





## SUITABLE APPLICATIONS

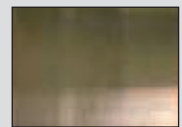
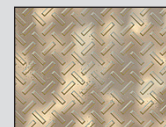
				Examples of Suitable Applications									
*SWL recommended safe working load in tension				Dry Wall / stud batons	Skirting boards	Light shelving	Brackets / hooks	Boilers	Heavy shelving	Radiators	Door / window frames	Bathroom fittings	Kitchen fittings
		Recommended fischer products	*SWL (Kg)										
Load Application	Light	 UX universal plug	18	✓	✓	✓	✓			✓	✓		
	Medium	 FUR universal plug	18	✓	✓	✓	✓		✓	✓	✓	✓	✓
		 FBS concrete screw	37	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Heavy	 FIS V 360 S resin	89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

## HSS DRILL SET



### Ideal for drilling in:

- Bronze
- Hard brass
- Steel
- Stainless steel



## OVERVIEW

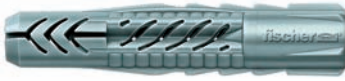



- A straight shank, industrial quality twist drill. Gives good results in most metals, woods and plastics. A tough durable drill bit.

Type	Art.No.	contents x 1 each of the following sizes:	package type	qty. per pack
19 Piece HSS Drill Set	<b>14499</b>	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10.0	metal case	1

# Universal plug UX

The universal fixing for a perfect grip in all walls.

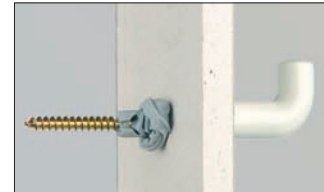
## OVERVIEW

	Universal plug UX	Suitable for:	<ul style="list-style-type: none"> <li>Concrete</li> <li>Prestressed hollow-core concrete slabs</li> <li>Natural stone with dense structure</li> <li>Solid brick</li> <li>Solid sand-lime brick</li> <li>Solid block made from lightweight concrete</li> <li>Aerated concrete</li> <li>Solid panel made from gypsum</li> <li>Vertically perforated brick</li> <li>Perforated sand-lime brick</li> <li>Hollow block made from lightweight concrete</li> <li>Slabs made of perforated bricks</li> <li>Hollow concrete blocks etc.</li> </ul>	<ul style="list-style-type: none"> <li>Gypsum plasterboard and gypsum fibreboards</li> <li>Chip boards</li> </ul>
	Universal plug UX-R with collar			For fixing of:
	Wood screw			<ul style="list-style-type: none"> <li>Pictures</li> <li>Motion detectors</li> <li>Lamps</li> <li>Skirting</li> <li>Electric switches</li> <li>Small wall-mounted shelves</li> <li>Towel rails</li> <li>Lightweight mirror cabinets</li> <li>Letter boxes</li> <li>Hanging baskets</li> <li>Curtain rails</li> </ul>
	Chipboard screw			



## DESCRIPTION

- Nylon universal fixing
- Expansion in solid building materials, reliable knot formation in all cavities.
- Use UX 6 long versions with fischer spacing screws for maximum load-bearing capacity in perforated materials, double-skinned plasterboard and for bridging non-load-bearing layers.



## Advantages/Benefits

- The unique design enables use in almost all building materials.
- Diagonal connection ridges for optimum screw guidance.
- New saw-tooth anti-rotation lock prevents the fixing rotating in the drill hole.
- Low turning and high tightening torque - the first universal fixing that really "holds".

- Can be used with wood and chipboard screws between 4 and 12 mm.
- Integral drive-in lock enables optimal push-through installation. If pre-assembled with screw.
- The collar of the UX R prevents it slipping into the drill hole.

## INSTALLATION

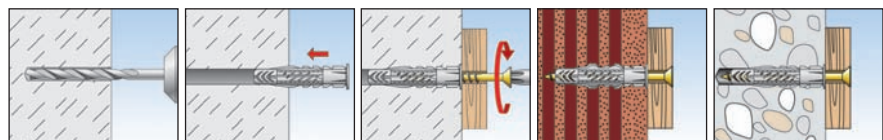
### Type of installation

- Pre-positioned and push-through installation.

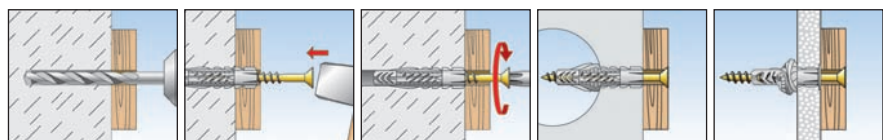
### Installation information

- With push-through installation, use the largest possible screw diameter.
- Drill only in a rotary motion (switch off hammer) in perforated and hollow brick and aerated concrete, and use a metal bit for plasterboard.
- If using hook screws and eye screws in cavity bricks, it is essential that they have a collar, so that the screw can be tightened enough to collapse the plug fully.
- The required screw length is given by the fixing length + thickness of the item being attached + 1 x screw diameter.

### Pre-positioned installation



### Push-through installation



## TECHNICAL DATA



UX - without collar

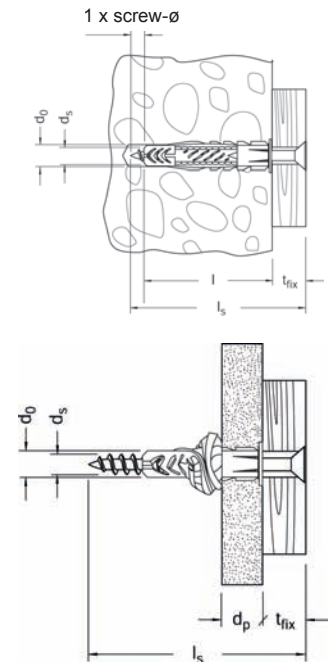


UX R - with collar



UX RS - with chipboard screw

Type	Art.-No.	ID	drill-Ø $d_0$ [mm]	min. drill hole depth $t$ [mm]	min. panel thickness $d_p$ [mm]	anchor length $l$ [mm]	usable length $d_s$ [mm]	chipboard screw $d_s \times l_s$ [Ø mm]	qty. per box pcs.
UX 5	94721	0	5	40	9,5	30	-	3 - 4	100
UX 5 R	94722	7	5	40	9,5	30	-	3 - 4	100
UX 6 x 35	62754	9	6	45	9,5	35	-	4 - 5	100
UX 6 x 35 R	62756	3	6	45	9,5	35	-	4 - 5	100
UX 6 x 50	72094	3	6	60	9,5	50	-	4 - 5	100
UX 6 x 50 R	72095	0	6	60	9,5	50	-	4 - 5	100
UX 8 x 50	77869	2	8	60	9,5	50	-	4,5 - 6	100
UX 8 x 50 R	77870	8	8	60	9,5	50	-	4,5 - 6	100
UX 10 x 60	77871	5	10	75	12,5	60	-	6 - 8	50
UX 10 x 60 R	77872	2	10	75	12,5	60	-	6 - 8	50
UX 12 x 70	62758	7	12	85	-	70	-	8 - 10	25
UX 14 x 75	62757	0	14	95	-	75	-	10 - 12	20
UX 6 x 35R S/20	94758	6	6	60	9,5	35	20	4,5 x 60	25
UX 6 x 50R S/20	94759	3	6	75	9,5	50	20	4,5 x 75	25
UX 8 x 50R S/15	94762	3	8	70	9,5	50	15	5 x 70	25
UX 8 x 50R S/25	94760	9	8	80	9,5	50	25	5 x 80	25
UX 10 x 60 S/20	94761	6	10	85	12,5	60	20	6 x 85	10



## LOADS

Recom. loads  $N_{rec}$  [kN] and mean ultimate loads  $N_u$  [kN]. These values apply to the use of wood screws with the given screw diameter. When use chipboard screws these values should be reduced by 30%.

Fixing type	UX 6 x 35		UX 6 x 50 (R)		UX 8 x 50		UX 10 x 60		UX 12 x 70		UX 14 x 75	
	$N_{rec}$	$N_u$	$N_{rec}$	$N_u$	$N_{rec}$	$N_u$	$N_{rec}$	$N_u$	$N_{rec}$	$N_u$	$N_{rec}$	$N_u$
Substrate												
Concrete $\geq$ C12/C55	0.4	2.4	0.6	2.5	0.6	2.5	1.0	5.8	1.5	8.8	1.8	13.2
Solid brick $\geq$ Mz12 (DIN 105)	0.2	2.0	0.3	2.1	0.3	2.1	0.5	3.7	0.7	8.0	0.8	8.0
Vertical perforated brick $\geq$ Hlz12 ( $\rho \geq 1.0$ kg/dm <sup>3</sup> , DIN 105)	0.2	0.9	0.2	0.9	0.2	1.0	0.2	1.4	0.3	2.1	0.4	3.2
Sand-lime perforated brick $\geq$ KSL12 (DIN 106)	0.4	2.6	0.4	2.8	0.5	3.2	0.6	4.4	0.8	5.0	0.8	5.0
Aerated concrete $\geq$ PB2	0.05	0.4	0.1	0.5	0.15	0.7	0.2	1.1	0.2	1.6	0.2	1.7
Aerated concrete $\geq$ PB4	0.2	1.0	0.2	1.3	0.3	1.7	0.4	2.7	0.6	3.7	0.7	3.9
Plasterboard 12,5 mm	0.1	0.5	0.1	0.5	0.1	0.6	0.1	0.6	-	-	-	-
Plasterboard 2 x 12,5 mm	0.15	0.7	0.15	0.8	0.15	0.8	0.15	1.1	-	-	-	-
Gypsum fibre board (Fermacell)	0.2	1.5	0.2	1.5	0.2	1.7	0.25	1.9	-	-	-	-

# Universal frame fixing FUR

The high-performance facade fixing - locks in each building material.



## OVERVIEW



**FUR-T** - fischer safety screw with countersunk head



**FUR 8-SS and FUR 10-SS** - fischer safety screw with hexagon-head



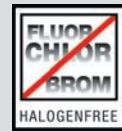
**FUR 10 and FUR 14 F US** - fischer safety screw with hexagon-head

### Approved for:

- Concrete
- Solid brick
- Solid sand-lime brick
- Vertically perforated brick
- Perforated sand-lime block
- Hollow block made from lightweight concrete
- No-fines lightweight concrete
- Multilayer composite concrete wall

### Also suitable for:

- Natural stone with dense structure
- Solid block made from lightweight concrete
- Solid panel made from gypsum
- Aerated concrete



### For fixing of:

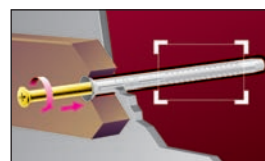
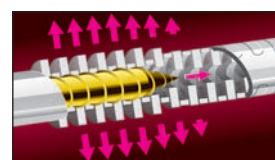
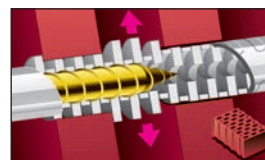
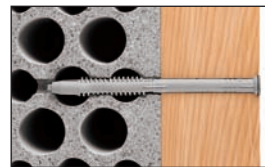
- Facade and roof substructures made of wood and metal
- Gates
- Door frames
- Fire protection doors
- Windows
- Kitchen cabinets
- Wardrobes
- Squared timbers
- Facings

## DESCRIPTION

- Universal frame fixing.
- Anchorage in solid materials by means of friction locking.
- The asymmetrical close set teeth expand and formlock in hollow materials.
- Fixing sets with A4 stainless steel safety screws can for applications in damp conditions.
- Patented asymmetrical teeth guarantee high load-bearing capacity in solid and perforated brick.
- Integral hammer-in stop prevents the fixing from spreading prematurely during installation.
- The FUR-FUS version does not require additional washers and prevents contact corrosion.
- Large range for wood and metal constructions (internal and exterior) for many applications.

### Advantages/benefits

- Universal for all building materials.
- All the fixings with pre-installed screw.



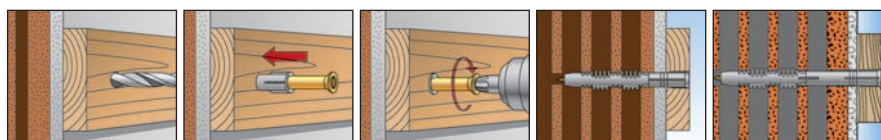
## INSTALLATION

### Type of installation

- Push-through installation

### Installation tips

- We advise countersunk-head screws for fixing wooden structures, and fixings with a flat edge and hexagon-head bolts for metal structures.
- The hexagon-head with integral washer also has an integral  $\ddot{g}$ -socket.
- With vertically perforated bricks only use rotary drilling (no impact drilling).



# Universal frame fixing FUR

## TECHNICAL DATA

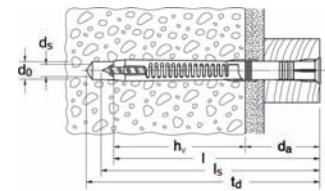


**FUR-T** - fischer safety screw with countersunk head



**FUR-T A4** - with stainless steel A4 fischer safety screw

Type	Art.No.	ID	approvals	drill-Ø	min. drill-hole depth for through fixings	effect. anchorage depth	anchor length	max. usable length	fischer safety screw	drive	qty. per box
			• DIBt	$d_s$ [mm]	$t_f$ [mm]	$h_d$ [mm]	$l$ [mm]	$t_{st}$ [mm]	$d_s \times l_s$ [mm]		pcs.
FUR 8 x 80 T	70110	2	•	8	90	70	80	10	6 x 85	T30	50
FUR 8 x 100 T	70111	9	•	8	110	70	100	30	6 x 105	T30	50
FUR 8 x 120 T	70112	6	•	8	130	70	120	50	6 x 125	T30	50
FUR 10 x 80 T	88756	1	•	10	90	70	80	10	7 x 85	T40	50
FUR 10 x 100 T	88757	8	•	10	110	70	100	30	7 x 105	T40	50
FUR 10 x 115 T	88760	8	•	10	125	70	115	45	7 x 120	T40	50
FUR 10 x 135 T	88758	5	•	10	145	70	135	65	7 x 140	T40	50
FUR 10 x 160 T	88759	2	•	10	170	70	160	90	7 x 165	T40	50
FUR 10 x 185 T	88761	5	•	10	195	70	185	115	7 x 190	T40	50
FUR 10 x 200 T	88764	6	•	10	210	70	200	130	7 x 205	T40	50
FUR 10 x 230 T	88762	2	•	10	240	70	230	160	7 x 235	T40	50
FUR 14 x 100 T	48711	2	•	14	115	70	100	30	10 x 110	T50	50
FUR 14 x 140 T	48712	9	•	14	155	70	140	70	10 x 150	T50	50
FUR 14 x 165 T	48713	6	•	14	180	70	165	95	10 x 175	T50	50
FUR 14 x 180 T	48714	3	•	14	195	70	180	110	10 x 190	T50	50
FUR 14 x 210 T	48844	7	•	14	225	70	210	140	10 x 220	T50	50
FUR 14 x 240 T	48715	0	•	14	255	70	240	170	10 x 250	T50	50
FUR 14 x 270 T	48716	7	•	14	285	70	270	200	10 x 280	T50	50
FUR 14 x 300 T	90759	7	•	14	315	70	300	230	10 x 310	T50	20
FUR 14 x 330 T	90760	3	•	14	345	70	330	260	10 x 340	T50	20
FUR 14 x 360 T	90761	0	•	14	375	70	360	290	10 x 370	T50	20
FUR 8 x 80 T A4	70120	1	•	8	90	70	80	10	6 x 85	T30	50
FUR 8 x 100 T A4	70121	8	•	8	110	70	100	30	6 x 105	T30	50
FUR 8 x 120 T A4	70122	5	•	8	130	70	120	50	6 x 125	T30	50
FUR 10 x 80 T A4	88784	4	•	10	90	70	80	10	7 x 85	T40	50
FUR 10 x 100 T A4	88785	1	•	10	110	70	100	30	7 x 105	T40	50
FUR 10 x 115 T A4	88791	2	•	10	125	70	115	45	7 x 120	T40	50
FUR 10 x 135 T A4	88786	8	•	10	145	70	135	65	7 x 140	T40	50
FUR 10 x 160 T A4	88787	5	•	10	170	70	160	90	7 x 165	T40	50
FUR 10 x 185 T A4	88788	2	•	10	195	70	185	115	7 x 190	T40	50
FUR 10 x 200 T A4	88789	9	•	10	210	70	200	130	7 x 205	T40	50
FUR 10 x 230 T A4	88790	5	•	10	240	70	230	160	7 x 235	T40	50
FUR 14 x 140 T A4	48719	8	•	14	155	70	140	70	10 x 150	T50	50
FUR 14 x 165 T A4	48720	4	•	14	180	70	165	95	10 x 175	T50	50
FUR 14 x 180 T A4	48721	1	•	14	195	70	180	110	10 x 190	T50	50
FUR 14 x 210 T A4	48845	4	•	14	225	70	210	140	10 x 220	T50	50



For matching cover caps ADT, see page 158.

## TECHNICAL DATA

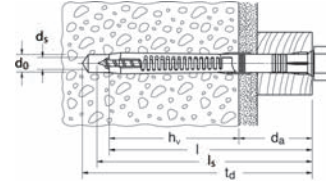


**FUR 8-SS and FUR 10-SS - fischer safety screw with hexagon-head**



**FUR-SS A4 - with stainless steel A4 fischer safety screw**

Type	Art.-No.	ID	approvals	drill-Ø	min. drill-hole depth for through fixings	effect. anchorage depth	anchor length	max. usable length	fischer safety screw	width across nut	qty. per box
			● DIBt	$d_s$ [mm]	$t_f$ [mm]	$h_{ef}$ [mm]	$l$ [mm]	$t_{th}$ [mm]	$d_s \times l_s$ [mm]	SW	pcs.
FUR 8 x 80 SS	70130	0	●	8	90	70	80	10	6 x 85	SW10	50
FUR 8 x 100 SS	70131	7	●	8	110	70	100	30	6 x 105	SW10	50
FUR 8 x 120 SS	70132	4	●	8	130	70	120	50	6 x 125	SW10	50
FUR 10 x 80 SS	88776	9	●	10	90	70	80	10	7 x 85	SW13	50
FUR 10 x 100 SS	88777	6	●	10	110	70	100	30	7 x 105	SW13	50
FUR 10 x 115 SS	88783	7	●	10	125	70	115	45	7 x 120	SW13	50
FUR 10 x 135 SS	88778	3	●	10	145	70	135	65	7 x 140	SW13	50
FUR 10 x 160 SS	88779	0	●	10	170	70	160	90	7 x 165	SW13	50
FUR 10 x 185 SS	88780	6	●	10	195	70	185	115	7 x 190	SW13	50
FUR 10 x 200 SS	88781	3	●	10	210	70	200	130	7 x 205	SW13	50
FUR 10 x 230 SS	88782	0	●	10	240	70	230	160	7 x 235	SW13	50
FUR 8 x 80 SS A4	70140	9	●	8	90	70	80	10	6 x 85	SW10	50
FUR 8 x 100 SS A4	70141	6	●	8	110	70	100	30	6 x 105	SW10	50
FUR 10 x 80 SS A4	88792	9	●	10	90	70	80	10	7 x 85	SW13	50
FUR 10 x 100 SS A4	88793	6	●	10	110	70	100	30	7 x 105	SW13	50
FUR 10 x 115 SS A4	88799	8	●	10	125	70	115	45	7 x 120	SW13	50
FUR 10 x 135 SS A4	88794	3	●	10	145	70	135	65	7 x 140	SW13	50
FUR 10 x 160 SS A4	88795	0	●	10	170	70	160	90	7 x 165	SW13	50
FUR 10 x 185 SS A4	88796	7	●	10	195	70	185	115	7 x 190	SW13	50
FUR 10 x 200 SS A4	88797	4	●	10	210	70	200	130	7 x 205	SW13	50
FUR 10 x 230 SS A4	88798	1	●	10	240	70	230	160	7 x 235	SW13	50



**FUR 14 FUS - fischer safety screw with hexagon-head**



**FUR-FUS A4 - with stainless steel A4 fischer safety screw**

Type	Art.-No.	ID	approvals	drill-Ø	min. drill-hole depth for through fixings	effect. anchorage depth	anchor length	max. usable length	fischer safety screw	width across nut	qty. per box
			● DIBt	$d_s$ [mm]	$t_f$ [mm]	$h_{ef}$ [mm]	$l$ [mm]	$t_{th}$ [mm]	$d_s \times l_s$ [mm]	SW	pcs.
FUR 10 x 80 FUS	3) 4) 93527	9	●	10	90	70	80	10	7 x 85	SW13	50
FUR 10 x 100 FUS	3) 4) 97797	2	●	10	80	70	100	30	7 x 105	SW13	50
FUR 14 x 80 FUS	1) 2) 48724	2	●	14	95	70	80	10	10 x 90	SW17	50
FUR 14 x 100 FUS	1) 2) 48725	9	●	14	115	70	100	30	10 x 110	SW17	50
FUR 14 x 140 FUS	1) 2) 48726	6	●	14	155	70	140	70	10 x 150	SW17	50
FUR 14 x 165 FUS	1) 2) 48727	3	●	14	180	70	165	95	10 x 175	SW17	50
FUR 14 x 180 FUS	1) 2) 48728	0	●	14	195	70	180	110	10 x 190	SW17	50
FUR 14 x 210 FUS	1) 2) 48842	3	●	14	225	70	210	140	10 x 220	SW17	50
FUR 14 x 240 FUS	1) 2) 48729	7	●	14	255	70	240	170	10 x 250	SW17	50
FUR 14 x 270 FUS	1) 2) 48730	3	●	14	285	70	270	200	10 x 280	SW17	50
FUR 14 x 300 US	1) 2) 90762	7	●	14	315	70	300	225	10 x 305	SW17	20
FUR 14 x 330 US	1) 2) 90763	4	●	14	345	70	330	255	10 x 335	SW17	20
FUR 14 x 360 US	1) 2) 90764	1	●	14	375	70	360	285	10 x 365	SW17	20
FUR 10 x 80 FUS A4	3) 4) 93528	6	●	10	90	70	80	10	7 x 85	SW13	50
FUR 14 x 80 FUS A4	1) 2) 48731	0	●	14	95	70	80	10	10 x 90	SW17	50
FUR 14 x 100 FUS A4	1) 2) 48732	7	●	14	115	70	100	30	10 x 110	SW17	50
FUR 14 x 140 FUS A4	1) 2) 48733	4	●	14	155	70	140	70	10 x 150	SW17	50
FUR 14 x 165 FUS A4	1) 2) 48734	1	●	14	180	70	165	95	10 x 175	SW17	50
FUR 14 x 180 FUS A4	1) 2) 48735	8	●	14	195	70	180	110	10 x 190	SW17	50
FUR 14 x 210 FUS A4	1) 2) 48843	0	●	14	225	70	210	140	10 x 220	SW17	50
FUR 14 x 240 FUS A4	1) 2) 48736	5	●	14	255	70	240	170	10 x 250	SW17	50
FUR 14 x 270 FUS A4	1) 2) 48737	2	●	14	285	70	270	200	10 x 280	SW17	50

1) Collar: Ø 26 x 3 mm.

2) Additional Bit T50 is integrated into the hexagon head.

3) Collar: Ø 18 x 2 mm.

4) Additional Bit T40 is integrated into the hexagon head.

## LOADS

### Recommended loads $N_{rec}^{1)}$ [kN] and mean ultimate loads $N_u$ [kN] with large axial spacing and edge distance

Fixing type		FUR 8		FUR 10		FUR 14	
		$N_{rec}^{1)}$	$N_u$	$N_{rec}^{1)}$	$N_u$	$N_{rec}^{1)}$	$N_u$
Substrate							
Concrete $\geq$ C12/15	[kN]	1.2	8.1	2.1	10.0	3.1	21.9
Solid brick $\geq$ Mz12 (DIN 105)	[kN]	0.7	5.0	1.4	10.0	1.8	12.5
Solid sand lime brick $\geq$ KS12 (DIN 106)	[kN]	1.1	7.8	1.6	12.8	2.8	19.7
Vertical perforated brick $\geq$ Hlz12 ( $\rho \geq 1.0$ kg/dm <sup>3</sup> , DIN 105)	[kN]	0.13	0.9	0.37	2.6	0.5	<sup>2)</sup>
Perforated sand lime brick $\geq$ KSL12 (DIN 106)	[kN]	0.63	4.4	0.48	3.3	0.6	<sup>2)</sup>
Hollow block $\geq$ Hbl2 (lightweight concrete, DIN 18151) <sup>3)</sup>	[kN]	0.17	1.2	0.46	3.2	0.31	2.2
Solid block $\geq$ V2 (lightweight concrete, DIN 18152)	[kN]	0.56	3.9	0.71	5.0	0.5	<sup>2)</sup>

1) Safety factor for the material ( $\gamma_m$ ) and for the load ( $\gamma_f$ ) included.


2) Due to large range of scatter of test results not suitable, the failure of the substrate varies so greatly that no reproducible values can be given.


3) The expanding part of the fixing must anchor in the wall of the brick.

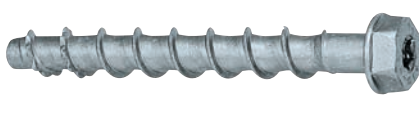
# Concrete screw FBS


The simple and time-saving threaded concrete screw for the cracked or tension zone.

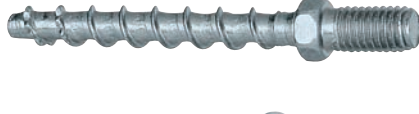
## OVERVIEW

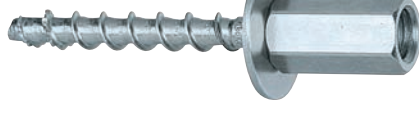
- 


Concrete screw  
**FBS-P**, panhead
- 

Concrete screw  
**FBS-SK**, countersunk head
- 

Concrete screw  
**FBS-US**, hexagon head with integrated washer
- 

Concrete screw  
**FBS-S**, hexagon head
- 

Concrete screw  
**FBS-M8**, outside diameter M8
- 

Concrete screw  
**FBS-M8/M10**, internal thread M8/M10
- 

**FBS M12**  
Concrete screw with thread and hexagon drive, stainless steel

### Approved for:

- Cracked and non-cracked concrete C20/25 to C50/60
- Lightweight ceilings and suspended ceilings according to DIN 18168
- Statically comparable fixings



### Also suitable for:

- Concrete C12/15
- Natural stone with dense structure
- Solid brick,
- Solid sand-lime brick



### For fixing of:

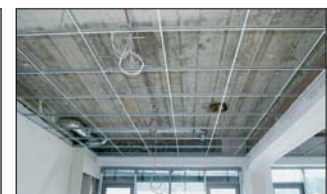
- Handrails
  - Consoles
  - Ladders
  - Cable trays
  - Machines
  - Gates
  - Facades
  - Window elements
  - Battens
- Metal profiles
  - Wire hangers
  - Chains
  - Cables
  - Punched tapes
  - Ventilation pipes
  - Substructures made of wood and metal
  - Ceilings

## DESCRIPTION

- Self-tapping concrete screw for push-through and prior insertion installation
- When the concrete screw is screwed into the hole, the thread taps into the concrete and creates a positive fit anchorage.
- A4 stainless steel version for outdoor use or in damp conditions.

### Advantages/benefits

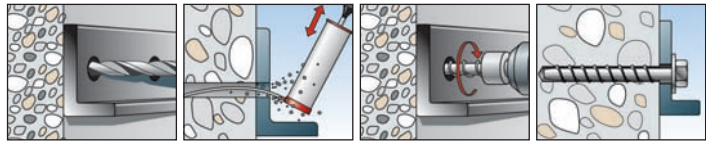
- Setting and installation in one working operation saves time.
- Completely removable anchor, therefore particularly suitable for temporary fixings (e.g. shuttering supports).
- Virtually expansion-free operation allows cost-efficient fixing with small axial spaces and edge distances.
- Serrations on the thread makes the screws easy to screw in.
- Re-usability of the screws reduces costs.
- Fixing with different head designs for different areas of



## INSTALLATION

### Type of installation

- Pre-positioned installation
- Push-through installation



### Installation tips

- We recommend use of an impact wrench with tangential impact (see the table for power output).

### Performance details of impact wrench

Concrete screw	recommended installation torque
FBS 5	100 [Nm]
FBS 6	200 [Nm]
FBS 8	300 [Nm]
FBS 10	300 [Nm]

Use nuts (black) which fit percussion power screwdrivers!

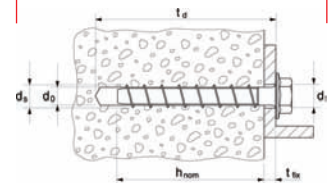
## TECHNICAL DATA



Concrete screw **FBS-P** panhead, zinc-plated steel



Concrete screw **FBS-SK** counter-sunk head, zinc-plated steel



Type	Art.-No.	ID	approval	drill-Ø	drill-hole diameter in object	screw diameter	drill hole depth	anchorage depth	max. usable length	actuation	qty. per box
			• DIBt	$d_s$ [mm]	$d_1$ [Ø mm]	$d_2$ [mm]	$h_b$ [mm]	$h_g$ [mm]	$t_s$ [mm]		pcs.
FBS 5/5 P	<b>66774</b>	3	•	5	7	6,5	65	55	5	T30	100
FBS 6/5 SK	<b>66935</b>	8	•	6	8	7,6	65	55	5	T30	100
FBS 6/5 P	<b>66939</b>	6	•	6	8	7,6	65	55	5	T30	100
FBS 6/25 P	<b>66948</b>	8	•	6	8	7,6	65	55	25	T30	100



Concrete screw **FBS-M8**, outside diameter M8, zinc-plated steel

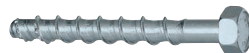


Concrete screw **FBS-M8/M10**, internal thread M8/M10, zinc-plated steel

Type	Art.-No.	ID	approval	drill-Ø	drill-hole diameter in object	screw diameter	min. drill-hole depth for through fixings	anchorage depth	thread	width across nut	qty. per box
			• DIBt	$d_s$ [mm]	$d_1$ [Ø mm]	$d_2$ [mm]	$t_f$ [mm]	$h_g$ [mm]	M	SW	pcs.
FBS 6 M8	<b>66949</b>	5	•	6	8	7,6	60	55	M 8	SW10	100
FBS 6 M8/M10I	<b>66950</b>	1	•	6	8	7,6	60	55	M 8	SW13	100



Concrete screw **FBS-US**, hexagon head with integrated washer



Concrete screw **FBS-S**, hexagon head

Type	Art.-No.	ID	approval	drill-Ø	drill-hole diameter in object	screw diameter	drill hole depth	anchorage depth	max. usable length	actuation	qty. per box
			• DIBt	$d_s$ [mm]	$d_1$ [Ø mm]	$d_2$ [mm]	$h_b$ [mm]	$h_g$ [mm]	$t_s$ [mm]		pcs.
FBS 8/5 US	<b>66956</b>	3	•	8	12	10,5	90	75	5	T40/SW13	100
FBS 8/25 US	<b>66957</b>	0	•	8	12	10,5	110	75	25	T40/SW13	100
FBS 8/15 S	<b>66958</b>	7	•	8	12	10,5	100	75	15	SW 16	100
FBS 10/5 S	<b>67062</b>	0	•	10	14	12,5	100	85	5	SW 18	50
FBS 10/15 S	<b>67063</b>	7	•	10	14	12,5	110	85	15	SW 18	50
FBS 10/25 S	<b>67168</b>	9	•	10	14	12,5	120	85	25	SW 18	50
FBS 10/10 S A4	<b>67169</b>	6	•	10	14	12,5	105	85	10	SW 17	50
FBS 10/20 S A4	<b>98336</b>	2	•	10	14	12,5	115	85	20	SW 17	50

# Concrete screw FBS

## TECHNICAL DATA



**FBS M12** Concrete screw with thread and hexagon drive, zinc-plated steel



**FBS M12 A4** Concrete screw with thread and hexagon drive, stainless steel

Type	Art.-No.	ID	approval	drill-Ø	drill-hole diameter in object	screw diameter	drill hole depth	anchorage depth	max. usable length	thread	width across nut	qty. per box
			● DIBt	$d_o$ [mm]	$d_i$ [Ø mm]	$d_s$ [mm]	$h_o$ [mm]	$h_{ef}$ [mm]	$t_{fix}$ [mm]	M	SW	pcs.
FBS 10 M12/30	1) <b>98339</b>	3	●	10	14	12,5	125	85	30	M 12	9	50
FBS 10 M12/53	1) <b>98340</b>	9	●	10	14	12,5	148	85	53	M 12	9	50
FBS 10 M12/40 A4	1) <b>98337</b>	9	●	10	14	12,5	135	85	40	M 12	9	50
FBS 10 M12/60 A4	1) <b>98338</b>	9	●	10	14	12,5	155	85	60	M 12	9	50

1) Including nuts and washer, not pre-assembled.

## LOADS

### Design resistant and recommended loads for single anchors of fischer Concrete screw FBS with large axial spacing and edge distance

Anchor size			Non-cracked concrete		Cracked concrete				
			FBS 8	FBS 10	FBS 5*	FBS 6*	FBS 8*	FBS 10	
Effective anchorage depth	$h_{ef}$ [mm]		<b>50</b>	<b>60</b>	<b>55</b>	<b>55</b>	<b>50</b>	<b>60</b>	
Drill hole depth	$h_f \geq$ [mm]		85	95	60	60	85	95	
Screw in depth	$h_{nom} \geq$ [mm]		75	85	55	55	75	85	
Drill hole diameter	$d_o$ [mm]		8	10	5	6	8	10	
<b>Design resistant loads <math>N_{Rd}</math> and <math>V_{Rd}</math> [kN]</b>									
Tensile	0°	$N_{Rd}$ [kN]	gvz	7.2	9.0	0.4	1.1	3.4	5.4
			A4	-	9.0	-	-	-	5.4
Shear	90°	$V_{Rd}$ [kN]	gvz	10.3	16.9	-	-	10.4	16.9
			A4	-	19.0	-	-	-	17.6
<b>Recommended loads <math>N_{rec}</math> and <math>V_{rec}</math> [kN]</b>									
Tensile	0°	$N_{rec}$ [kN]	gvz	5.1	6.4	0.3	0.8	2.4	3.9
			A4	-	6.4	-	-	-	3.9
Shear	90°	$V_{rec}$ [kN]	gvz	7.4	12.1	-	-	7.4	12.1
			A4	-	13.6	-	-	-	12.6
<b>Recommended bending moment <math>M_{rec}</math> [Nm]</b>									
		$M_{rec}$ [Nm]	gvz	19.0	40.0	-	8.0	19.0	40.0
			A4	-	36.8	-	-	-	36.8
<b>Component dimensions, minimum axial spacings and edge distances</b>									
Min. axial spacing <sup>1)</sup>	$s_{min}$ [mm]		50	60	50	50	50	60	
Min. edge distance <sup>1)</sup>	$c_{min}$ [mm]		70	65	100	100	70	65	
Min. structural component thickness	$h_{min}$ [mm]		120	130	110	110	120	130	

\* For the fixing of lightweight suspended ceiling constructions only.

<sup>1)</sup> For min. axial spacing and min. edge distance the above described loads have to be reduced!  
(See design software "CC-Compufix")

All load values apply for concrete C20/25 without edge or spacing influence.

Design resistant loads: material safety factor  $\gamma_M$  is included. Material safety factor  $\gamma_M$  depends on type of anchor.

Recommended loads: material safety factor  $\gamma_M$  and safety factor for load  $\gamma_L = 1.4$  are included.

The conditions of application differ from those given in the German Approval.

For further detailed information about approvals please contact your local fischer representative.

# Injection mortar FIS V

The high-performance hybrid mortar in the shuttle cartridge.

## OVERVIEW



Injection mortar  
**FIS V 360 S**,  
styrene free



Static mixer **FIS S**



Injection mortar  
**FIS VS 150 C**,  
styrene free

Can be extruded using a standard silicone gun

### Approvals:

- European Technical Approval Option 7 in conjunction with Threaded rods FIS A resp. RG M for non-cracked concrete.
- German approval (DIBt) in conjunction with injection anchor sleeve FIS H M and injection anchor parts FIS G and FIS E for solid and hollow bricks (solid brick also without anchor sleeve).
- German approval (DIBt) for aerated cement in conjunction with cone drill PBB, centering sleeve PBZ and Threaded rod FIS G.
- German approval (DIBt) for reinforcement bars.
- German approval (DIBt) for Remedial wall tie VBS 8.
- German approval (DIBt) for Weather facing renovation system FWS.
- ICC-Approval for threaded rods and rebars



### For fixing of:

- Steel constructions
- Railings
- Hand-rails
- Consoles
- Ladders
- Machines
- Cable trays
- Staircases
- Gates
- Facades
- Window elements
- High racks
- Canopies
- Stand-off installations

## DESCRIPTION

- Styrene-free, quick-curing high-performance hybrid mortar (contains vinyl ester resin and cement).
- Resin and cement as well as water and hardener are stored in two separate chambers and are not mixed and activated until pushed through the static mixer.
- Partially-used cartridges can easily be reused by changing the static mixer.

### Advantages/Benefits

- High-performance hybrid mortar for highest loads in almost all building materials.
- Universal fixing system for a broad range of applications on building sites.
- Expansion-free anchoring allows low axial spacings and edge distances.
- Extensive range of accessories for a wide variety of applications.
- Ergonomic injection guns for quick and easy installation.
- A variety of approvals cover many applications in nearly all building material and guarantee maximum safety.
- First injection system world-wide with approvals for concrete, reinforcement bars, solid bricks, perforated bricks and aircrete.

### Accessories / Recommended loads

- For fixing in concrete
- For fixing in masonry
- For fixing in aerated concrete
- For reinforcement bars
- Appropriate injection guns

## TECHNICAL DATA



Injection mortar FIS V 360 S,  
styrene free

Type	Art.-No.	ID	approvals	contents	languages on the label	shelf life	qty. per box
			● DIBt ■ ETA			months	pcs.
FIS V 360 S	94405	9	● ■	1 cartridge 360 ml + 2 static mixers	-	18	6
FIS VS 150C	45303	2		1 cartridge 154ml + 2 static mixers	-	18	6
FIS S	61223	1		10 static mixer FIS V 360 S	-	-	10

## CURING TIME

### Gelling and curing time of fischer FIS V

Cartridge temperature (mortar)	Gelling time	Temperature at anchoring base	Curing time
		- 5°C – ± 0°C	24 hrs.
		± 0°C – + 5°C	3 hrs.
+ 5°C – + 10°C	13 min.	+ 5°C – + 10°C	90 min.
+ 10°C – + 20°C	5 min.	+ 10°C – + 20°C	60 min.
+ 20°C – + 30°C	4 min.	+ 20°C – + 30°C	45 min.
+ 30°C – + 40°C	2 min.	+ 30°C – + 40°C	35 min.

The above times apply from the moment of contact between resin and hardener in the static mixer.

For installation, the cartridge temperature must be at least +5°C. For longer installation times, i.e. when interruptions occur in work, the mixer should be replaced.

## Resin Accessories

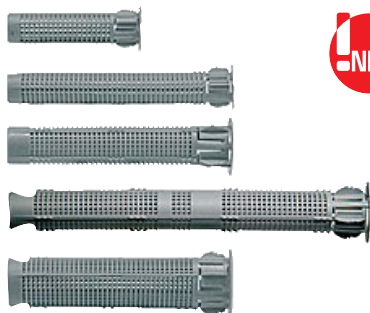
### OVERVIEW



Internally threaded sockets **FIS E**



Internally threaded sockets **FIS M I**



Injection anchor sleeve, plastic **FIS H K**



Injection anchor sleeve with net **FIS H N**



Injection anchor sleeve, 1 m length **FIS H L**

#### Approval:

- German approval (DIBt) in conjunction with Injection mortar FIS V, and FIS G FIS E for solid and hollow material



#### With anchor sleeve suitable for:

- Vertically perforated bricks
- Perforated sand-lime brick
- Hollow blocks
- Solid brick
- Solid sand-lime brick
- Hollow pumice plank
- Slabs made of perforated bricks and other perforated blocks

#### Without anchor sleeve suitable for:

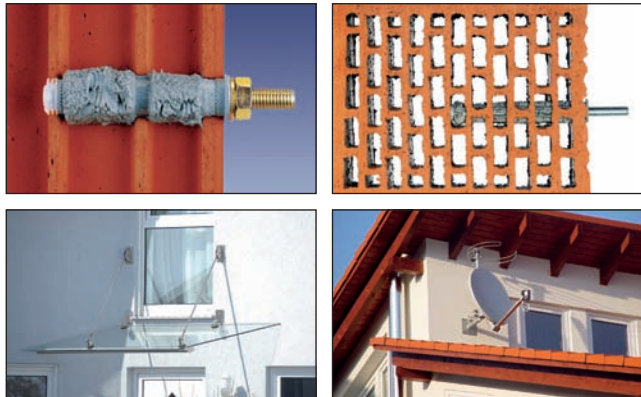
- Lightweight concrete
- Solid brick
- Solid sand-lime bricks
- Full pumice stone and other solid building materials
- Aerated concrete

#### For fixing of:

- Machines
- Gratings
- Gates
- Hand-rails
- Consoles
- Pipelines
- Sanitary equipment
- Cable trays
- Facades
- Awnings
- Canopies
- Wooden constructions

## DESCRIPTION

- Injection anchor sleeves, threaded rods and internally-threaded sockets, specially for use with Injection mortars FIS V, FIS VS, FIS VT or FIS P in masonry materials.
- The anchor sleeve saves mortar in hollow materials and centres the anchor in the drill hole.
- In solid building materials the anchor sleeves are not required.
- In solid building materials, the injection mortar bonds the entire surface of the anchor rod / internally-threaded sockets to the wall of the drilled hole.
- With hollow materials the mortar adapts to the anchoring substrate and bears the load primarily through a mechanical interlock.
- Threaded rod FIS G made of A4 stainless steel for outdoor use and in damp conditions.



## Advantages/Benefits

- High-performance mortars allow high loads in all building materials.
- Approval covers common masonry materials for maximum safety.

- Expansion-free fixing allows small axial spacings and edge distances.
- Extensive range for various cost-efficient applications.
- The mortar largely seals the drill-hole.

## INSTALLATION

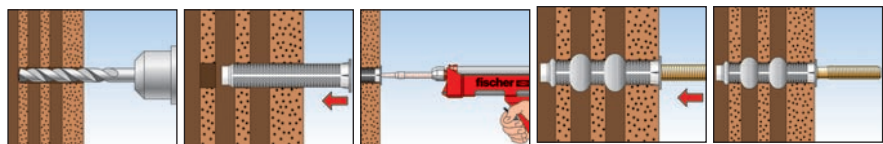
### Type of Installation

- Pre-positioned installation

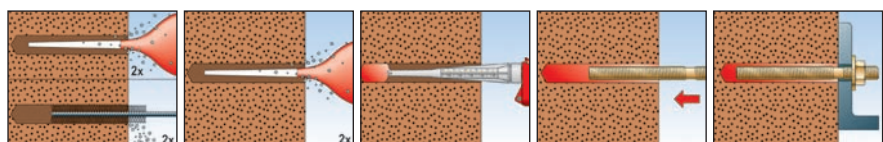
### Installation information

- In solid building materials the drill hole must be cleaned thoroughly (blow out 2 x, brush out 2x, blow out 2 x).

#### in perforated brick with anchor sleeve



#### in solid materials without anchor sleeve



## TECHNICAL DATA



Injection anchor sleeve, metal  
FIS H M

Type	Art.-No.	ID	approval	drill-Ø	min. drill hole depth	Min. anchorage depth anchor	Min. anchorage depth sleeve	No. of scale divisions on cartridge	fits	qty. per box
			● DIBt	$d_v$	$t$	$h_v$	$h_v$			pcs.
				[mm]	[mm]	[mm]	[mm]			
FIS H 16 x 75 M	58068	4	●	16	90	82	75	10	M8 - M10	10
FIS H 16 x 100 M	48270	4	●	16	105	102	95	15	M8 - M10	10
FIS H 20 x 75 M	15371	0	●	20	90	82	75	15	M12 - M14	20
FIS H 20 x 100 M	49001	3	●	20	105	102	95	19	M12 - M14	10
FIS H 20 x 200 M	48271	1		20	210	200	200	40	M12 - M14	10

**TECHNICAL DATA**

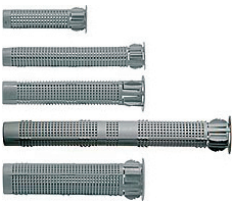
 Injection anchor sleeve  
 with net FIS H N

Type	Art.-No.	ID	drill-Ø	min. drill hole depth	Min. anchorage depth anchor	Min. anchorage depth sleeve	No. of scale divisions on cartridge	fits	qty. per box
			$d_s$ [mm]	$t$ [mm]	$h_a$ [mm]	$h_v$ [mm]			pcs.
FIS H 16 x 85 N	<b>50470</b>	3	16	95	90	85	15	Ø8/M8	20
FIS H 18 x 85 N	<b>50472</b>	7	18	95	90	85	17	Ø10/M10/FIS 18/M8 I	20
FIS H 20 x 85 N	<b>50474</b>	1	20	95	90	85	19	Ø12/M12/FIS 20/M10 I	20


 Injection anchor sleeve, plastic  
 FIS H K

Type	Art.-No.	ID	drill-Ø	min. drill hole depth	Min. anchorage depth anchor	Min. anchorage depth sleeve	No. of scale divisions on cartridge	fits	qty. per box
			$d_s$ [mm]	$t$ [mm]	$h_a$ [mm]	$h_v$ [mm]			pcs.
FIS H 12 x 60 K	<b>50432</b>	1	12	70	60	60	6	Ø4/M4 - Ø8/M8	20
FIS H 12 x 80 K	1) <b>58045</b>	5	12	90	80	80	9	Ø4/M4 - Ø8/M8	20
FIS H 14 x 70 K	<b>50436</b>	9	14	80	70	70	7	Ø6/M6 - Ø10/M10	10
FIS H 14 x 90 K	1) <b>58046</b>	2	14	100	90	90	10	Ø6/M6 - Ø10/M10	10
FIS H 16 x 80 K	<b>50433</b>	8	16	90	80	80	11	Ø8/M8 - Ø12/M12	10
FIS H 16 x 100 K	1) <b>58047</b>	9	16	110	100	100	12	Ø8/M8 - Ø12/M12	10

1) Anchor sleeve with up to 20mm plaster bridging.

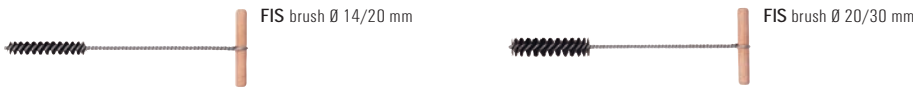

 Injection anchor sleeve, plastic  
 FIS H K

Type	Art.-No.	ID	drill-Ø	min. drill hole depth	Min. anchorage depth anchor	Min. anchorage depth sleeve	No. of scale divisions on cartridge	fits	qty. per box
			$d_s$ [mm]	$t$ [mm]	$h_a$ [mm]	$h_v$ [mm]			pcs.
FIS H 12 x 50 K	<b>41900</b>	7	12	60	-	-	5	-	50
FIS H 12 x 85 K	<b>41901</b>	4	12	95	-	-	10	-	50
FIS H 16 x 85 M	<b>41902</b>	1	16	95	-	-	12	-	50
FIS H 16 x 130 M	<b>41903</b>	8	16	140	-	-	15	-	50
FIS H 20 x 85 M	<b>41904</b>	5	20	95	-	-	15	-	50


 Injection anchor sleeve, 1 m length  
 FIS HL

Type	Art.-No.	ID	drill-Ø	total length	fits	qty. per box
			$d_s$ [mm]	$l$ [mm]		pcs.
FIS H 12 x 1000 L	<b>50598</b>	4	12	1000	Ø6 / M 6 - Ø8 / M 8	10
FIS H 16 x 1000 L	<b>50599</b>	1	16	1000	Ø10/M10	10
FIS H 22 x 1000 L	<b>45301</b>	8	22	1000	Ø12/M12 - Ø16/M16	6

## TECHNICAL DATA



Type	Art.No.	ID	qty. per box
FIS-brush Ø14/20 mm	<b>48980</b>	2	2
FIS-brush Ø20/30 mm	<b>48981</b>	9	2

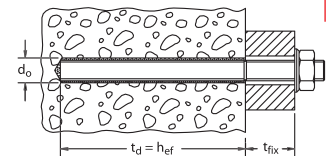


Type	Art.No.	ID	approval	effect. anchorage depth	min. bolt penetration	max. bolt penetration	internal thread	fits	qty. per box
FIS 18/M8 I	<b>50480</b>	2	•	85	8	23	M 8	FIS H 18 x 85 N	20
FIS 20/M10 I	<b>50481</b>	9	•	85	10	28	M 10	FIS H 20 x 85 N	20
FIS E 11 x 75 M8	<b>58069</b>	1	•	75	8	60	M 8	FIS H 20 x 75 M	20
FIS E 15 x 75 M10	<b>16248</b>	4	•	75	10	60	M 10	FIS H 20 x 75 M	20
FIS E 15 x 75 M12	<b>16249</b>	1	•	75	12	60	M 12	FIS H 20 x 75 M	20

## CORRECT USE WITHOUT ANCHOR SLEEVE

**Suitable for:**  
Lightweight concrete, solid brick, solid sand-lime brick, solid pumice and other solid materials

**Approved for:**  
Solid bricks  $\geq$  Mz 12, solid sand-lime bricks  $\geq$  KS 12.



Type	Injection threaded rod FIS G M...									Internally threaded sockets FIS E...			Screw-inserts FIS E...K				
	8 x 100	8 x 125	8 x 125	10 x 95	10 x 110	10 x 145	12 x 105	12 x 130	12 x 150	11 x 75 M8	15 x 75 M10	15 x 75 M12	5 x 45	12 x 100	6 x 75 <sup>1)</sup>	8 x 85 <sup>1)</sup>	10 x 95 <sup>1)</sup>
Approval	•	•		•	•		•	•		•	•	•					
Usable length $t_{fix}$ [mm]	15	40	20	10	25	40	15	40	40	–	–	–	–	–	–	–	–
Drill diameter $d_0$ [mm]	10	10	10	12	12	12	14	14	14	14	18	18	10	18	10	14	14
Drill depth $t_d$ [mm]	80	80	80	90	90	90	110	110	110	90	90	90	45	100	60	70	80
Suitable brush- $\phi$ [mm]	14	14	14	14	14	14	20	20	20	20	20	20	14	20	14	20	20
Anchoring depth $h_{ef}$ [mm]	75	75	95	75	75	95	75	75	95	75	75	75	45	100	60	70	80
No. of scale units	3	3	4	4	4	5	5	5	7	4	4	4	2	7	3	4	5

1) With detachable plaster bridging.

• Included in German approval.