾ [kN]	A4/70 stainless steel	B25 ¹⁾	15.4	24.4	35.4	65.9	102.9	105.9	168.3

¹⁾ Cause of failure: steel fracture; for concrete strength classes > B25 no higher ultimate loads could be determined for shearing off.

²⁾ The mean ultimate loads stated here depend on diligent cleaning of the drill-hole as per installation instructions.

fischer Injection anchoring system FIS V with reinforcing bar

Recommended loads F_{rec} [kN] in non-cracked concrete.

Anchor characteristics

Type/ Bar-Ø		FIS V 8	FIS V 10	FIS V 12	FIS V 16	FIS V 20	FIS V 25	FIS V 28
Tensile load $N_{rec}^{1)}$ BSt 420 S and BSt 500 S, B25	[kN]	7.5	12.0	16.5	29.5	46.0	66.5	83.5
Nominal drill-hole diameter	d_o [mm]	10–12	12–14	14–16	20–22	24–28	30–32	35–38
Drill-hole depth/setting depth	h_o/h_s [mm]	160	180	220	280	360	450	500
Edge distance $c_{cr,N}$	[mm]	90	120	150	220	300	380	440
Min. edge distance ²⁾	c_{min} [mm]	40	45	55	65	85	105	140
Axial spacing	$s_{cr,N}$ [mm]	180	240	300	440	600	760	880
Min. axial spacing ²⁾	s_{min} [mm]	40	45	55	65	85	105	140
Min. component thickness	h_{min} [mm]	210	230	270	330	410	500	600
Resin volume for drill-hole size stated	ca. [cm ³]	6–12	8–16	12–23	38–55	58–117	110–142	175–262

¹⁾ N_{rec} applies only when edge and axial spacings are adhered to.

²⁾ For $c_{min} \leq c_{cr,N}$ and for $s_{min} \leq s_{cr,N}$ the N_{rec} must be reduced: see introduction to heavy-duty anchors.

Ultimate loads $N_{u,m}$ [kN] (mean values) of a single rod in non-cracked concrete – tensile loads

	Concrete strength class	M 8	M 10	M 12	M 16	M 20	M 24	M 30
Bar-Ø	mm	8	10	12	16	20	25	28
$N_{u,m}^{1)}$ [kN] BSt 420 S and BSt 500 S	B25 ²⁾	31.0	48.3	67.7	119.4	186.2	270.0	339.0
Min. ultimate loads of rod-steel	BSt 420 S [kN]	25.1	39.3	56.5	100.5	157.1	245.4	307.9
	BSt 500 S [kN]	27.6	43.2	62.2	110.6	172.8	270.0	338.7

¹⁾ The recommended loads stated here apply to a dry substrate and depend on correct cleaning of the drill-hole as per installation instructions.

²⁾ Mode of failure: steel of the BSt 500 S

fischer Injection anchoring system FIS V in masonry

Recommended loads in masonry

Direction of load: tensile, shear and oblique

Type of brick		HLz 4 KSL 4	HLz 6 KSL 6	HLz 12 KSL 12
Strengths \geq (MN/m ²)		4	6	12
rec $F_{z,Q}^{1)}$ [kN] \leq 1.0 (kg/dm ³)		0.4	0.6	1.0
for brick density $>$ 1.0 (kg/dm ³)		0.6	0.8	1.4

¹⁾ Rec $F_{z,Q}$ with anchor rod M8, M10 and anchor sleeve FIP H 16/75 M.
(Not valid in conjunction with screw-in sleeves)

Ultimate loads (mean values) – tensile loads

Type of brick		HLz 4 KSL 4	HLz 6 KSL 6	HLz 12 KSL 12
Strengths \geq (MN/m ²)		4	6	12
rec $F_{uz}^{1)}$ [kN] \leq 1.0 (kg/dm ³)		2.0	3.0	5.0
for brick density $>$ 1.0 (kg/dm ³)		3.0	4.0	6.0

¹⁾ Cause of failure: brick fracture when used with anchor rod M8, M10 and anchor sleeve FIP H 16/75 M.

Type of stone		Hbl 2 Hbn 2	Hbl 4 Hbn 4
Strengths \geq (MN/m ²)		2	4
rec $F_{z,Q}^{1)}$ [kN]		0.5	1.0

¹⁾ Rec $F_{z,Q}$ with anchor rod M8, M10 and anchor sleeve FIP H 16/75 M.
(Not valid in conjunction with screw-in sleeves)

Type of stone		Hbl 2 Hbn 2	Hbl 4 Hbn 4
Strengths \geq (MN/m ²)		2	4
rec $F_{uz}^{1)}$ [kN]		2.5	4.0

¹⁾ Cause of failure: stone fracture when used with anchor rod M8, M10 and anchor sleeve FIP H 16/75 M.

For your notes



fischer FIS V 360 T Injection Anchor System in foil packs

with static mixer. The professional stress-free resin anchor.

- 1 Pair of foil packs FIS V 360 T
- 2 Adapter for FIS V 360 T
- 3 Static mixer



Suitability

Without anchor sleeve suitable for:

concrete, lightweight concrete, natural stone, solid bricks, sand-lime solid bricks, solid pumice and other solid building materials.

With anchor sleeve suitable for:

Perforated bricks, sand-lime perforated bricks, hollow blocks, pumice hollow planks, hollow filler block floor and other perforated bricks.

For fixing:

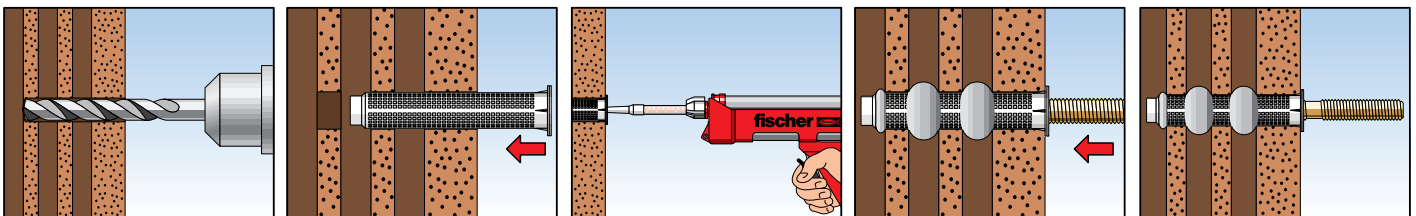
machines, gratings, gates, handrails, brackets, pipelines, sanitary items, cable trays etc.

Description/Installation

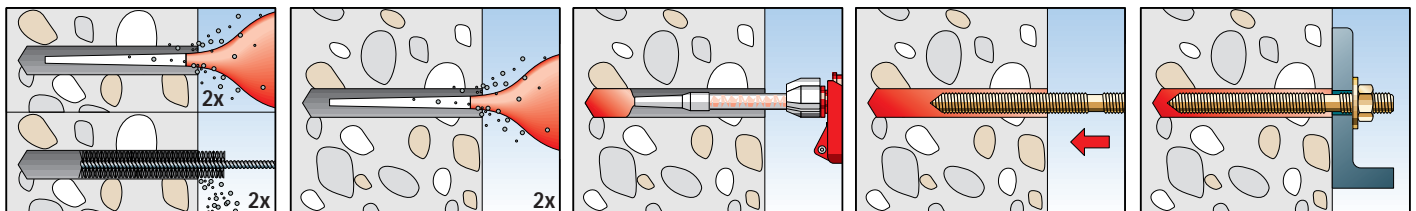
- Both components are mixed together in the static mixer.
- Adapter for foil packs.
- One adapter can be used for ca. 10 packs.
- Opened packs which remain in the adapter can be used again.
- Easy application with high-quality application gun (FIP P or FIP PG)
- No separate mixing required.
- Styrene-free resin, therefore environmentally friendly.
- Tubular foil packs reduce waste.
- Larger quantities than cartridge.

Installation diagram

FIS V 360 T in perforated bricks, with anchor sleeve



FIS V 360 T in solid building material, without anchor sleeve



fischer FIS V 360 T Injection Anchor System in foil packs

Technical data



Type	Art. No.	Contents	Quantity per pack
For hollow and solid materials			
FIS V 360 T combi-pack	58020	5 packs of FIS V 360 T 360 ml 10 static mixers 5 nuts 1 adapter with 2 lids	1
FIS V 360 T five-pack	58021	5 packs of FIS V 360 T 360 ml 10 static mixers 5 nuts	1

Accessories



Type	Art. No.	Contents	Quantity per pack
FIS V 360 T adapter	58022	1 adapter with lid	1
Static mixer	61223	10 static mixers + 5 nuts	1

Installation advice

- For installations in solid materials the drill-hole must be cleaned thoroughly.
- If the drill-hole in solid materials is damp during installation, the load-bearing capacity might be reduced.

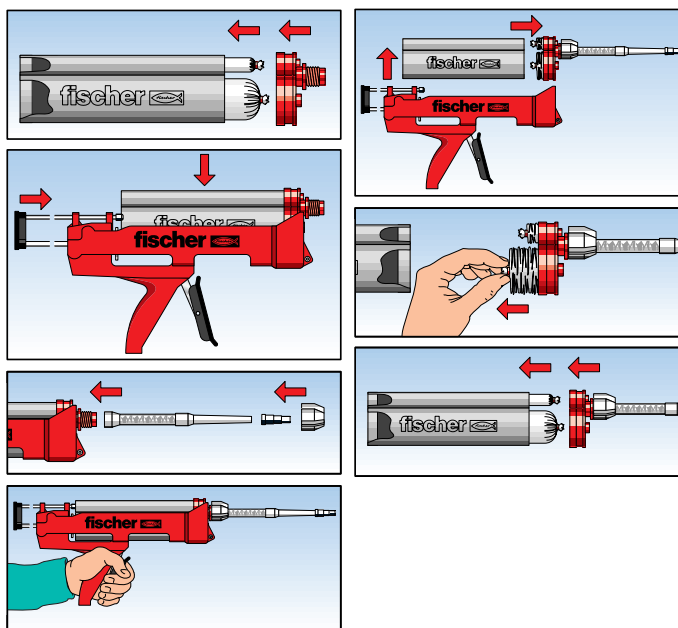
Setting and curing times for fischer FIS V 360 T

Cartridge temperature (resin)	Setting time	Temperature in the substrate	Curing time
		- 5°C	360 Min.
		± 0°C	180 Min.
+ 5°C	13 Min.	+ 5°C	90 Min.
+ 20°C	5 Min.	+ 20°C	45 Min.
+ 30°C	4 Min.	+ 30°C	30 Min.
+ 40°C	2 Min.	+ 40°C	25 Min.

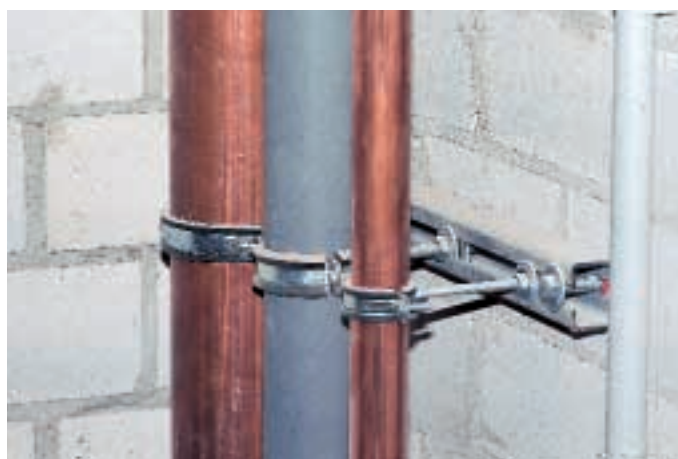
The times given start when the resin and the hardener are mixed in the static mixer. The cartridge should have a minimum temperature of +5 °C when being used. When working over a longer time, i.e. if the work is interrupted, the mixer must be replaced.

For ultimate and recommended loads refer to FIS V (pages 81–82).

Function



Installation examples



Applicator guns/Accessories

Pneumatic gun FIP PG



Suitable for:
FIS V, FIPS cartridges
and 1K-cartridges,
FIPS C2 cartridges.

Type	Art. No.	Designation	Qty. per pack
FIP PG	58027	Pneumatic applicator gun	1

Press pistol FIP P



Suitable for:
FIS V, FIPS cartridges
and 1K-cartridges,
FIPS C2 cartridges.

Type	Art. No.	Designation	Qty. per pack
FIP P	58026	Applicator gun	1

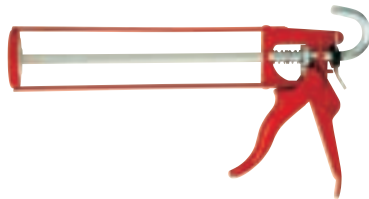
Cartridge pistol KPM 2



Suitable for:
FIS V and
1K-cartridges.

Type	Art. No.	Designation	Qty. per pack
KPM 2	53117	Applicator gun	1

Skeleton pistol KPM 1



Suitable for:
FIS V and
1K-cartridges.

Type	Art. No.	Designation	Qty. per pack
KPM 1	53115	Gun	1

Metal anchor sleeve



With building-inspectorate approval for perforated and hollow bricks in conjunction with fischer FIP H 16 x 75 M and fischer FIP G threaded rods and fischer FIP I M8.

Type	Art. No.	d _o Drill Ø mm	t Min. drill- hole depth mm	h _v Min. an- chor- age depth mm	Rod length mm	Filling quantity in scale gradua- tions Fits	Qty. per pack
FIP H 16 x 75 M*	58068	16	90	75	75	10 M8-M10	10
FIP H 20 x 100 M	49001	20	115	100	100	Ø14/M14	10

* with approval for FIPS injection resin
Filling quantity in mm on scale graduations

Threaded rod



With building-inspectorate approval for perforated and hollow bricks in conjunction with fischer FIP H 16 x 75 M and fischer FIPS resin.

Also approved in conjunction with highly corrosion-resistant steel 1.4529.

Type	Art. No.	d _o Drill Ø mm	t Min. drill- hole depth mm	h _v Min. an- chorage depth mm	Fits	Qty. per pack
FIP G M 8 x 100	58060	10	75	75	FIP H 16 x 75 M	10
FIP G M 8 x 125	58061	10	75	75	FIP H 16 x 75 M	10
FIP G M 10 x 95	58062	12	75	75	FIP H 16 x 75 M	10
FIP G M 10 x 110	58063	12	75	75	FIP H 16 x 75 M	10
FIP G M 8 x 100 A4	58064	10	75	75	FIP H 16 x 75 M	10
FIP G M 8 x 125 A4	58065	10	75	75	FIP H 16 x 75 M	10
FIP G M 10 x 95 A4	58066	12	75	75	FIP H 16 x 75 M	10
FIP G M 10 x 110 A4	58067	12	75	75	FIP H 16 x 75 M	10

Internally threaded sockets



Electroplated steel



FIP I M8*

With building-inspectorate approval for perforated and hollow bricks in conjunction with fischer FIP H 16 x 75 M and fischer FIPS resin.



Type	Art. No.	d _o Drill Ø mm	t Min. drill- hole depth mm	h _v Min. an- chor- age depth mm	l Fixing length mm	M Internal thread	Thread reach min. max. mm	Filling quantity in scale gradua- tions Fits	Qty. per pack
FIP 18/M 8 I	50480	12	85	85	85	M 8 I	8 23	5	FIP 18 x 85 20
FIP 20/M 10 I	50481	14	85	85	85	M 10 I	10 28	6	FIP 20 x 85 20
FIP I M8*	58069	14	80	75	75	-	- -	5	FIP H 16x75M 20

* with approval in conjunction with FIPS injection resin

Accessories

FIP Anchor sleeve with net



Type	Art. No.	d ₀ Drill Ø mm	t Min. drill- hole depth mm	h _v Min. anchor- age depth mm	l Fixing length mm	Fits	Resin filling quantity (scale gradua- tions)	Qty. per pack
FIP 16 x 85	50470	16	95	85	85	Ø 8/M 8	*	20
FIP 18 x 85	50472	18	95	85	85	Ø 10/M 10/M 8/FIP 18	*	20
FIP 20 x 85	50474	20	95	85	85	Ø 12/M 12/M 10/FIP 20	*	20

* fill hole with resin until it emerges from the openings in the collar of the sleeve (ca. 15–30 scale graduations).

FIP H Anchor sleeve, plastic



Type	Art. No.	d ₀ Drill Ø mm	t Min. drill- hole depth mm	h _v Min. anchor- age depth mm	l Fixing length mm	Filling quantity in scale gradua- tions	Fits	Qty. per pack
FIP H 12 x 60	50432	12	70	60	60	6	Ø 4/M 4–Ø 8/M 8	20
FIP H 12 x 80*	58045	12	90	80	80	9	Ø 4/M 4–Ø 8/M 8	20
FIP H 14 x 70	50436	14	80	70	70	7	Ø 6/M 6–Ø 10/M 10	20
FIP H 14 x 90*	58046	14	100	90	90	10	Ø 6/M 6–Ø 10/M 10	20
FIP H 16 x 80	50433	16	90	80	80	11	Ø 8/M 8–Ø 12/M 12	10
FIP H 16 x 100*	58047	16	110	100	100	12	Ø 8/M 8–Ø 12/M 12	10

* Sleeve to take into account thickness of remover or plaster.

FIP M Anchor sleeve, metal, 1 m length



Type	Art. No.	d ₀ Drill Ø mm	Overall length mm	Fits	Qty. per pack
FIP M 12	50598	12	1000	Ø 6/M 6–Ø 8/M 8	10
FIP M 16	50599	16	1000	Ø 10/M 10–Ø 12/M 12	10
FIP M 22	45301	22	1000	Ø 12/M 12–Ø 16/M 16	6

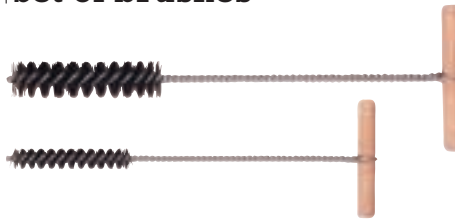
FIP E Screw-inserts



FIP E insert sleeve for detachable connections in solid materials and hollow materials, for use in conjunction with FIP H anchor sleeves

Type	Art. No.	d ₀ Drill Ø mm	t Min. drill- hole depth mm	h _v Min. anchor- age depth mm	Filling quantity in scale gradua- tions	Fits	Qty. per pack
FIP E 5 x 45	58053	10	45	45	2	FIP H 12 x 60/Ø 4–5/M 5	25
FIP E 6 x 75	58049	10	60	60	3	FIP H 12 x 60–80/Ø 5–6/M 6	25
FIP E 8 x 85	58050	14	70	70	4	FIP H 14 x 70–90/Ø 7–8/M 8	10
FIP E 10 x 95	58051	14	80	80	5	FIP H 16 x 80–100/Ø 10/M 10	10
FIP E 12 x 100	58052	18	100	100	7	FIP H 20 x 100/Ø 12/M 12	10

Set of brushes



Type	Art. No.	Quantity per pack
FIP Set of brushes Ø 14/20 mm	48980	2
FIP Set of brushes Ø 20/30 mm	48981	2

FIP Extension tube



Type	Art. No.	Length m	Quantity per pack
FIP extension tube	48983	1	10

FIPS Case set



Type	Art. No.	Contents
FIPS Case set	61376	FIP P applicator gun Blow-out pump Brush set 6 static mixers 3 FIPS C1 cartridges

Accessories

fischer pre-installed FIV injection anchor

The pre-installed injection anchor for perforated and hollow bricks.

1 FIV 14 x 65

2 FIV 14 x 90

1



2



Suitability

Suitable for:

Perforated bricks, horizontal perforated bricks, sand-lime perforated bricks, hollow bricks, pumice hollow planks, hollow filler block floor and other perforated bricks.

For fixing:

Facade and roof substructures made from timber and metal, canopy roofs, gratings, handrails, brackets, pipelines, sanitary objects, suspended ceilings, cable trays, steel and timber constructions etc.

Technical data

Type	Art. No.	Drill Ø mm	d Drill-hole depth mm	t Fixing length mm	l Fits fischer safety screw	Thread reach mm	Quantity per pack
FIV 14 x 65*	52070	14	75	65	10	70	20
FIV 14 x 90*	52071	14	100	90	10	95	20

* To fit fischer safety screws.

Description

Special net sleeve with integral expansion piece for injection systems. The expansion piece allows immediate loading of the installation (for loads see table), before the resin is fully cured.

Advantages

- Adjusts to any substrate.
- Quick-setting: 45 minutes at 20 °C (in conjunction with FIPS).
- Allows immediate application of a load (see table for ultimate loads).

Ultimate loads [kN]

Substrate	Pre-installed ¹⁾	Fully cured state ²⁾	Resin filling qty. (scale graduations) ³⁾
	anchor type FIV 14	anchor type FIV 14	
HLz 12 Block	1.6	4.1	14
KSL 12 Block small holes	2.4	8.0	10
KSL 12 Block large holes	1.2	2.3	10
Hbl 2 web Block thickness 35 mm	1.0	5.3	18

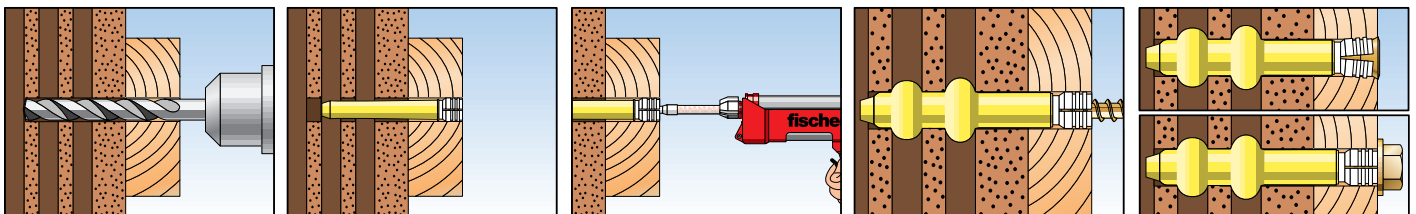
¹⁾ For these ultimate loads a min. safety coefficient of 2 must be taken into account.

²⁾ For these ultimate loads a min. safety coefficient of 4 must be taken into account.

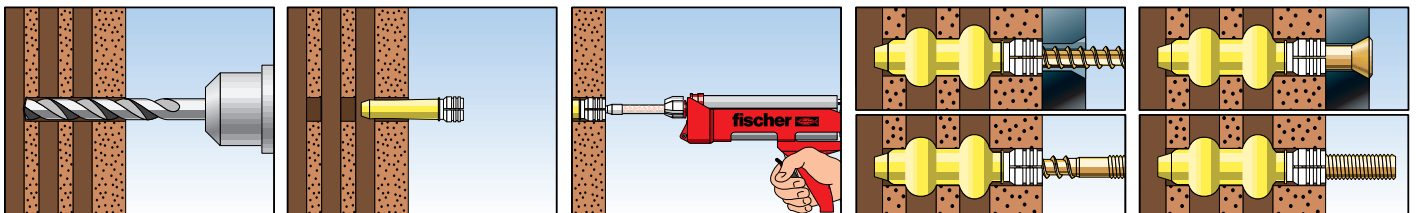
³⁾ FIPS C1 = 180 scale graduations; FIPS C2 = 120 scale graduations.

We recommend the use of an appropriate safety factor.

Through fixing



Stand-off fixing



Foam and sealants



fischer 1K rapid installation foam

- 1** Pre-installed adapter: simple handling. Prevents loss of adapter during transport and storage.
- 2** Solid valve: 100% functional safety and maximum stability during storage.
- 3** Tube plug: guaranteed reusability of the canister for at least 3 days if handled in accordance with instructions.
- 4** Safety seal: prevents inadvertent opening of the foam.
- 5** Handle surface: ergonomically optimised shape.



Suitability

For void filling interiors, for wall openings, for sealing and insulating windows, doors, shutter cases. For nearly all substrates such as concrete, render, masonry, timber and various plastics.

Description

- 1K polyurethane foam
- High foam yield
- High insulation properties, good thermal insulation
- High strength
- Short curing times
- Simple use
- Rot-proof
- Can be mechanically processed after hardening (sawn, cut and filed)
- Pressure-, shear- and abrasion proof
- Can be rendered, glued and painted
- CFC-free propellant

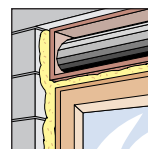
Technical data

Tack-free after ca. 10 minutes, cuttable after ca. 25 minutes, load-bearing after ca. 3 hours, fully cured after 5-8 hours (all values relate to 20 °C). The fully cured foam resists temperatures from -30 °C to +80 °C. Available in 2 sizes.

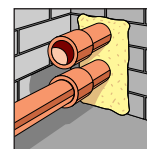
Type	Art. No.	Contents per canister	Max. foam yield (free-foaming)	Quantity per pack
PU 1/500 B3	58500	500 ml	30 litre	12
PU 1/750 B3	50427	750 ml	45 litre	12

Labels in English and Spanish

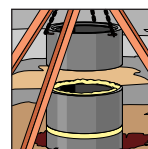
Installation examples



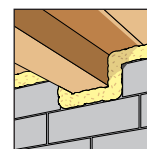
Sealing between window openings, around window sills, filling of voids, around shutter cases and for interior works.



Insulation of pipes. Filling openings in walls.



For sealing manhole rings, tested by the Austrian Plastics Institute in Vienna (A).



For filling and sealing in walls and ceilings.

fischer 1K gun foam

- 1 1 K gun foam
- 2 fischer plastic gun PUP K 2
- 3 fischer metal gun PUP M 1



Suitability

Filling between window openings, around window sills, filling of voids, around shutter cases and for interior. For nearly all substrates such as concrete, render, masonry, honey, timber and various plastics. Use with gun for exact dosage in narrow openings.

Description

- 1K polyurethane foam
- High foam yield
- High insulation properties, good thermal insulation
- High strength
- Short curing times
- Simple use
- Rot-proof
- Can be mechanically processed after hardening (sawn, cut and filed)
- Pressure-, shear- and abrasion proof
- Can be rendered, glued and painted
- CFC-free propellant
- Noise-insulating

Technical data

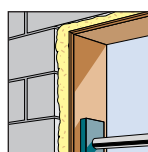
Tack-free after ca. 10 minutes, cuttable after ca. 25 minutes, load-bearing after ca. 3 hours, fully cured after 5-8 hours (all values for 20 °C). Foam yield (free foaming) up to 45 litres. The fully cured foam resists temperatures from -30 °C to +80 °C.

Matches the fischer PU guns.

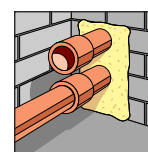
Type	Art. No.	Contents per canister	Max. foam yield (free-foaming)	Quantity per pack
PUP 750 B3	58501	750 ml	45 Liter	12

Labels in English and Spanish

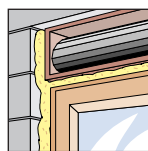
Installation examples



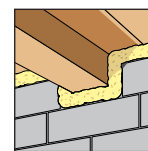
Gaps around windows.



Insulation of pipes. Filling openings in walls.



Sealing between window openings, around window sills, filling of voids, around shutter cases and for interior works.



For fixing and sealing in walls and ceilings.

fischer PU foam guns

With their two PU foam guns fischer offer the correct tool for every user. The fischer PU foam guns are marked by their high quality and excellent machining. They are ergonomically designed for optimum, easy and comfortable use.



fischer plastic gun

The innovative PU foam gun made by fischer.

Description:

- Minimum weight and optimised centre of gravity provide ease of use.
- Canister adapter, gun body and nozzle are made from a special plastic, which prevents foam residue from adhering to it.
- A push-on nozzle allows application in narrow voids.
- The foam yield is controlled by an integrated lever via a trigger point release, and can be measured by means of a valve.

Type	Art. No.	Quantity per pack
PUPK 2	62400	1



fischer metal gun

Description:

- Robust solid metal casing.
- Teflon canister adapter prevents residue foam from adhering to it.
- Profiled nozzle with push-on plastic pipe allows application in narrow voids.

Type	Art. No.	Quantity per pack
PUPM 1	53087	1

fischer PU cleaner



Description

- For simple removal of uncured foam residue on textiles, skin and work surfaces.
- Gun cleaner with special valve attachment for easy cleaning of PU guns.

Type	Art. No.	Contents	Quantity per pack
PUR 150	58503	150 ml	12

Type	Art. No.	Contents	Quantity per pack
PUR 500	58504	500 ml	12

Labels in English and Spanish.

fischer sanitary silicone

1 Sanitary silicone DSS

1



Suitability

For all joints in sanitary and wet areas (bathroom, WC, sauna, kitchen), expansion and sealing joints.

Description

- Permanently elastic 1-component sealant
- Temperature resistant between -40°C and $+180^{\circ}\text{C}$
- Resistant to chemicals and ageing
- Fungicidal

Technical data

Type	Art. No.	Colour	Contents	Qty. per pack	Shelf life in months
DSS TP	58515	transparent	280 ml	12	12
DSS W	58516	white	280 ml	12	12

International quality with English and Spanish label.

Installation examples



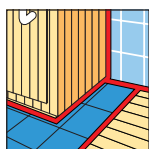
Joints around sinks and WCs. Also for expansion joints between floor tiles.



Joints around stainless steel kitchen sinks in conjunction with timber, plastic or ceramic.



Joints around steel-enamelled and plastic bath tubs.



Joints between timber and tiles.

fischer building silicone

1 Building silicone DBS

1



Suitability

For all joints in concrete, masonry and porous substrates.

Description

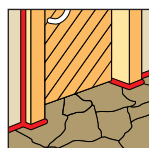
- Permanently elastic 1-component sealant
- Temperature resistant between -40°C and $+180^{\circ}\text{C}$
- Resistant to chemicals and ageing

Technical data

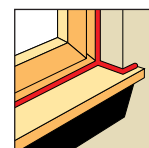
Type	Art. No.	Colour	Contents	Qty. per pack	Shelf life in months
DBS TP	58506	transparent	310 ml	12	12
DBS W	58507	white	310 ml	12	12
DBS SW	58510	black	310 ml	12	12
DBS BG	58511	beige	310 ml	12	12

International quality with English and Spanish label.

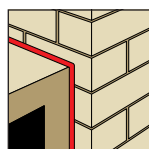
Installation examples



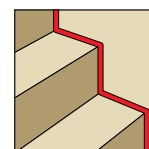
Connection joints between doors and windows.



Joints around plastic, timber and metal windows.



Settlement joints between different parts of the building.



Joints around stair treads (not suitable for natural stone).

fischer acrylic sealant

1 Acrylic sealant DA



Suitability

For all interior and exterior cracks, masonry, concrete and other solid building materials.

Description

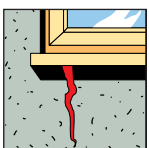
- Plasto-elastic 1-component sealant
- Compatibility with paint
- Temperature resistant between -20°C and $+80^{\circ}\text{C}$
- Water-based
- Low odour
- Resistant to ageing

Technical data

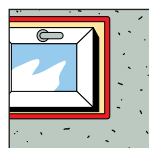
Type	Art. No.	Colour	Contents	Qty per pack	Shelf life in months
DA W	58512	white	310 ml	12	15
DA GR	58513	grey	310 ml	12	15
DA BR	58514	brown	310 ml	12	15

International quality with English and Spanish label.

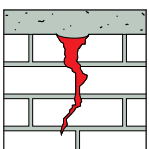
Installation examples



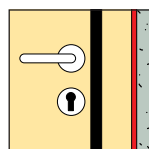
Cracks in interior and exterior walls.



Cracks with little movement, e.g. around windows

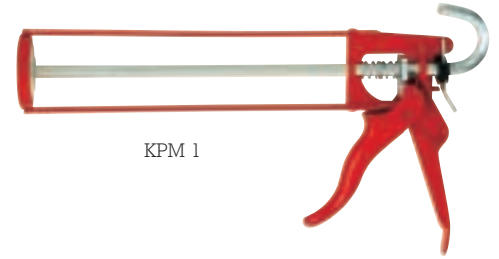


Cracks in masonry and other solid building materials (concrete, sand-lime bricks).



Joints around doors and windows, preferably inside a building.

fischer applicator guns



KPM 1

Skeleton gun KPM 1

- Solid metal guarantees high stability
- Residual pressure control prevents drips from nozzle

Technical data

Type	Art. No.	Quantity per pack
KPM 1	53115	1



KPM 2

Cartridge gun KPM 2

- Residual pressure control prevents drips from nozzle and waste of sealant
- Low trigger pressure ensures easy application
- Rotating cartridge case allows precise application in narrow places
- Sturdy fabrication ensures long tool life

Technical data

Type	Art. No.	Quantity per pack
KPM 2	53117	1

For your notes



Foam and sealants

Cavity fixings

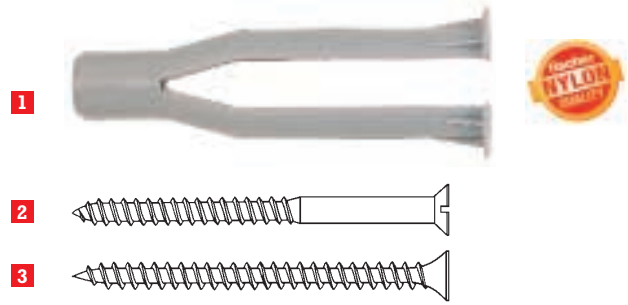


CAVITY FIXINGS

fischer NA cavity fixing

The nylon fixing for cavity installations with wood and chipboard screws.

- 1 Cavity fixing NA
- 2 Wood screw
- 3 Chipboard screw



Suitability

Suitable for:

plasterboard, gypsum fibreboards, chipboards, fibre cement boards, hardboard, fibreboards, metal sheeting, hollow profiles, hollow brick ceilings, hollow doors etc.

For fixing:

lamps, shelves, skirting boards, switches, sanitary installations, wall cupboards, curtain rails, cable ducts, picture frames, boilers, coat racks etc.

Technical data

Type	Art. No.	Drill Ø mm	t Min. drill-hole depth mm	d _p Panel thickness mm	l Fixing length mm	d _s Wood- or chipboard screw Ø mm	Quantity per pack
NA 6x30	50547	6	35	3-14	30	3,5	100
NA 8x30	50541	8	35	3-10	30	4	100
NA 8x40	50542	8	45	10-16	40	4	50
NA 10x55	50543	10	60	16-26	55	5	25

Description/Installation

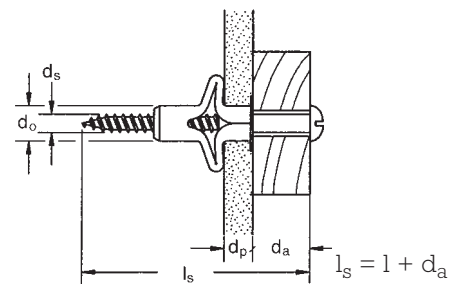
- Flush fixing – cannot be lost.
- Also suitable for plasterboards with insulation on the reverse side.
- When attaching heavy items, use in conjunction with a previously attached metal or timber batten (better load distribution).

Ultimate loads [kN]

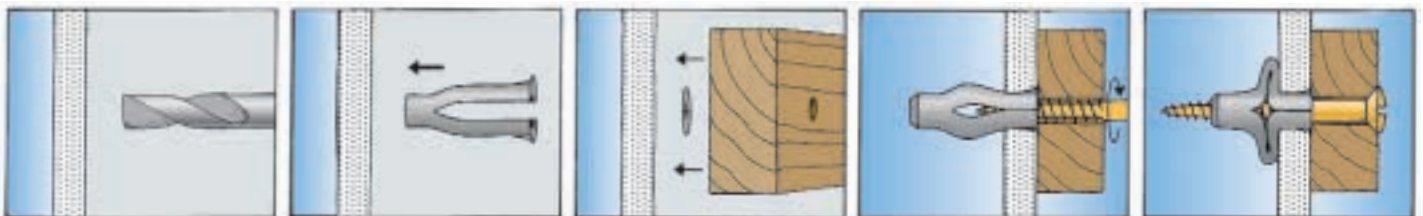
	NA 8x30	NA 8x40	NA 8x55	NA 10x55
4 mm chipboard	0.4			
6 mm chipboard	0.8			
3 mm aluminium sheet	0.9			
8 mm fibre cement boards		1.1		
10 mm fibre cement boards		1.5		
15 mm fibre cement boards				2.3
10 mm plasterboard		0.7		
20 mm plasterboard			0.8	1.6
16 mm chipboard			0.8	2.5

We recommend the use of an appropriate safety factor.

Installation example



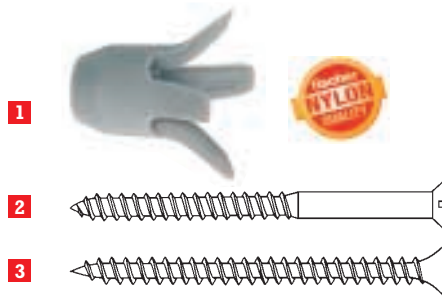
Installation diagram



fischer A anchor

The cavity fixing for light loads.

- 1 Anchor A
- 2 Wood screw
- 3 Chipboard screw



Suitability

Suitable for::

plasterboard, gypsum fibreboards, chipboards, fibre cement boards, hardboard, fibreboards, metal sheeting, hollow profiles, hollow doors etc.

For fixing:

skirting boards, switches, lamps, picture frames, cable ducts etc.

Technical data

Type	Art. No.	d_o Drill \varnothing mm	t Min. drill-hole depth mm	d_p Panel thickness mm	l Fixing length mm	d_s Wood- or chipboard screw \varnothing mm	Quantity per pack
A3	50303	6	17	> 1	15	3	100
A4	50304	8	22	> 1	20	4	100
A5	50305	10	22	> 1	20	5	100

Description/Installation

- For small cavity widths (e.g. doors).
- Kein Mitdrehen.
- Cost-effective fixing.

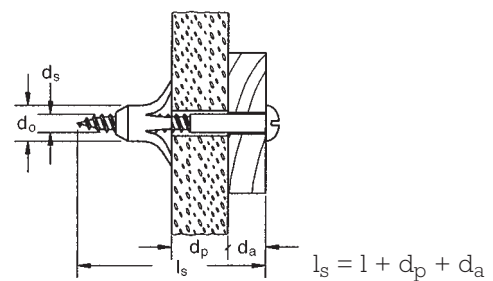
Installation example



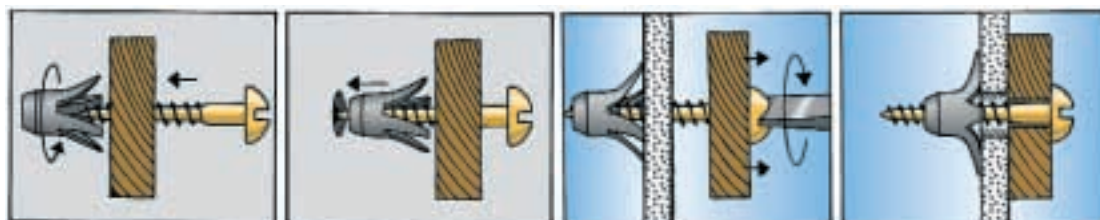
Ultimate loads [kN]

	A 3	A 4	A 5
Chipboard	0.4	0.7	0.8
Steel, aluminium	0.3	0.5	1.1
Fibre cement	0.8	1.0	1.3
Plasterboard 10 mm	0.3	0.4	0.6

We recommend the use of an appropriate safety factor.



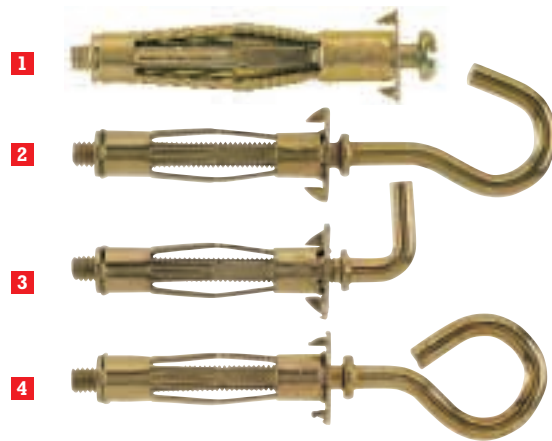
Installation diagram



fischer HM metal cavity fixing

The practical cavity fixing.

- 1 HM-S with metric screw
- 2 HM-R with round hook
- 3 HM-H with angle hook
- 4 HM-OE with eye screw



Suitability

Suitable for:

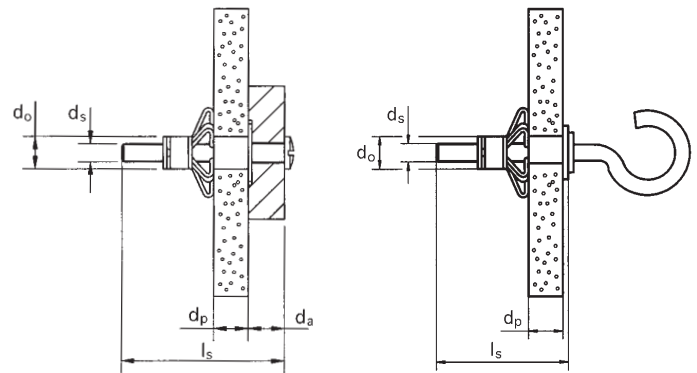
plasterboard, gypsum fibreboards, chipboards, fibre cement boards, hardboard, fibreboards, hollow brick floors and reinforced hollow floors etc.

For fixing:

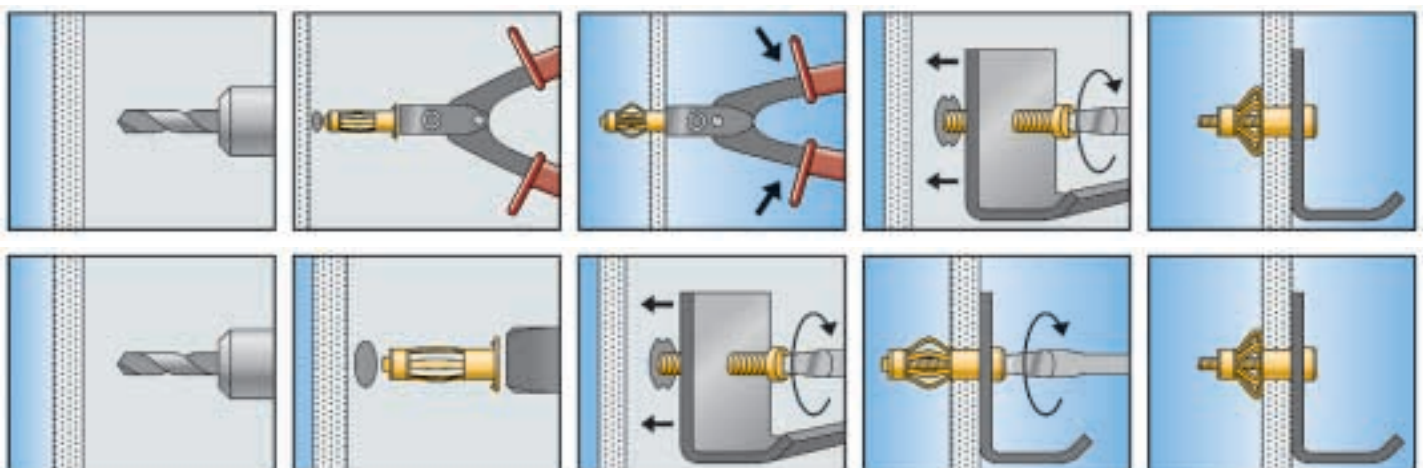
lamps, shelves, skirting boards, switches, wall cupboards, curtain rails, cable ducts, picture frames, boilers, coat racks etc.

Description/Installation

- High load characteristics due to surface area contact the rear side of panels.
- Installation tool for fast assembly.
- Complete fixing with screws, hooks, eyelets.



Installation diagram



fischer HM metal cavity fixing

Technical data



HM-S – zinc plated and yellow passivated, with screw

Type	Art. No.	d ₀ Drill Ø mm	t Min. drill-hole depth mm	l Fixing length mm	l _s Screw Ø x mm	d _p Max. panel thickness mm	d _f Max. fixing thickness mm	Qty. per pack/ set
HM 4 x 32 S	62306	8	42	32	M 4 x 40	3–13	16	50
HM 4 x 46 S	62307	8	56	46	M 4 x 52	5–18	23	50
HM 4 x 59 S	62308	8	69	59	M 4 x 66	35–42	16	50
HM 5 x 37 S	62310	12	47	37	M 5 x 45	6–15	19	50
HM 5 x 52 S	62311	12	62	52	M 5 x 60	7–21	24	50
HM 5 x 65 S	62312	12	75	65	M 5 x 73	20–34	24	50
HM 6 x 37 S	62314	13	47	37	M 6 x 45	6–15	14	50
HM 6 x 52 S	62315	13	62	52	M 6 x 60	10–21	24	50
HM 6 x 65 S	62328	13	75	65	M 6 x 70	20–34	24	50
HM 6 x 80 S	62316	13	90	80	M 6 x 88	38–50	24	50
HM 8 x 55 SS*	62329	13	65	55	M 8 x 60	10–21	24	50

* with hexagon screw, installation only with installation tool HMZ 1



HM-R – zinc plated and yellow passivated, with round hook

Type	Art. No.	d ₀ Drill Ø mm	t Min. drill-hole depth mm	l Fixing length mm	Round hook Ø x mm	d _p Max. panel thickness mm	Qty. per pack/ set
HM 4 x 32 R	62317	8	42	32	4 x 40	3–13	50
HM 5 x 37 R	62323	12	47	37	5 x 45	6–15	50
HM 5 x 52 R	62324	12	62	52	5 x 60	7–21	50
HM 5 x 65 R	62325	12	75	65	5 x 70	20–34	50



HM-H – zinc plated and yellow passivated, with angle hook

Type	Art. No.	d ₀ Drill Ø mm	t Min. drill-hole depth mm	l Fixing length mm	Angle hook Ø x mm	d _p Max. panel thickness mm	Qty. per pack/ set
HM 4 x 32 H	62318	8	42	32	4 x 40	3–13	50
HM 5 x 65 H	62326	12	75	65	5 x 70	20–34	50



HM-OE – zinc plated and yellow passivated, with eye screw

Type	Art. No.	d ₀ Drill Ø mm	t Min. drill-hole depth mm	l Fixing length mm	Eye screw Ø x mm	d _p Max. panel thickness mm	Qty. per pack/ set
HM 4 x 32 OE	62319	8	42	32	4 x 40	3–13	50
HM 5 x 65 OE	62327	12	75	65	5 x 70	20–34	50

Installation tool



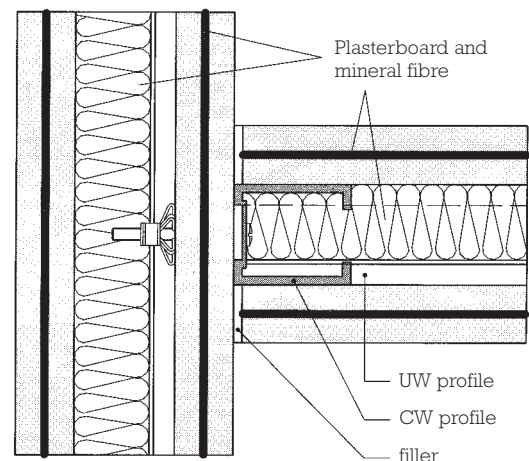
HM Z 1 – the professional



HM Z 2 – the DIY installation tool

Type	Art. No.	Quantity per pack
HM Z 1	62320	1
HM Z 2	62321	1

Installation examples



fischer K, KD, KDH, KM toggles

The versatile cavity fixings.

- 1 Nylon toggle
- 2 Spring toggle KD 3 + 4 (metal)
- 3 Spring toggle KDH 3 + 4 (metal)
- 4 Metal toggle KD 5 + 6 + 8
- 5 Metal toggle KDH 5 + 6 + 8



Suitability

Suitable for:

plasterboard, gypsum fibreboards, chipboards, fibre cement boards, wood-wool building slabs, hard fibreboards, hollow brick floors, reinforced block floors, rib and tile floors, trapezoidal metal sheeting etc.

For fixing:

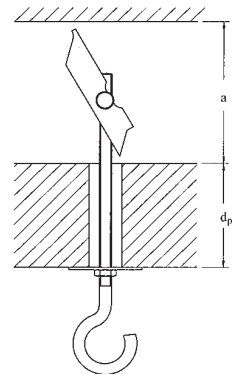
lamps, shelves, switches, wall cupboards, wash basins, curtain rails, shelving rails, cable ducts, hanging flower baskets, boilers, coat racks etc.

Description/Installation

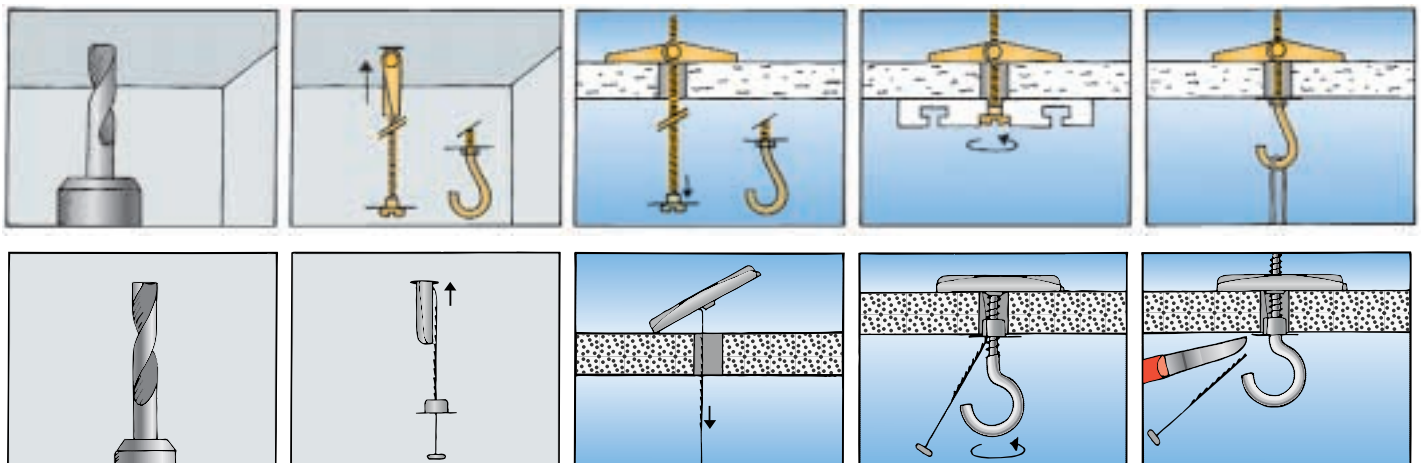
- Nylon toggles K remain in the drill-hole even when components are removed, and can be reused.
- Metal fixings with long thread for bridging thick walls.
- Zinc plated and yellow passivated give corrosion-protection.
- Special large toggle for the installation of wash basins, urinals etc.

Installation advice

- The minimum cavity depth = a, and maximum panel thickness = d_p (see table) must be observed.



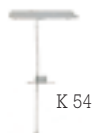
Installation diagram



Cavity fixings

fischer K, KD, KDH, KM toggles

Technical data



Type	Art No.	d Drill Ø mm	d _p Max. material thick- ness mm	a Min. cavity depth mm	l Fixing length mm	d _e Screws mm	Quantity per pack
K 54	50323	10	65	58	125	Holz-4	25



KD 3 + 4



KDH 3 + 4

KD 3	80181	12	65	27	95	M 3 x 90	50
KDH 3	80182	12	51	27	105	M 3 x 80	25
KD 3 B	80192	12	65	27	95	M 3 x 90	10
KD 4	80183	14	69	34	105	M 4 x 100	25
KDH 4	80184	14	35	34	95	M 4 x 80	25
KD 4 B	80193	14	69	34	105	M 4 x 100	10



KD 5 + 6 + 8



KDH 5 + 6 + 8

KD 5	80187	16	63	70	100	M 5 x 100	25
KDH 5	80188	16	60	70	130	M 5 x 90	20
KD 6	80185	16	63	70	100	M 6 x 100	25
KDH 6	80186	16	60	70	130	M 6 x 100	20
KD 8	80178	20	55	75	100	M 8 x 100	20
KDH 8	80179	20	55	75	130	M 8 x 100	20



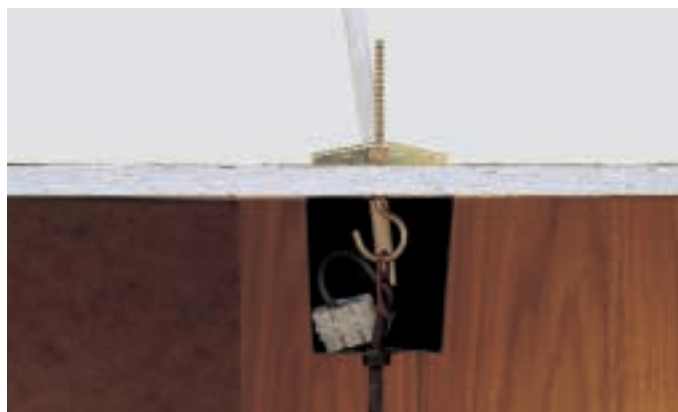
KM 10	50326	30	90	140	240	M 10 x 180	25
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Ultimate loads [kN]

K 54*	Fracture of the nylon thread	0.8
KD 3		1.0
KD 4		2.0
KD 5		3.0
KD 6		3.5
KD 8		13.5
KM 10		13
KDH 3		0.1
KDH 4		0.4
KDH 5	Hook bends open	0.6
KDH 6		1.0
KDH 8		1.5

We recommend the use of an appropriate safety factor.

Installation examples



Cavity fixings

fischer Plasterboard fixing GK

The quick-fit fixing for plasterboard.

- 1 Plasterboard fixing GK
- 2 Chipboard screw
- 3 Setting and installation tool GKW



Suitability

Suitable for:

plasterboard, plasterboard insulated on the reverse side.

For fixing:

lamps, skirting boards, switches, picture frames, cable ducts, curtain rails, wooden battens etc.

Description/Installation

- For rapid installation with cordless/electric screw driver.
- Complete with setting/installation tool.
- No pre-drilling required.
- Requires little space behind the board.

Installation examples



Technical data

Type	Art. No.	l Fixing length mm	t Min. thickness to first load-bearing layer	d _a Max. fixing thickness mm	d _s x l _s Screws	Qty. per pack
GK	52389	22	25	–	Ø 4.0–5.0*	100
GKS ¹⁾	52390	22	25	13	4.5 x 35	50
GKW	52393	–	–	–	–	–

GK and GKS include 1 setting tool each.

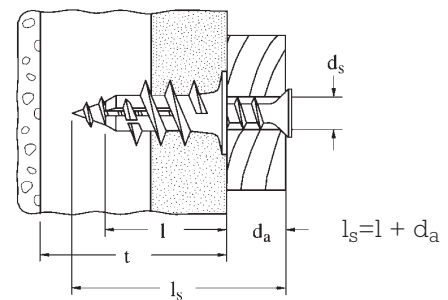
* Min. screw length = fixing length 22 mm + fixing thickness of component to be attached.

¹⁾ Supplied complete with chipboard screws.

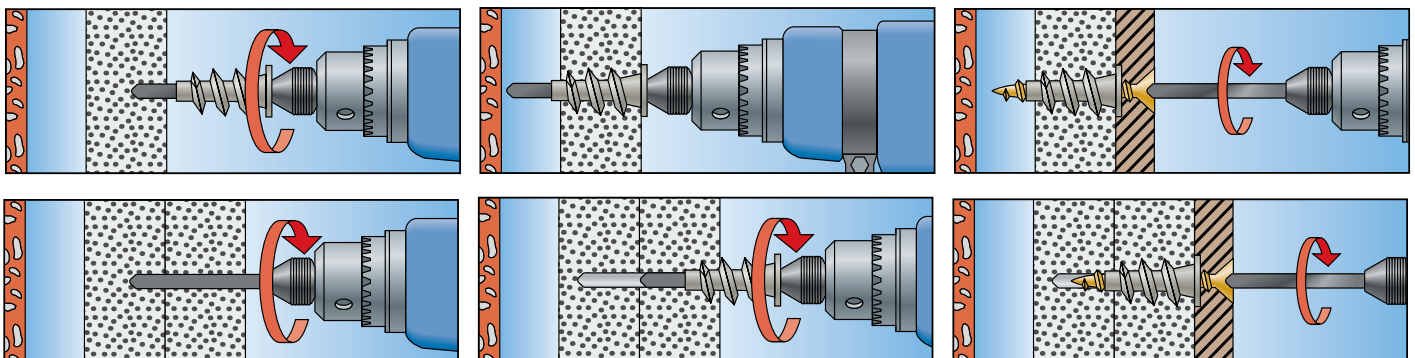
Ultimate loads [kN]

Plasterboard fixing	GK/GKS
Plasterboard 9.5 mm	0.47
Plasterboard 12.5 mm	0.56
Plasterboard ≥ 2 x 12.5 mm	0.76

We recommend the use of an appropriate safety factor.



Installation diagram



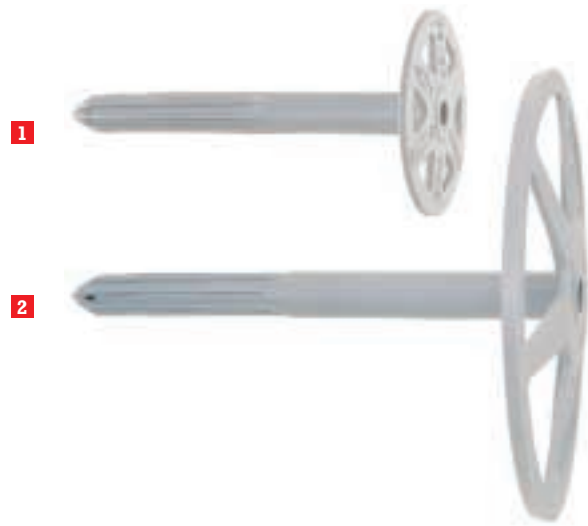
Insulation fixings



fischer DHK insulation support

For the mechanical anchoring of insulating materials.

- 1 Insulation support DHK 45, disk-Ø 45 mm
- 2 Insulation support DHK, disk-Ø 90 mm



Suitability

Suitable for:

concrete, lightweight concrete, natural stone, solid red bricks, perforated bricks, hollow blocks, aircrete.

For fixing:

rigid and non-rigid insulation materials in board or sheet form, e.g. rock wool, glass wool, polystyrene, polyurethane, foam glass, wood-wool building slabs, coconut matting, cork etc.

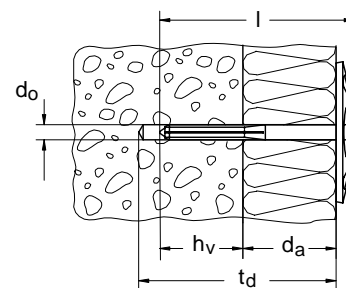
Description/Installation

- One-piece, complete fixing element.
- Impact-resistant polypropylene (not susceptible to stress cracks).
- No additional nails or screws required.
- High load-bearing capacity.
- Little drilling effort.

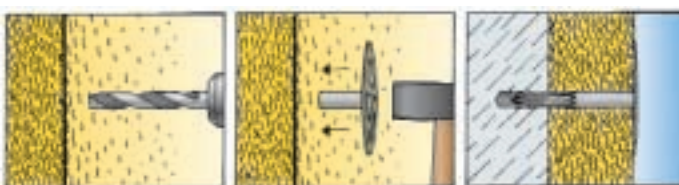
Technical data

Type	Art. No.	d _o Drill Ø* mm	t _d min. drill-hole depth for through fixing mm	h _v Min. anchor- age depth mm	l Fixing length mm	d _a Max. fixing thickness mm	Qty. per pack
DHK 40	80937	8	75	20-30	65	30- 40	250
DHK 60	80938	8	95	20-30	85	50- 60	250
DHK 80	80939	8	115	20-30	105	70- 80	250
DHK 100	80940	8	135	20-30	125	90-100	250
DHK 120	80941	8	155	20-30	145	110-120	200
DHK 140	80949	8	175	20-30	165	130-140	200
DHK 45/40	80892	8	75	20-30	65	30- 40	250
DHK 45/60	80893	8	95	20-30	85	50- 60	250
DHK 45/80	80894	8	115	20-30	105	70- 80	250
DHK 45/100	80895	8	135	20-30	125	90-100	250

* In aircrete G2 use drill Ø 6 mm.



Installation diagram



Ultimate loads [kN]

Concrete ≥ B15	0.24
Solid brick Mz 12	0.22
Sand-lime solid brick KSV 12	0.24
Sand-lime perforated brick KSL 6	0.20
Vertical perforated brick HLz 12	0.12
Aircrete G2	0.13

We recommend the use of an appropriate safety factor.

fischer DHN insulation support

Impact-resistant plastic, with steel expansion nail.

1 Insulation support DHN, disk Ø 90 mm



Eignung

Suitable for:

Concrete, lightweight concrete, natural stone, solid bricks, perforated bricks, hollow blocks, aircrete etc.

For fixing:

Rigid and non-rigid insulation materials in board or sheet form, e.g. rock wool, glass wool, polystyrene, polyurethane, foam glass, wood-wool building slabs etc.

Description/Installation

- Pre-assembled, complete fixing.
- High load-bearing capacity due to expansion fixing.
- Increased bending strength zinc plated and passivated steel nail.
- Good plaster adhesion through open-web disc.
- Hammer-set installation.
- Drilling diameter only 8 mm.

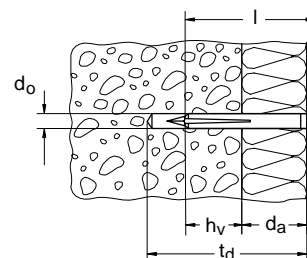
Technical data

With zinc plated and passivated nail, disk made from impact-resistant polypropylene

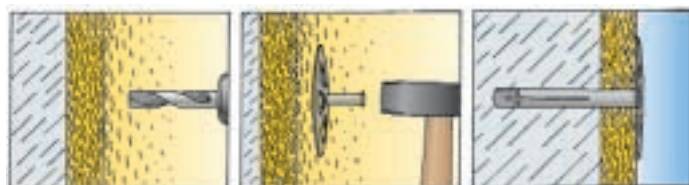
Type	Art. No.	d_o Drill Ø mm	t_d min. drill-hole depth for through fixing mm	h_v Min. anchor- age depth mm	l Fixing length mm	d_a Max. fixing thickness mm	Qty. per pack
DHN 90/100	80903	8	110	40	100	60	100
DHN 90/120	80904	8	130	40	120	80	100
DHN 90/140	80905	8	150	40	140	100	100

Disk-Ø 90 mm

Installation examples



Installation diagram



Ultimate loads [kN]

Concrete ≥ B15	0.7
Solid brick Mz 12	0.7
Lightweight concrete V 2	0.6
Aircrete G2	0.5
Sand-lime perforated brick KSL 12	0.6
Vertical perforated brick HLz 12	0.3

We recommend the use of an appropriate safety factor.

For your notes



Insulation fixings

Sanitary fixings



fischer washbasin and urinal fixing

Complete fixing sets.

- 1 WD – Wash basin and urinal fixing
- 2 WST – Wash basin fixings
- 3 UST – Urinal fixing
- 4 BO – Boiler fixing, zinc plated and passivated
- 5 WDM – Wash basin through-fixing



Suitability

Suitable for:

concrete, natural stone, solid bricks, solid plasterboard, hollow blocks, aircrete. KM 10 suitable for plasterboard, gypsum fibreboards, chipboards.

For fixing:

wash basins, urinals, bidets, and wall-mounted toilets.

Description/Installation

- Elastic fixing, gentle on porcelain.
- No direct contact between screws and ceramic surface.
- Gentle grip due to flanged nuts and bushes made from high-strength nylon.
- Resistant to ageing and chemicals.
- Can be used for installation in perforated bricks when used in conjunction with FIS V injection system.
- KM 10 complete with flanged bush and support sleeve.

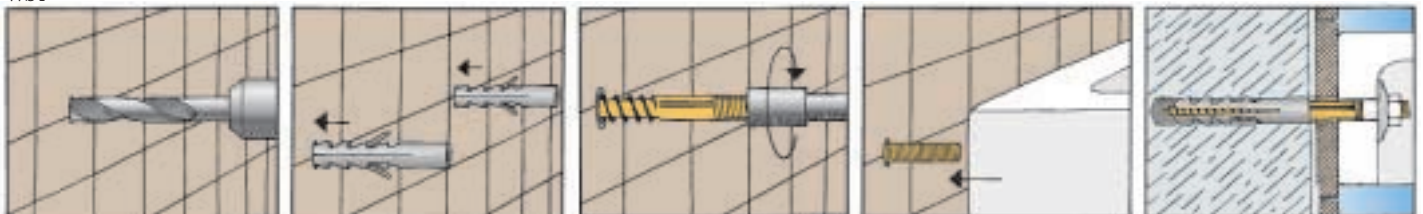
Installation examples



For perforated materials we recommend installation with the FIS V injection anchoring system.


Installation diagram


WST




fischer washbasin and urinal fixing


Technical data

Type	Art. No.	Contents per plastic bag	Qty. per set
 WD – Wash basin and urinal fixing			
WD 8 x 90	80659	2 wall plugs S 10 2 stud screws M 8 x 90, zinc plated and passivated 2 flanged nuts BUM 8	50
WD 8 x 110	80658	2 wall plugs S 10 2 stud screws M 8 x 110, zinc plated and passivated 2 flanged nuts BUM 8	50
WD 10 x 120	80655	2 wall plugs S 14 2 stud screws M 10 x 120, zinc plated and passivated 2 Bundmuttern BUM 10	50
WD 10 x 140	80656	2 wall plugs S 14 2 stud screws M 10 x 140, zinc plated and passivated 2 flanged nuts BUM 10	50

 WST 10 x 140 – Wash basin fixing			
WST 10 x 140	80660	2 wall plugs S 14 2 stud screws M 10 x 140, zinc plated and passivated 2 hexagon nuts M 10, zinc plated and passivated 2 flanged bushes BDHM 10	50
WST 10 x 140 FIPH	60435	2 plastic sleeves FIPH 14 x 90 (for resin inject.system) 2 stud screws M 10 x 140 2 hexagon nuts M 10 2 flanged bushes BDHM 10 Installation instructions	50
WST 12 x 150	80661	2 wall plugs S 14 2 stud screws M 12 x 150, zinc plated and passivated 2 hexagon nuts M 12, zinc plated and passivated 2 flanged bushes BDHM 12	50
WST 12 x 180	80662	2 wall plugs S 14 2 stud screws M 12 x 180, zinc plated and passivated 2 hexagon nuts M 12 2 flanged bushes BDHM 12	50

 UST – Urinal fixing			
UST 8 x 110	83578	2 wall plugs S 10 R 70 2 stud screws M 8 x 110 2 washers B 8.4 DIN 125 2 K-disks 8.4 x 20 x 1.5 2 cap nuts FA 8 2 cover caps, chrome-plated	10

 UST – Urinal fixing			
UST 10 x 120	80668	2 wall plugs S 14 2 stud screws M 10 x 120 2 flanged nuts BUM 10 2 cover caps AKM 10 CR	10

 BO – Boiler fixing set			
BO 120	80654	4 wall plugs S 14 4 stud screws M 10 x 120, zinc plated and passivated 4 flanged nuts BU-oHM 10	10

 WDM – Wash basin through-fixing				
Type	Art. No.	Thread Ø mm	Length mm	Quantity per pack
WDM	14320	M10	170	10

Installation examples



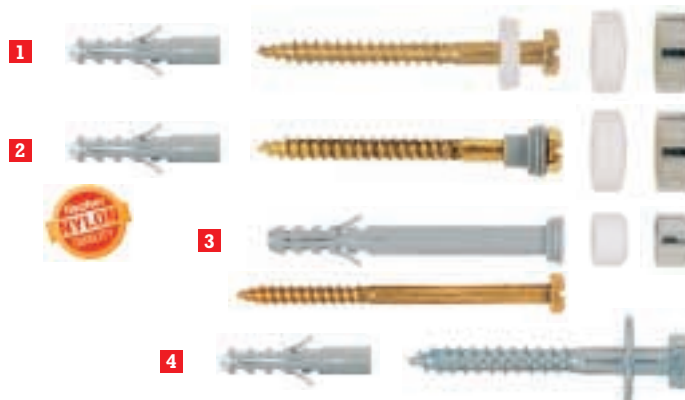
Ultimate loads [kN]

	KM	S 14
Aircrete G4	–	3.5
Solid pumice V4	–	9
Solid brick 12	–	16
Concrete B15	–	16
Boards and panels	13*	–

* Load-bearing behaviour of substrate not taken into account.
We recommend the use of an appropriate safety factor.

fischer WC and sanitary fixings

- 1** WCN
- 2** S 8 D 70 WCR
- 3** S 8 RD
- 4** WL



Suitability

For fixing WC pans, ceramic shelves, etc.

Description/Installation

- Brass screws with hexagon head and slot.
- Neat finish with aesthetically pleasing cover caps.
- Screws are protected from aggressive cleaning agents.

Installation examples

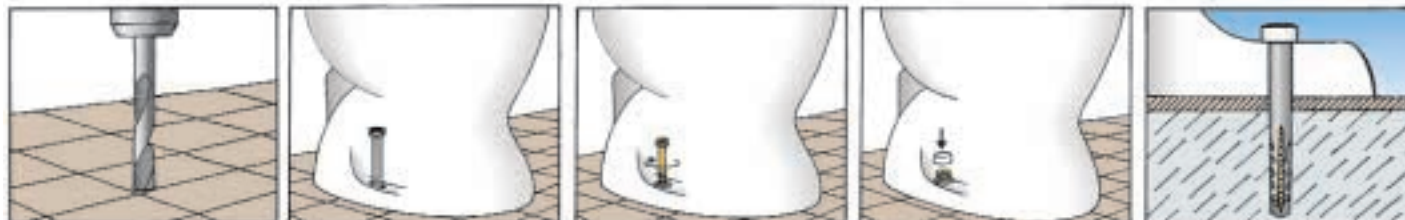


Installation diagram

WCN



S 8 RD



fischer WC and sanitary fixings

Technical data



Type	Art. No.	Contents per plastic bags	Quantity per set
WCN 1	60561	2 wall plugs S 8 2 brass screws 6 x 70 hexagon 2 snap-fit sleeves 2 cover caps, white	50
WCN 2	60562	2 wall plugs S 8 2 brass screws 6 x 70 hexagon 2 snap-fit sleeves 2 cover caps, chrome	50



S 8 D 70 WCR	60564	2 wall plugs S 8 2 brass screws 6 x 70 hexagon 2 snap-fit sleeves 2 cover caps, white 2 cover caps, chrome	50
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S 8 RD 60 WCR	60570	2 wall plugs S 8 2 brass screws 6 x 65 hexagon 2 cover caps, chrome 2 cover caps, white	50
S 8 RD 80 WCR	60568	2 wall plugs S 8 2 brass screws 6 x 85 hexagon 2 cover caps, chrome 2 cover caps, white	50



WL 7 x 60	80651	2 wall plugs S 10 2 screws 7 x 60 DIN 571 zinc plated and passivated 2 washers zinc plated and passivated	100
WL 8 x 70	80652	2 wall plugs S 10 2 screws 8 x 70 DIN 571 zinc plated and passivated 2 washers zinc plated and passivated	100
WL 10 x 70	80650	2 wall plugs S 12 2 screws 10 x 70 DIN 571 zinc plated and passivated 2 washers zinc plated and passivated	50

Installation examples



For your notes



Sanitary fixings

Special fixings



fischer BBF balcony fixing

- 1** Plug P 9 K
- 2** Brass locking screw MLS
- 3** Cover cap ADK
- 1 + 2 + 3 = fischer BBF balcony fixing**



Suitability

Suitable for:

pipes, profiles, metal sheeting, panels and boards with a thickness between 1.5 and 5 mm.

For fixing:

timber, plastic and metal balcony panelling, cladding in general, small items of equipment, bracing wires, builders' fittings etc.

Description/Installation

- Complete fixing set.
- Elastic connection with high load-bearing capacity.
- Compensates for temperature changes.
- No contact corrosion.
- Back-venting of panelling prevents formation of rot.

Ultimate loads [kN]

Pipe wall thickness	P 9 K
<input type="checkbox"/> 2 mm	1.9
<input type="checkbox"/> 3 mm	2.0
<input type="checkbox"/> 4 mm	2.2

We recommend the use of an appropriate safety factor.

Technical data

Type	Art. No.	Drill Ø mm	Max. useful length mm	Screws mm	Collar height mm	Width across nut mm	Qty. per pack/set
BBF 5 x 40	59396	9	20	5 x 40	5	15	50
BBF 5 x 50	59397	9	30	5 x 50	5	15	50

fischer plug P 9 K

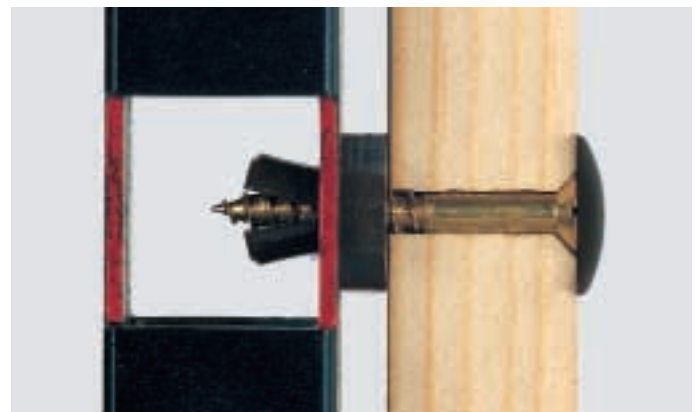
P 9 K	59395	9	5	5	15	50
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fischer cover caps ADK

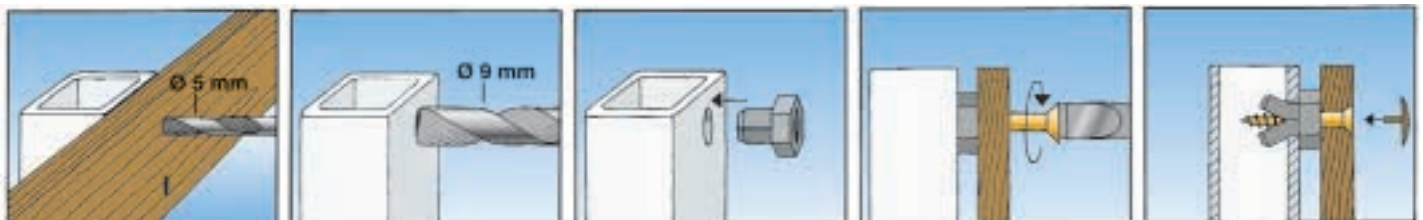
for BBF fixing sets and commercial locking screws in accordance with DIN. Cap Ø 15 mm.

ADK 15 HB light brown		60305	100
ADK 15 DB dark brown		60289	100

Installation example

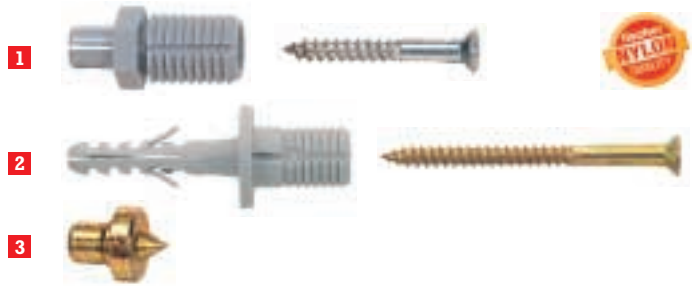


Installation diagram



fischer stair-tread fixings TB/TBB

- 1 TB for installation on steel staircase stringers
- 2 TBB for installation on concrete staircase stringers
- 3 TBZ 2 for centre-marking the stair-tread holes

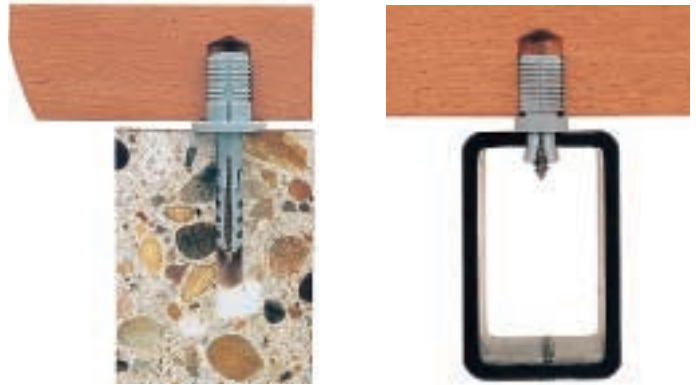


Suitability

For fixing:

wooden stair treads on concrete or metal profiles, solid bricks, natural stone.
Other invisible fixing of wooden parts.

Installation examples



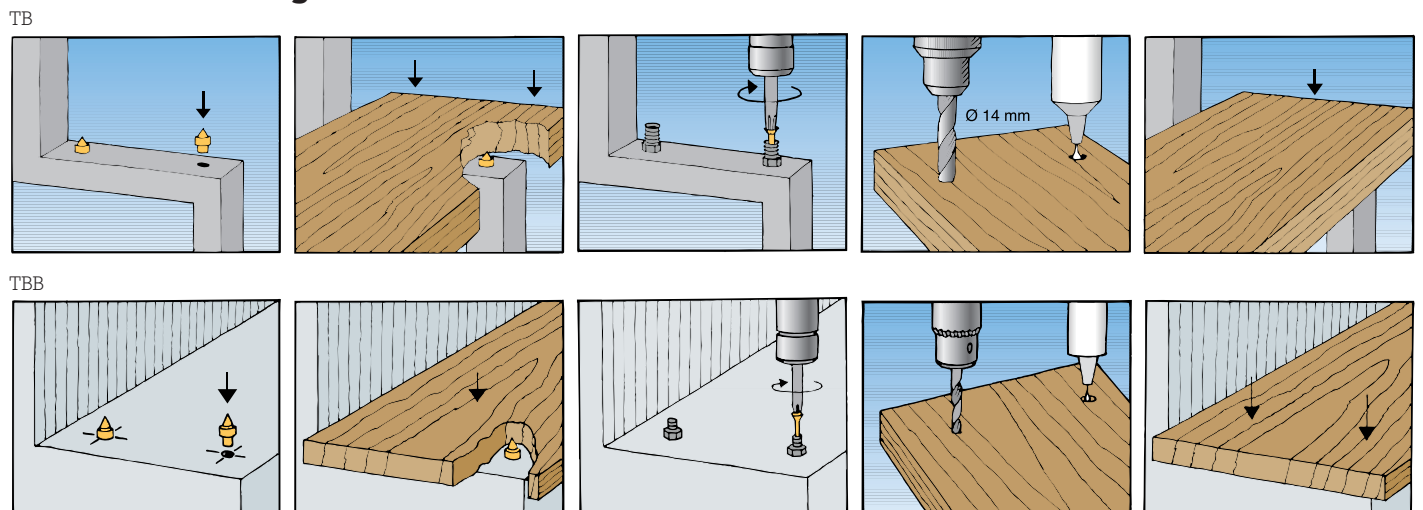
Description/Installation

- Nylon bush forms a flexible intermediate bearing.
- Prevents creaking noises of the stairs.
- Quick and simple installation.

Technical data

Type	Art. No.	Drill-hole in stair tread mm	Drill-hole in staircase stringer, steel tube mm	Drill-hole in concrete mm	Collar height mm	Width across nur	Fits	Qty per set
TB	60580	14 x 25	9		5	15		50
TBB	60583	14 x 25		8 x 55				50
TBZ 2	60584						TB and TBB	10

Installation diagram



fischer TS door stop**1** Door stop TS**Description**

Elegantly shaped and decorative. Invisible, simple fixing.
Colours available: grey, white, black, brown and beige.

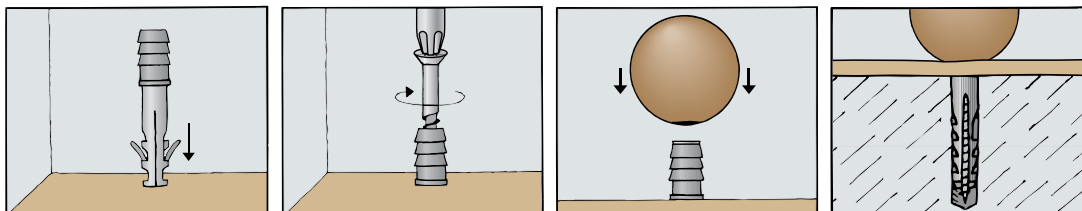
Technical data

	Art. No.	Contents	Quantity per set
Door stop assortment (dispenser box) TS-SORT	60521	5 colours, set of 5 each grey, white, beige, black, brown	1

Standard or replenishment packs

Type	Colour	Art. No.	Drill-hole Ø mm	Min. drill-hole depth mm	Quantity per set
TS 8 G	grey	● 60535	8	50	10
TS 8 W	white	○ 60536	8	50	10
TS 8 S	black	● 60539	8	50	10
TS 8 BR	brown	● 60540	8	50	10
TS 8 BG	beige	● 60551	8	50	10

Each with 10 fixing S 8 R 60 TS, 10 wood screws with Pozi bit size 3, 10 TS 8.

Installation example**Installation diagram**

fischer ClipFix Clip Fixing SF SD



flame-resistant in accordance with VDE 0471/DIN IEC 695 Part 2-1, test temperature 960°

Suitability

Suitable for:

concrete, sand-lime solid bricks, lightweight concrete, aircrete, solid clinker bricks and natural stone.

For fixing:

cable ducts and flat components.

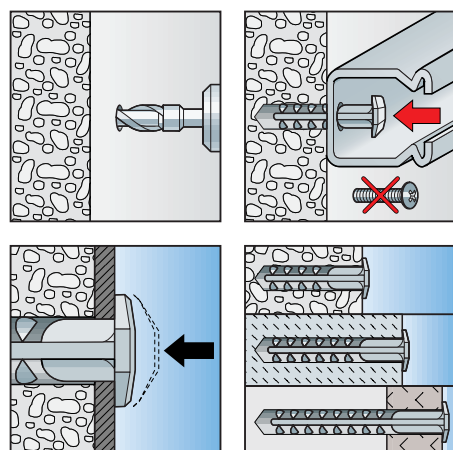
Description/Installation

- Quick and simple installation.
- Three lengths for bridging plaster.
- Optimum support due to high pre-tensioning.
- Resistant to hot and cold temperatures (-20 °C to +80 °C)
- UV-stabilised, halogen-free.

Technical data

Type	Art. No.	Drill-hole Ø mm	Drill-hole depth mm	Fixing length mm	Qty. per pack	Shipping quantity
SF SD 30	58178	6	35	31	200	2000
SF SD 40	58179	6	45	40	100	1000

Installation diagram



fischer ClipFix Cable strap SF LS



flame-resistant in accordance with VDE 0471/DIN IEC 695 Part 2-1, test temperature 960°

Suitability

Suitable for:

concrete, sand-lime solid bricks, lightweight concrete, aircrete, solid clinker bricks and natural stone.

For fixing:

individual ducts, flexible pipes or cable bundles up to 40 mm diameter.

Description/Installation

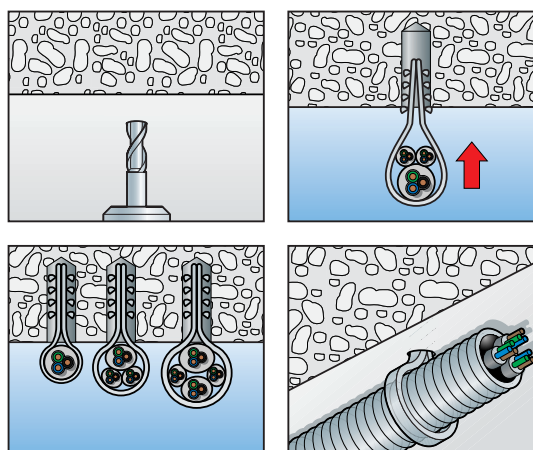
- Quick and simple single-handed installation.
- For concrete and solid bricks.
- Resistant to hot and cold temperatures (-20 °C to +80 °C).
- UV-stabilised, halogen-free .

Technical data

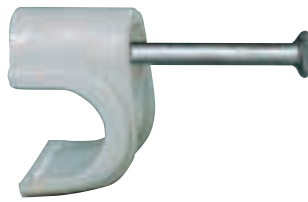
Type	Art. No.	Drill-hole Ø mm	Min. drill-hole depth* mm	Clamping range mm	Qty. per pack	Shipping quantity
SF LS 3/13	58155	6	35	3-13	100	1000
SF LS 8/28	58156	6	50	8-28	100	1000
SF LS 20/40	58157	6	50	20-40	100	1000

* for smallest stated diameter

Installation diagram



fischer Cable clip NS



Suitability

Suitable for: wood, hard fibreboards, chipboard, plywood, aircrete, cheese boards, solid gypsum panels and other plastered substrates.

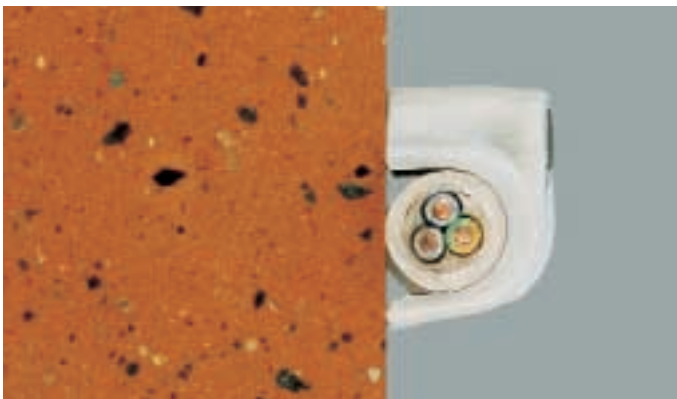
For fixing:

cables with a diameter between 7 and 12 mm.

Description/Installation

- Quick and simple installation.
- Pre-assembled, hardened nail for good installation in harder materials.

Installation example



Technical data

Type	Colour	Art. No.	for cable Ø in mm	Nail length mm	Quantity per pack	Shipping quantity
NS 7	RAL 7035 cablegrey	58173	17	27	100	3000
NS 8	RAL 7035 cablegrey	58174	18	27	100	3000
NS 9	RAL 7035 cablegrey	58175	19	27	100	3000
NS 10	RAL 7035 cablegrey	58176	10	30	100	3000
NS 12	RAL 7035 cablegrey	58177	12	35	100	3000

Further variations and sizes available on request.

fischer Cable tie BN



Eignung

Suitable for:

bundling cables, fixings cables in conjunction with SF location clip.

Description/Installation

- Quick and simple installation.
- The chamfered end allows simple threading.
- Resistant to hot and cold temperatures (-20 °C to +80 °C) – high quality nylon.
- UV-stabilised, halogen-free.

Technical data

Type	Art. No.	Size mm	Quantity per pack	Shipping quantity
BN 2.5 x 100 transparent	87478	2.5 x 100	100	1000
BN 2.5 x 135 transparent	87479	2.5 x 135	100	1000
BN 2.5 x 200 transparent	87480	2.5 x 200	100	1000
BN 3.5 x 140 transparent	87481	3.5 x 140	100	1000
BN 4.5 x 200 transparent	87484	4.5 x 200	100	1000
BN 4.5 x 280 transparent	87485	4.5 x 280	100	1000
BN 7.5 x 360 transparent	87487	7.5 x 360	100	1000
UBN 2.5 x 100 black	87488	2.5 x 100	100	1000
UBN 2.5 x 135 black	87489	2.5 x 135	100	1000
UBN 2.5 x 200 black	87490	2.5 x 200	100	1000
UBN 3.5 x 140 black	87491	3.5 x 140	100	1000
UBN 4.5 x 200 black	87494	4.5 x 200	100	1000
UBN 4.5 x 280 black	87495	4.5 x 280	100	1000
UBN 7.5 x 360 black	87497	7.5 x 360	100	1000

Further variations and sizes available on request.

fischer Cable and pipe clip FC



Suitability

For the efficient installation of cables, conduits and pipelines.

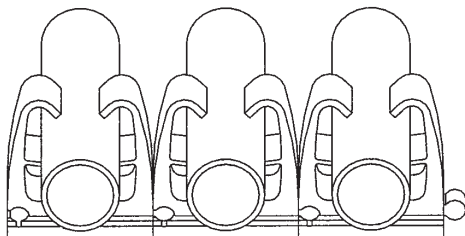
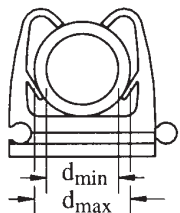
Description/Installation

- Temperature resistant between -40°C and $+80^{\circ}\text{C}$.
- Also suitable for use with hot-water pipes or pipes in cold stores.
- Flexible grip.
- High load-bearing capacity.
- Single and serial clip (only one fixing point for 3-4 clips).
- Unified clip system allows combination with saddle SCH.

Technical data

Colour: grey RAL 7035

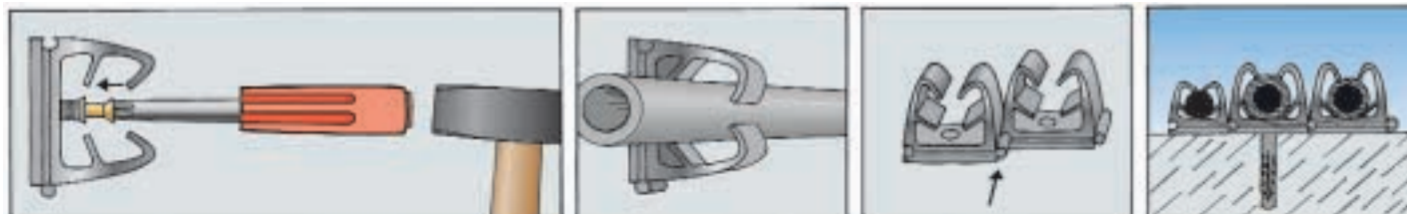
Type	Art. No.	For cables and pipes from/to \varnothing mm	Quantity per pack
FC 6-9 GR	68060	6 - 9 mm	100
FC 9-12 GR	68062	9 - 12 mm	100
FC 12-20 GR	68064	12 - 20 mm	50
FC 12-20 GR	68064	12 - 20 mm	50



Installation examples



Installation diagram



fischer saddle SCH

- 1 fischer saddle, transparent nylon
- 2 fischer saddle, grey RAL 735

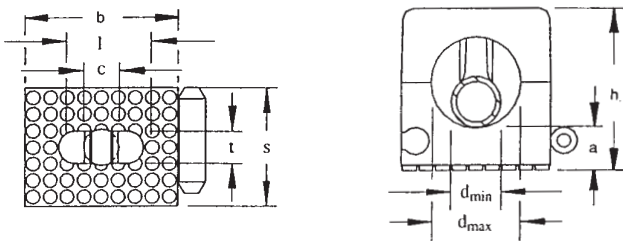


Suitability

For rapid installation of cables and pipes.

Description/Installation

- High temperature resistance between $-40\text{ }^{\circ}\text{C}$ and $+80\text{ }^{\circ}\text{C}$.
- Also suitable for use with hot-water piping or piping in cold stores.
- Single and serial saddle (only one fixing point for 3–4 saddles).
- Saddle allows lengths of piping or cable to expand without restriction.
- Compatible with PVC material.
- Unified clip system allows combination with cable/pipe clip FC.



Technical data

Colour: grey RAL 7035

Type	Art. No.	For cables and pipes from/to \varnothing mm	Dimension of insulated pipes	Quantity per pack
SCH 812	60012	8–12	6 x 1– 8 x 1	100
SCH 1216	60016	12–16	10 x 1–12 x 1	50
SCH 1619	69019	16–19	–	50
SCH 1623	60023	16–23	15 x 1–18 x 1	50
SCH 2332	60032	23–32	22 x 1–22 x 1.5	25
SCH 3242	60042	32–42	22 x 1–22 x 1.5	25

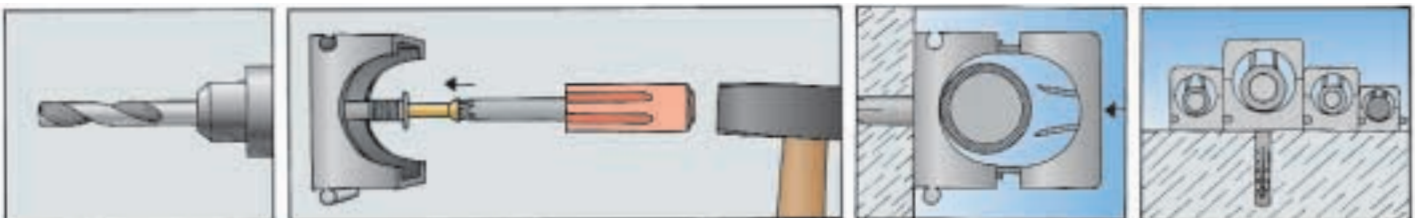
Colour: grey RAL 7035

SCH 1216 GR	68016	12–16	10 x 1–12 x 1	50
SCH 1619 GR	68019	16–19	–	50
SCH 1623 GR	68023	16–23	15 x 1–18 x 1	50
SCH 2332 GR	68032	23–32	22 x 1–22 x 1.5	25

Important dimensions of the fischer saddle SCH for the installer

	Clamping range d	h	b	s	a	l	t	c
SCH 812	8–12 \varnothing	23.1	21.5	16.5	6.1	12	4.5	5.1
SCH 1216	12–16 \varnothing	28.7	27.5	16.5	6.7	16	4.5	5.1
SCH 1619	16–19 \varnothing	37.6	32.5	16.5	8.0	18	4.5	5.1
SCH 1623	16–23 \varnothing	37.6	36.0	16.5	7.6	18	4.5	5.1
SCH 2332	23–32 \varnothing	50.0	46.5	16.5	10.0	28	4.5	5.1
SCH 3242	32–42 \varnothing	62.0	53.5	16.5	11.0	33.5	4.5	5.1

Installation diagram



DIY fixings




The colour coded system for easy selection




For all building materials


For solid masonry materials


For boards, panels and cavities


For concrete

The complete range



- The comprehensive range of products offers fixing solutions for every DIY enthusiast.
- Every card contains clear and concise information in German, English, French, Spanish and Dutch.
- Good use of the sales area due to optimised packaging sizes.
- Customised arrangements for various standard display walls.
- Each card contains all the necessary technical data for installation.
- Customised accessories for attractive presentation of goods.

S-Plugs

S-Plugs with screws



for solid materials and masonry

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
S 5 GKS	52120	25 plugs S 5 25 chipboard screws 4 x 30	20	20
S 6 GKS	52121	15 plugs S 6 15 chipboard screws 4.5 x 45	20	20
S 8 GKS	52122	10 plugs S 8 10 chipboard screws 5 x 50	20	20
S 10 GKS	52136	5 plugs S 10 5 hexagon screws 7 x 65	20	20

Universal and all-round fixings

Universal fixing FU with chipboard screws



for all materials

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
FU 6 x 35 SK	53300	10 FU 6 x 35 10 chipboard screws 3.5 x 45	20	20
FU 8 x 50 SK	53304	6 FU 8 x 50 6 chipboard screws 4.5 x 60	20	20
FU 10 x 60 SK	53308	4 FU 10 x 60 4 chipboard screws 6 x 80	10	10

Universal fixing FU with round hooks



for all materials

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
FU 6 RK	53320	4 FU 6 x 35 4 round hook 3.5 x 68	20	100
FU 8 RK	53322	4 FU 8 x 50 4 round hook 4.5 x 83	20	100
FU 10 RK	53324	2 FU 10 x 60 2 round hook 6 x 95	20	100

Universal and all-round fixings

Universal fixing FU with angle hook



for all materials

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
FU 6 HK	53326	4 FU 6 x 35 4 angle hook 3.5 x 52	20	100
FU 8 HK	53328	4 FU 8 x 50 4 angle hook 4.5 x 68	20	100
FU 10 HK	53330	2 FU 10 x 60 2 angle hook 6 x 77	20	100

Cavity fixings

Spring toggle, metal with threaded rod KD



for panels, boards and cavities

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
KD 3 K	82181	2 KD 3	20	20
KD 4 K	82193	2 KD 4	20	20

Spring toggle, metal with round hook



for panels, boards and cavities

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
KDH 3 K	82182	2 KDH 3	20	20
KDH 4 K	82194	2 KDH 4	20	20

Cavity fixings

Plasterboard fixing GK



for plasterboard

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
GK K	52391	10 plasterboard fixings GK 1 setting tool	20	20
GKS K	52392	5 plasterboard fixings GK 5 chipboard screws 4.5 x 35 1 setting tool	20	20

Sanitary fixings

WC fixing S-RD



for solid materials and masonry

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
S 8 RD 80 CR K	82662	2 S 8 RD 80 2 cover caps, white 2 cover caps, chrome 2 hexagon screw 6 x 85 DIN 571, polished brass	10	50

Frame fixings and Hammerfix fixings

Frame fixing S-R with screws and hooks



for solid materials and masonry

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
S 6 RS 60 K	52221	8 S 6 R 60 8 countersunk wood screws 4.5 x 65 10 labels each in black, white and brown	10	50
S 8 RS 60 K	52222	6 S 8 R 60 6 countersunk wood screws 5.5 x 65	10	50
S 8 RS 80 K	52223	5 S 8 R 80 5 countersunk wood screws 5.5 x 85	10	50
S 8 RW K	52188	2 S 8 R 60 2 angle hooks WH 5.8 x 80	20	20

Hammerfix fixing N



for solid materials and masonry

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
N 5 K	52250	20 N 5 x 50 20 hammerfix fixings 3.5 x 55 Z	20	20
N 6 K	52251	15 N 6 x 60 15 hammerfix fixings 4 x 65 Z	20	20
N 8 K	52252	10 N 8 x 80 10 hammerfix fixings 5 x 85 Z	20	20

Mirror fixing SKL M



for solid materials and masonry

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
SKL M K	52399	4 S 6 4 phillips screws 4 x 40 2 mirror brackets with spring 2 mirror brackets without spring	10	50

Strap fixing WL



for solid materials and masonry

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
WL 7 x 60 K	82651	4 S 10 4 wood screws 7 x 60 DIN 571 4 washers	20	100
WL 10 x 70 K	82650	2 S 12 2 wood screws 10 x 70 DIN 571 2 washers	20	100

Fixings and accessories**Door stop incl. fixings
in various colours**for solid materials and
masonry

Type	Art. No.	Pack contains	Quantity per pack	Shipping quantity
TS 8 W K	52131	1 fixing S 8 R 60 TS 1 screw 5.5 x 65 Z 1 TS 8 white	10	10
TS 8 G K	52130	as above + 1 TS 8 grey	10	10
TS 8 BR K	52133	as above + 1 TS 8 brown	10	10
TS 8 BG K	52132	as above + 1 TS 8 beige	10	10
TS 8 S K	52129	as above + 1 TS 8 black	10	10

For further blister packs please refer to our price list.

Accessories for the presentation of merchandise



Floor stand with perforated display wall

Parts	Dimensions	Art. No.
■ Headboard (without text)	100 x 30 cm	88 209
	125 x 30 cm	88 208
■ Hook	43 cm long	59 957
■ Floor stand	100 x 180 cm	88 269
	125 x 180 cm	88 270

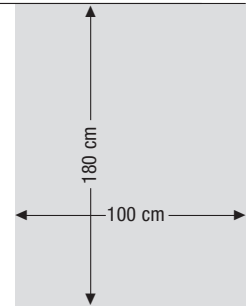


Counter display 250

- complete with 25 hooks, 20 cm long and headboard
- for ca. 250 self-service cards
- Dimensions (cm):
H = 105, B = 46, T = 30

Art. No. 88 189

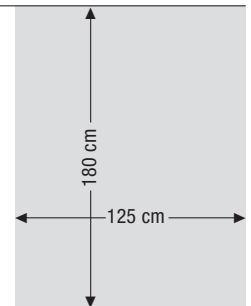
Blisterpack arrangement A (optional)



S 5 GKS 52 120	S 5 GKS 52 120	S 5 GKS 52 120	FU 6 x 35 SK 53 300	FU 6 x 35 SK 53 300	KD 3 K 82 181	TS 8 WK 52 131	N 6 K 52 251	N 6 K 52 251	S 6 RS 60 K 52 221	S 6 RS 60 K 52 221
S 6 GKS 52 121	S 6 GKS 52 121	S 6 GKS 52 121	FU 6 x 35 SK 53 300	FU 8 x 50 SK 53 304	KD H 3 K 82 182	TS 8 WK 52 131	N 6 K 52 251	N 6 K 52 251	S 8 RS 60 K 52 222	S 8 RS 60 K 52 222
S 6 GKS 52 121	S 6 GKS 52 121	S 6 GKS 52 121	FU 8 x 50 SK 53 304	FU 8 x 50 SK 53 304	KD H K 82 193	TS 8 BRK 52 133	N 6 K 52 251	N 8 K 52 252	S 8 RS 60 K 52 222	S 8 RS 80 K 52 223
S 8 GKS 52 122	S 8 GKS 52 122	S 8 GKS 52 122	FU 10 x 60 SK 53 308	FU 6 RK 53 320	KDH 4 K 82 194	TS 8 BRK 52 133	N 8 K 52 252	N 8 K 52 252	S 8 RS 80 K 52 223	S 8 RS 80 K 52 223
S 8 GKS 52 122	S 8 GKS 52 122	S 8 GKS 52 122	FU 8 RK 53 322	FU 10 RK 53 324	GKS K 52 392	TS 8 BGK 52 132	N 8 K 52 252	N 8 K 52 252	S 8 RD 80 CRK 82 662	S 8 RD 80 CRK 82 662
S 10 GKS 52 136	S 10 GKS 52 136	S 10 GKS 52 136	FU 6 HK 53 326	FU 8 HK 53 328	GKS K 52 392	TS 8 GK 52 130	S 8 RWK 52 188	S 8 RWK 52 188	S 8 RD 80 CRK 82 662	S 8 RD 80 CRK 82 662

S 5 50 105	S 6 50 106	S 6 50 106	S 6 50 106	S 8 50 108	S 8 50 108	S 8 50 108	S 10 50 110	S 10 50 110	S 12 50 112	S 14 50 114
FU 6 x 35 53 260	FU 6 x 35 53 260	FU 6 x 35 53 260	FU 8 x 50 53 264	FU 8 x 50 53 264	FU 8 x 50 53 264	FU 10 x 60 53 268	FU 10 x 60 53 268	SL M 6 N 50 520	SL M 8 N 50 521	SL M 10 N 50 522
N 5 x 50 Z 50 352	N 6 x 60 Z 50 355	N 6 x 60 Z 50 355	N 8 x 80 Z 50 358	N 8 x 100 Z 50 357	N 8 x 120 Z 50 359	FB 8/10 51 028	FB 10/15 51 040	FB 12/20 51 052		

Blisterpack arrangement B (optional)



S 5 GKS 52 120	S 5 GKS 52 120	S 5 GKS 52 120	FU 6 x 35 SK 53 300	FU 6 x 35 SK 53 300	FU 6 x 35 SK 53 300	KD 3 K 82 181	KD 3 K 82 181	TS 8 WK 52 131	N 6 K 52 251	N 6 K 52 251	S 6 RS 60 K 52 221	S 6 RS 60 K 52 221
S 6 GKS 52 121	S 6 GKS 52 121	S 6 GKS 52 121	FU 8 x 50 SK 53 304	FU 8 x 50 SK 53 304	FU 8 x 50 SK 53 304	KDH 3 K 82 182	KDH 3 K 82 182	TS 8 WK 52 131	N 6 K 52 251	N 6 K 52 251	S 8 RS 60 K 52 222	S 8 RS 60 K 52 222
S 6 GKS 52 121	S 6 GKS 52 121	S 6 GKS 52 121	FU 10 x 60 SK 53 308	FU 10 x 60 SK 53 308	FU 6 RK 53 320	KD 4 K 82 193	KD 4 K 82 193	TS 8 BRK 52 133	N 6 K 52 251	N 8 K 52 252	S 8 RS 60 K 52 222	S 8 RS 80 K 52 223
S 8 GKS 52 122	S 8 GKS 52 122	S 8 GKS 52 122	FU 6 RK 53 320	FU 6 RK 53 320	FU 8 RK 53 322	KDH 4 K 82 194	KDH 4 K 82 194	TS 8 BRK 52 133	N 8 K 52 252	N 8 K 52 252	S 8 RS 80 K 52 223	S 8 RS 80 K 52 223
S 8 GKS 52 122	S 8 GKS 52 122	S 8 GKS 52 122	FU 8 RK 53 322	FU 10 RK 53 324	FU 6 HK 53 326	GKS K 52 392	GKS K 52 392	TS 8 BGK 52 132	N 8 K 52 252	N 8 K 52 252	S 8 RD 80 CRK 82 662	S 8 RD 80 CRK 82 662
S 10 GKS 52 136	S 10 GKS 52 136	S 10 GKS 52 136	FU 6 HK 53 326	FU 8 HK 53 328	FU 8 HK 53 328	GKS K 52 392	GKS K 52 392	TS 8 GK 52 130	S 8 RWK 52 188	S 8 RWK 52 188	S 8 RD 80 CRK 82 662	S 8 RD 80 CRK 82 662

S 5 50 105	S 5 50 105	S 6 50 106	S 6 50 106	S 6 50 106	S 8 50 108	S 8 50 108	S 8 50 108	S 10 50 110	S 10 50 110	S 12 50 112	S 12 50 112	S 14 50 114
FU 6 x 35 53 260	FU 6 x 35 53 260	FU 6 x 35 53 260	FU 8 x 50 53 264	FU 8 x 50 53 264	FU 8 x 50 53 264	FU 10 x 60 53 268	FU 10 x 60 53 268	FU 10 x 60 53 268	SL M 6 N 50 520	SL M 8 N 50 521	SL M 8 N 50 521	SL M 10 N 50 522
N 5 x 50 Z 50 352	N 6 x 60 Z 50 355	N 6 x 60 Z 50 355	N 8 x 80 Z 50 358	N 8 x 80 Z 50 358	N 8 x 100 Z 50 357	N 8 x 100 Z 50 357	N 8 x 120 Z 50 359	FB 8/10 51 028	FB 10/15 51 040	FB 12/20 51 052		

Self-service cards

	Art. No.	A		B	
		Number of hooks	Number of blisterpacks	Number of hooks	Number of blisterpacks
S 5 GKS	52 120	3	60	3	60
S 6 GKS	52 121	6	120	6	120
S 8 GKS	52 122	6	120	6	120
S 10 GKS	52 136	3	60	3	60
TS 8 W K	52 131	2	20	2	20
TS 8 BR K	52 133	2	20	2	20
TS 8 GK	52 130	1	10	1	10
TS 8 BGK	52 312	1	10	1	10
FU 6 x 35 SK	53 300	3	60	3	60
FU 8 x 50 SK	53 304	3	60	3	60
FU 10 x 60 SK	53 308	1	20	2	40
FU 6 RK	53 320	1	20	3	60
FU 8 RK	53 322	1	20	2	40
FU 10 RK	53 324	1	20	1	20
FU 6 HK	53 326	1	20	2	40
FU 8 HK	53 328	1	20	2	40
N 6 K	52 251	5	100	5	100
N 8 K	52 252	5	100	5	100
S 8 RWK	52 188	2	40	2	40
S 6 RS 60 K	52 221	2	40	2	40
S 8 RS 60 K	52 222	3	60	3	60
S 8 RS 80 K	52 223	3	60	3	60
S 8 RD 80 CRK	82 662	4	40	4	40
KD 3 K	82 181	1	20	2	40
KD H 3 K	82 182	1	20	2	40
KD 4 K	82 193	1	20	2	40
KD H 4 K	82 194	1	20	2	40
GKS-K	52 392	2	40	4	80
Total		66	1220	78	1460

Staple products

	Art. No.	A		B	
		Quantity	Quantity	Quantity	Quantity
S 5	50 105	3000		6000	
S 6	50 106	6000		6000	
S 8	50 108	3000		3000	
S 10	50 110	1000		1000	
S 12	50 112	250		500	
S 14	50 114	160		160	
N 5 x 50	50 352	900		900	
N 6 x 60	50 355	900		900	
N 8 x 80	50 358	350		700	
N 8 x 100	50 357	350		700	
N 8 x 120	50 359	350		350	
FU 6 x 35	53 260	3000		3000	
FU 8 x 50	53 264	1500		1500	
FU 10 x 60	53 268	500		750	
FB 8/10	51 028	500		500	
FB 10/15	51 040	200		200	
FB 12/20	51 052	120		120	
SLM 6 N	50 520	500		500	
SLM 8 N	50 521	250		500	
SLM 10 N	50 522	200		200	

For your notes

