

General fixings

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fischer, the original innovator of the nylon sector, today offers a wide range of nylon fixings for lighter weight applications, such as frame and façade fixing into many different substrate types.

The nylon range comes with good design built-in, allowing these products to punch well above their weight. The SX and UX plugs, descendants of the original S-Plug, belong in every toolbox and are in a class of their own for versatility and ease of use.

Meanwhile the long shaft SXS heads up the frame fixing range, popular with builders and joiners everywhere.



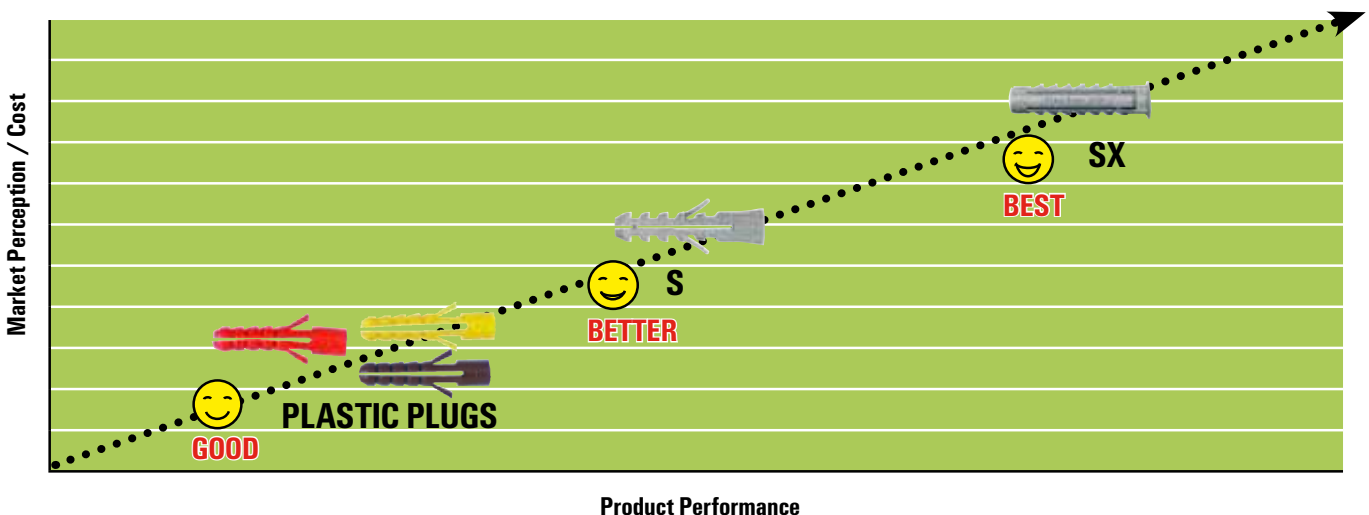
The universal nylon **UX** plug provides the perfect grip in all types of walls. It works by expanding/form locking in solid walls and makes a reliable 'knot formation' in all cavities. Unique for all building materials.



The 4-way expansion nylon **SX** plug guarantees a high level grip in walls. It can be safely used with a range of different screw types and diameters.



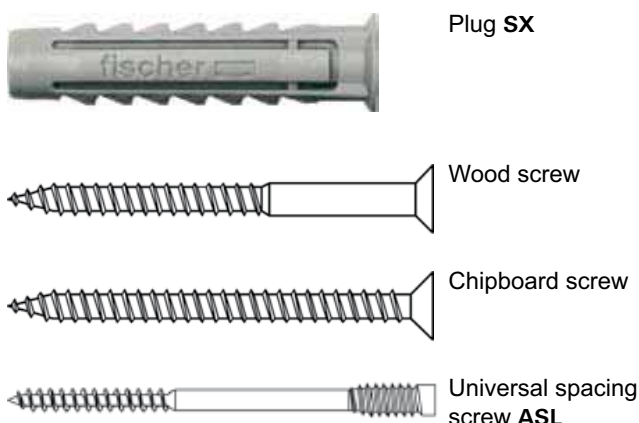
This is the classic nylon **S** plug which is often copied but never equalled! The anti-rotation lugs stop it rotating in the drill hole and it can be used with wood and chipboard screws from 2 - 16 mm.



Plug SX

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

OVERVIEW



Suitable for:

- Concrete
- Prestressed hollow-core concrete slabs
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Aerated concrete
- Solid panel made from gypsum
- Vertically perforated brick
- Perforated sand-lime block
- Hollow block made from lightweight concrete
- Slabs made of perforated bricks
- Hollow concrete blocks etc.

For fixing of:

- Pictures
- Motion detectors
- Lamps
- Skirting
- Electric switches
- Small wall-mounted shelves
- Towel rails
- Lightweight mirror cabinets
- Letter boxes
- Hanging baskets
- Curtain rails



DESCRIPTION

- Nylon expansion fixing
- For use with wood, chipboard and self-tapping screws and ASL spacing screws (see chapter spacing screws).
- SX long versions for maximum load-bearing capacity in perforated building materials, aerated concrete and to bridge plaster.

Advantages/Benefits

- 4-way expansion form lock guarantees highest grip.
- Anti-rotation lugs prevent the plug rotating in the drill hole.
- The wide neck is subject to no expansion pressure and prevents surface damage to tiles and plaster.
- Simple and quick push-through installation reduces installation time.
- Integrated hammer-in-stop enables push-through fixing. If pre-assembled with screw
- The plug's collar prevents it slipping deeper into the drilled hole.
- Temperature-resistant from -40° to +80°C.
- The plug's geometry allows the use of wood and chipboard screws between 2 and 12 mm.

SX - ADVANTAGES AT A GLANCE

Screw tolerance

The SX can be safely used with a wide range of screw types and screw diameter. It is also especially suitable for chipboard screws.

Turning stop

The robust turning stop holds the SX plug firmly in place in the drill hole.

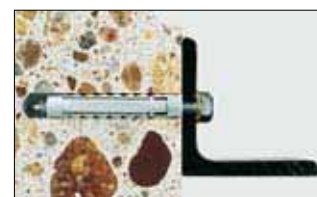


4-way expansion

The new 4-way expansion guarantees top retaining values.

Slip-through stop

The wide plug rim prevents the SX plug slipping into the drill hole.



INSTALLATION

Type of installation

- Pre-positioned and push-through installation.

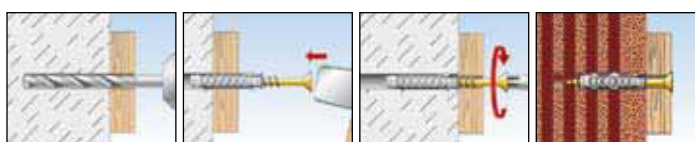
Installation information

- The required screw length is given by the anchorage depth + the thickness of the fixture.
- Push-through installation requires the largest possible screw diameter.
- Drill only in a rotary motion (hammer switched off) in perforated and hollow bricks and aerated concrete.

Pre-positioned installation



Push-through installation



FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303

TECHNICAL DATA



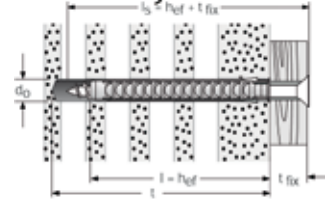
Plug **SX**



Plug **SX** - long version

Type	Art.No.	ID	drill		plug length = min. anchoring depth		chipboard screw	qty. per box
			d_0 [mm]	t [mm]	$l = h_{ef}$ [mm]	$d_s \times l_s$ [Ø mm]		
SX 4 x 20	70004	4	4	25	20	2 - 3	200	
SX 5 x 25	70005	1	5	35	25	3 - 4	100	
SX 6 x 30	70006	8	6	40	30	4 - 5	100	
SX 6 x 50 *	24827	0	6	60	50	4 - 5	100	
SX 6 x 50 R	78185	2	6	60	50	4 - 5	100	
SX 8 x 40	70008	2	8	50	40	4,5 - 6	100	
SX 8 x 65	24828	7	8	75	65	4,5 - 6	50	
SX 10 x 50	70010	5	10	70	50	6 - 8	50	
SX 10 x 80	24829	4	10	95	80	6 - 8	25	
SX 12 x 60	70012	9	12	80	60	8 - 10	25	
SX 14 x 70	70014	3	14	90	70	10 - 12	20	
SX 16 x 80	70016	7	16	100	80	12 (1/2")	10	

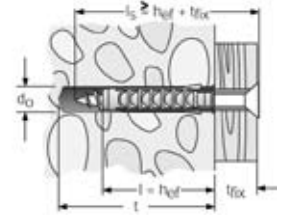
* without collar



Plug **SX** with chipboard screw

Type	Art.No.	ID	drill		plug length = min. anchoring depth		max. usable length	chipboard screw	qty. per box
			d_0 [mm]	t [mm]	$l = h_{ef}$ [mm]	t_{fix} [mm]			
SX 6 x 30 S/10	1) 70021	1	6	40	30	10	4,5 x 40	50	
SX 8 x 40 S/20	1) 70022	8	8	50	40	20	5 x 60	50	

1) Fixing set consisting of fixing and chipboard screw.



LOADS

Recommended 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 used with chipboard screws these values should be reduced by 30%.

Fixing type	SX 5 x 25		SX 6 x 30		SX 6 x 50 SX 6 x 50 R		SX 8 x 40		SX 8 x 65		SX 10 x 50		SX 10 x 80		SX 12 x 60		SX 14 x 70		SX 16 x 80	
	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u
Wood screw diameter [mm]	4		5		5		6		6		8		8		10		12		12	
Substrate	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u
Concrete \geq C12/C15	0.3	2.0	0.7	4.9	0.8	5.8	0.7	8.5	0.7	5.0	1.2	8.5	1.2	8.5	1.7	12.0	2.0	14.1	2.6	18.0
Solid brick \geq Mz12 (DIN 105)	0.3	1.6	0.3	2.2	0.6	4.4	0.65	4.5	0.6	4.1	0.65	4.5	1.2	8.5	0.7	5.0	0.8	5.6	0.9	6.9
Solid sand-lime brick \geq KS12 (DIN 106)	0.3	2.0	0.5	3.5	0.8	5.4	1.2	8.5	0.6	4.2	1.2	8.5	1.2	8.5	1.7	12.0	2.0	14.1	2.6	18.0
Vertical perforated brick \geq Hlz12 ($\rho \geq 1.0$ kg/dm ³ , DIN 105)	0.07	0.5	0.07	0.5	- ¹⁾	- ¹⁾	0.17	1.2	0.17	1.2	0.17	1.2	0.5	3.5	0.26	1.8	0.4	3.1	0.6	4.1
Perforated sand-lime brick \geq KSL12 (DIN 106)	0.17	1.2	0.3	2.1	0.3	2.7	0.3	2.0	0.35	2.3	0.3	2.0	0.8	5.5	0.3	2.0	0.3	2.2	0.4	2.8
Aerated concrete \geq PB2	0.03	0.2	0.03	0.2	- ¹⁾	- ¹⁾	0.09	0.6	0.04	0.3	0.09	0.6	0.2	1.4	0.14	1.0	0.3	2.2	0.4	2.8
Aerated concrete \geq PB4	0.09	0.6	0.09	0.6	0.15	1.0	0.3	2.0	0.14	1.0	0.3	2.0	0.6	4.2	0.45	3.1	0.5	3.4	0.6	4.0

¹⁾ Due to large range of scatter of the test results not suitable, the failure of the substrate varies so greatly that no reproducible values can be given.

Distance from component edges
(edge and corner distance a_p) in concrete

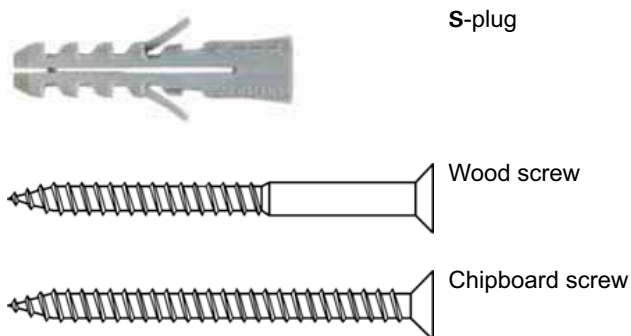
Fixing	Screw diameter [mm]	Edge/corner distance [mm]
SX 6 x 30	5	35
SX 8 x 40	6	40
SX 10 x 50	8	50
SX 12 x 60	10	65



S-Plug

The classics. Often copied - never equalled !

OVERVIEW



Suitable for:

- Concrete
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Hollow concrete blocks etc.



For fixing of:

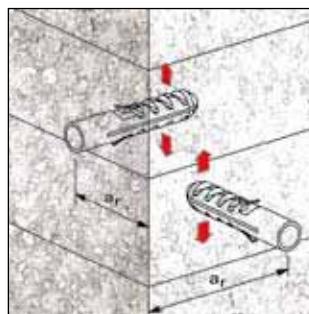
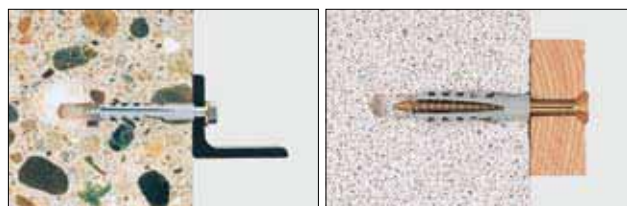
- Pictures
- Motion detectors
- Lamps
- Skirting
- Electric switches
- Small wall-mounted shelves
- Towel rails
- Lightweight mirror cabinets
- Letter boxes
- Hanging baskets
- Curtain rails

DESCRIPTION

- Nylon expansion fixing.
- For use with wood-, chipboard-, and self-tapping screws (see chapter safety-screws)

Advantages/Benefits

- Anti-rotation lugs stop the plug rotating in the drill hole.
- The wide neck is subject to no expansion pressure and prevents surface damage to tiles and plaster.
- Temperature-resistant from -40° to $+80^{\circ}$ C.
- Can be used with wood and chipboard screws from 2 to 16 mm.



- The edge distance a_r must be at least one fixing length. For installations close to the edge we recommend turning the fixing in a way that the direction of expansion acts parallel to the edge.

INSTALLATION

Type of installation

- Pre-positioned and push-through installation.



Installation information

- Determination of the minimum screw length:
Fixing length
+ Thickness of plaster and/or insulation
+ Fixture thickness
+ 1x screw diameter
- Drill with rotary only (hammer switched off) in perforated and hollow bricks and aerated concrete.

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303

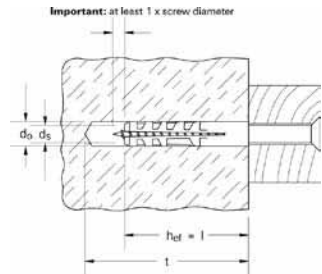
TECHNICAL DATA



S-plug

Type	Art.-No.	ID	drill-Ø		min. drill hole depth		plug length = min. anchorage depth		wood or chipboard screw min / max		qty. per box pcs.
			d_0 [mm]	t [mm]	$l = h_{ef}$ [mm]	d_s [Ø mm]					
S 4	50104	7	4	25	20	2 - 3	200				
S 5	50105	4	5	35	25	3 - 4	100				
S 6	50106	1	6	40	30	4 - 5	100				
S 8	50108	5	8	55	40	4,5 - 6	100				
S 10	50110	8	10	70	50	6 - 8	50				
S 12	50112	2	12	80	60	8 - 10	25				
S 14	50114	6	14	90	75	10 - 12	20				
S 16	50116	0	16	100	80	12 (1/2")	10				
S 20	50120	7	20	120	90	16	5				
S 5 DP	50124	5	5	35	25	3 - 4	200				
S 6 DP	50125	2	6	40	30	4 - 5	200				
S 8 DP	50126	9	8	55	40	4,5 - 6	200				
S 10 DP	50127	6	10	70	50	6 - 8	100				

DP = Double pack



LOADS

Recommended loads N_{rec} [kN] and characteristic (5% fractile) loads N_{Rk} [kN]. These values apply to the use of wood screws with the given screw diameter. When used with 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	
	Wood screw diameter [mm]		3		4		5		6		8		10		12		16	
Substrate	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}	$N_{rec}^{(1)}$	N_{Rk}
Concrete \geq C12/15	0.16	0.8	0.28	1.4	0.4	2.0	0.66	3.3	1.22	6.1	1.80	9.0	2.38	11.9	2.26	11.3	3.88	19.4
Solid brick \geq Mz 12 (DIN 105)	0.14	0.7	0.24	1.2	0.38	1.9	0.66	3.3	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾
Sand-lime solid brick \geq KS 12 (DIN 106)	0.14	0.7	0.24	1.2	0.38	1.9	0.66	3.3	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾	²⁾
Aerated concrete \geq PB2	-	-	-	-	0.05	0.25	0.07	0.35	0.16	0.8	0.28	1.4	0.4	2.0	²⁾	²⁾	²⁾	²⁾

¹⁾ Safety factors for the material (γ_M) and for the load (γ_L) 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.

BOXES



Stacking box ST



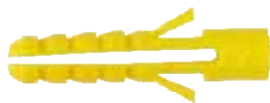
fischerbox

Type	Art.-No.	PZ	Contents	pty. per box
ST 1 S 8 S	60510	3	34 fixings S 8, 34 countersunk wood screws SH 4,5 x 45	1
ST 1 S 6 S	60509	7	50 fixings S 6, 50 countersunk wood screws SH 5 x 60	1
ST 1 S 6/8	60499	1	50 fixings S 6, 30 fixings S 8	1
UX / SX-S	93181	3	50 fixings UX 6 x 35, 50 screws 4,5 x 50 50 fixings SX 6 x 30, 50 screws 4,5 x 45 25 fixings UX 8 x 50, 25 screws 5 x 65 25 fixings SX 8 x 40, 25 screws 5 x 50	1
UX 6/8/10	93182	0	100 fixings UX 6 x 35, 70 fixings UX 8 x 50, 20 fixings UX 10 x 60	1
Box SX 5.6.8	30191	3	100 fixings SX 5 x 25, 100 fixings SX 6 x 30, 100 fixings SX 8 x 40	1
Box S 6.8.10	60515	8	100 fixings S 6, 100 fixings S 8, 25 fixings S 10	1
Box S 5, 6, 8	60513	4	100 fixings S 5, 100 fixings S 6, 100 fixings S 8	1
Box empty	60500	4	-	1

fischer Plastic-Plugs

The popular plastic plugs.

OVERVIEW



Plastic wallplug
Yellow



Plastic wallplug
Red



Plastic wallplug
Brown

Suitable for:

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

For fixing of:

- All objects which can be fastened with wood screws.

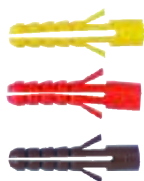
DESCRIPTION

- The fischer Plastic plug incorporates many of the design features of the S plug, which enables the user to have confidence in the ability of this plug to fix first time.
- Suitable for wood screws.
- Locking lugs prevent rotating in the drill hole when installing.
- Expansion pressure at the bottom of the drill hole, not at the neck of the fixing (no split of render or tiles).
- Direction of expansion can be selected (important for fixing close to the edge).
- A low cost fixing designed for ease of use.

INSTALLATION



TECHNICAL DATA



Plastic wallplug

Type	Art.-No.	ID	drill \emptyset	min. drill hole depth	fixing length = min. anchorage depth	wood or chipboard screws from/to	qty. per box
			d_0	t	$h_v = l$	d_s	pcs.
			mm	mm	mm	\emptyset mm	
WY100C Yellow	42527		5	35	25	3 - 4	100
WR40C Red	42534		6	45	30	4 - 5	40
WB40C Brown	94791		7	55	40	4.5 - 6	40
WR100C Red	42528		6	45	30	4 - 5	100
WB100C Brown	94787		7	55	40	4.5 - 6	100
WR300 Red	42531		6	45	30	4 - 5	300
WB300 Brown	94788		7	55	40	4.5 - 6	300
WM200 Mixed	42526		5,6,7	35,45,55	various	4 - 6	200

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303

Universal plug UX

The universal fixing for a perfect grip in all walls.

OVERVIEW



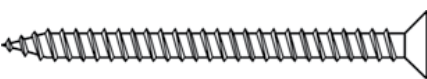
Universal plug UX



Universal plug UX-R with collar



Wood screw



Chipboard screw

Suitable for:

- Concrete
- Prestressed hollow-core concrete slabs
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Aerated concrete
- Solid panel made from gypsum
- Vertically perforated brick
- Perforated sand-lime brick
- Hollow block made from lightweight concrete
- Slabs made of perforated bricks
- Hollow concrete blocks etc.

- Gypsum plasterboard and gypsum fibreboards
- Chip boards

For fixing of:

- Pictures
- Motion detectors
- Lamps
- Skirting
- Electric switches
- Small wall-mounted shelves
- Towel rails
- Lightweight mirror cabinets
- Letter boxes
- Hanging baskets
- Curtain rails

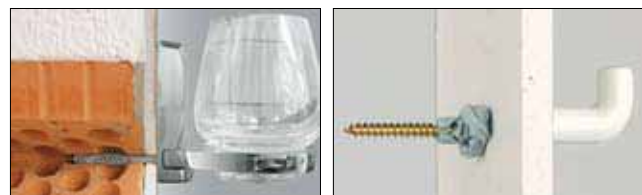


DESCRIPTION

- 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

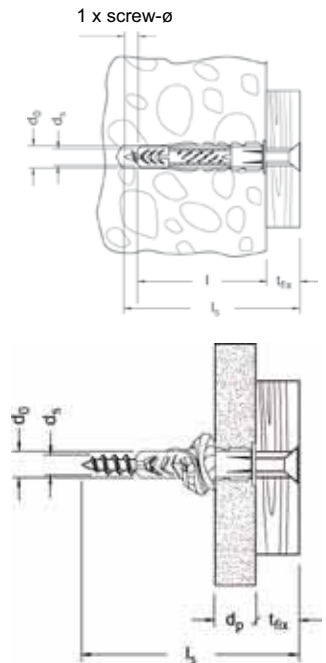


FIXING PRINCIPLES

TECHNICAL DATA



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 _a [mm]	chipboard screw d _s x 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



General fixings

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]	dimension of hook screw d _s x l _s [Ø mm]	qty. per box pcs.
UX 6 x 35 RH	94407	3	6	45	9,5	35	3,5 x 68	25
UX 6 x 35 WH	94408	0	6	45	9,5	35	3,5 x 52	25
UX 8 x 50 RH	94409	7	8	60	9,5	50	4,4 x 83	25
UX 8 x 50 WH	94410	3	8	60	9,5	50	4,4 x 68	25

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]	dimension of hook screw d _s x l _s [Ø mm]	qty. per box pcs.
UX 8 x 50 RH W	94412	7	8	60	9,5	50	4,4 x 83	25
UX 8 x 50 WH W	94413	4	8	60	9,5	50	4,4 x 68	25
UX 8 x 50 OE W	94414	1	8	60	9,5	50	4,4 x 83	25

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 used with 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
Wood screw diameter [mm]	5		6		5		8		10		12	
Substrate	N _{rec}	N _u	N _{rec}	N _u	N _{rec}	N _u	N _{rec}	N _u	N _{rec}	N _u	N _{rec}	N _u
Concrete ≥ 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 ≥ 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 ≥ Hlz12 (ρ ≥ 1.0 kg/dm³, 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 ≥ 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 ≥ 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 ≥ 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	-	-	-	-



SX/UX Box

An assortment of fischer SX/UX Plugs

OVERVIEW



SX/UX Box

Suitable for:

- Most modern Substrates

- For more detailed information on the UX Plug see page 156

For fixing of:

- Light-weight to heavy fixtures.

- For more detailed information on the SX Plug see page 151

DESCRIPTION

SX Plug

- Nylon expansion fixing
- For use with wood, chipboard and self-tapping screws and ASL spacing screws.
- SX long versions for maximum load-bearing capacity in perforated building materials, aerated concrete and to bridge plaster.

Advantages/Benefits

- 4-way expansion form lock guarantees highest grip.
- Anti-rotation lugs prevent the plug rotating in the drill hole.
- The wide neck is subject to no expansion pressure and prevents surface damage to tiles and plaster.
- Simple and quick push-through installation reduces installation time.
- Integrated hammer-in-stop enables push-through fixing. If pre-assembled with screw.
- The plug's collar prevents it slipping deeper into the drilled hole.
- Temperature-resistant from -40° to +80°C.
- The plug's geometry allows the use of wood and chipboard screws between 6 and 10 mm.

UX Plug

- 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 5 and 10 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.

TECHNICAL DATA



SX/UX Box

Type	Art.No.	ID	pack contains	substrate	qty. per box
Plug Assortment SX/UX Box	40991	0	60 x SX 6x30	solid material	1
			50 x SX 8x40	solid material	
			20 x SX 10x50	solid material	
			60 x UX 5x30R	universal	
			60 x UX 6x50R	universal	
			50 x UX 8x50R	universal	
			10 x UX 10x60R	universal	

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303

Anchor M

Nylon anchor for metrical threaded screws and bolts.

OVERVIEW



Anchor M

Suitable for:

- Concrete
- Prestressed hollow-core concrete slabs
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Aerated concrete
- Solid panel made from gypsum
- Hollow block made from lightweight concrete

- Slabs made of perforated bricks etc.
- Hollow concrete blocks etc.

For fixing of:

- Machines
- Steel constructions
- Conveyor equipment
- Gratings
- Vending machines

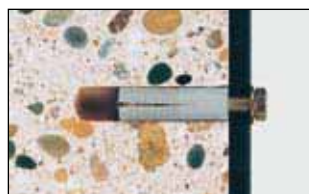


DESCRIPTION

- Nylon expansion fixing for metric screws
- Suitable for metric screws and studs

Advantages/benefits

- For use in thin concrete, artificial stone or other compression-proof boards.
- Wide expansion of the fixing makes it insensitive to inaccuracies in hole or building material tolerances.



- Surface-flush fixing allows the attached item to be removed and refitted several times.

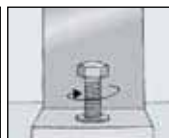
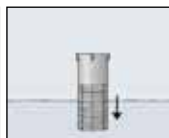
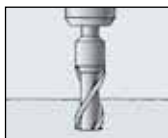
INSTALLATION

Type of installation

- Pre-positioned installation

Installation tips

- The tightening torque must be adapted to less strong building materials or perforated brick.
- The required screw length is given by:
Fixing length + Thickness of the item being attached + 1 x screw diameter



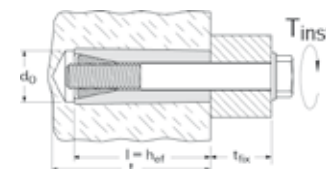
TECHNICAL DATA



Anchor M
for metrical threaded screws

Type	Art.-No.	ID	drill-Ø		plug length = min. anchorage depth		metric thread size M	Max. installation torque T_{inst} [Nm]	qty. per box pcs.
			d_0 [mm]	t [mm]	$l = h_{ef}$ [mm]				
M 5	1) 50505	2	10	45	35	M 5	4	50	
M 6	1) 50506	9	12	50	40	M 6	7	50	
M 8	1) 50508	3	16	65	50	M 8	16	20	
M 10	1) 50510	6	20	80	60	M 10	32	10	
M 12	1) 50512	0	24	90	65	M 12	54	5	
M 16	1) 50516	8	32	120	90	M 16	110	10	

1) The given torque values apply to screws of strength class ≥ 5.8 .



LOADS

Recommended loads N_{rec} [kN] and mean ultimate loads N_u [kN].

Fixing type	M 5		M 6		M 8		M 10		M 12		M 16	
	Metric screw diameter (mm)											
Substrate	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u
Concrete \geq C20/25	0.79	5.5	1.29	9.0	1.86	13.0	3.14	22.0	3.57	25.0	6.14	43.0

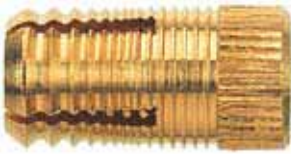
FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303.

Brass fixing PA 4

The anchor for thin boards and solid building materials.

OVERVIEW



Brass fixing PA 4

Suitable for:

- Concrete
- Prestressed hollow-core concrete slabs
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Chip boards

For fixing of:

- Lamps
- Handles
- Small wall-mounted shelves
- Substructures made of wood and metal
- Retaining angles
- Furniture fittings

DESCRIPTION

- Brass expansion fixing for metric threads:
- Particularly suitable for board materials.

Advantages/benefits

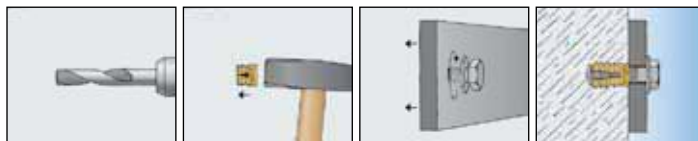
- Low installation depths reduces amount of drilling.
- Special surface structure stops the fixing rotating in the hole.
- Fixing allows the attached item to be removed and refitted several times.



INSTALLATION

Type of installation

- Pre-positioned installation
- Stand-off installation



TECHNICAL DATA



Brass fixing PA4

Type	Art.-No.	ID	drill-Ø	min. drill hole depth	effect. anchorage depth	usable length	metric thread size	bolt penetration	qty. per box
			d_0	t	h_{ef}	l	M	s	pcs.
			[mm]	[mm]	[mm]	[mm]		[mm]	
PA 4 M 6/7,5	1) 50484	0	8	7,5	7,5	7,5	M 6	7,5	200
PA 4 M 6/10,5	1) 58484	2	8	10,5	10,5	10,5	M 6	10,5	100
PA 4 M 6/13,5	1) 59484	1	8	13,5	13,5	13,5	M 6	13,5	100
PA 4 M 8/25	1) 50485	7	10	25	25	25	M 8	25	50
PA 4 M 10/25	1) 50486	4	12	25	25	25	M 10	25	25

1) Values apply for hard building materials. For soft building materials the drill diameter needs to be reduced by 0.5 mm.

LOADS

Recommended loads N_{rec} [kN] and mean ultimate loads N_U [kN].

Fixing type	PA 4 M 6/7.5		PA 4 M 6/10.5		PA 4 M 6/13.5		PA 4 M 8/25		PA 4 M 10/25	
	M 6		M 6		M 6		M 8		M 10	
Metric thread diameter [mm]	N_{rec}	N_U	N_{rec}	N_U	N_{rec}	N_U	N_{rec}	N_U	N_{rec}	N_U
Chipboard	0.11	0.8	0.17	1.2	0.23	1.6	-	-	-	-
Pine	0.10	0.7	0.14	1.0	0.21	1.5	-	-	-	-
Beech	0.29	2.0	0.43	3.0	0.57	4.0	-	-	-	-
Plastic	0.43	3.0	0.86	6.0	1.14	8.0	-	-	-	-
Solid brick Mz 12	-	-	-	-	0.46	3.2	1.11	7.8	1.31	9.2

FIXING PRINCIPLES

Insulation fixing FID

The fixing system for PU foam panels.

OVERVIEW



Insulation fixing
FID 50

Suitable for:

- Polystyrene boards
- boards made of polyurethane high-resistance foam
- insulated fixings

For fixing of:

- Outdoor lightning
- nameplates
- house numbers
- electric switches
- letter boxes
- motion detectors

DESCRIPTION

- Insulation fixing made of impact resistant nylon
- Spiral thread taps itself a positive fit in the insulation board.

Advantages/benefits

- Simple installation with standard tools.
- No preliminary drilling necessary in thin rendered insulation materials, therefore reduced installation time.



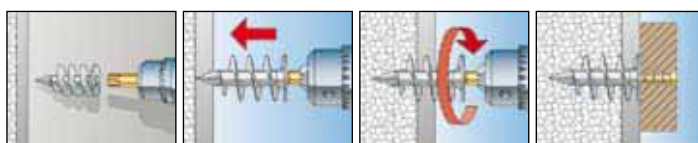
INSTALLATION

Type of installation

- Pre-positioned installation

Installation information

- Screw in with a battery-operated/electric screwdriver (⊕-T40 bit).
- Adapted for chipboard and trim sealing screws of 4.5 - 5 mm diameter.
- Water ingress can be prevented with a suitable sealant.
- Screw length = fixing thickness + 30 mm with screw diameter of 5 mm
- Screw length = fixing thickness + 35 mm with screw diameter of 4.5 mm

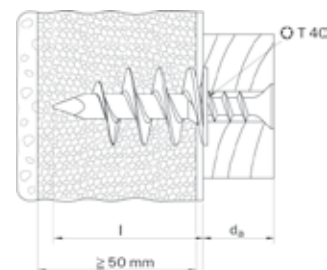


TECHNICAL DATA

Insulation fixing FID 50



Type	Art.-No.	ID	qty. per box
FID 50	48213	1	50



LOADS

Recommended loads N_{rec} [kN] and mean ultimate loads N_u [kN].

Fixing type	FID 50	
Chipboard screw diameter [mm]	$\varnothing 4.5 - 5$	
Substrate	N_{rec}	N_u
Polystyrene PS 15	0.03	0.21
Polystyrene PS 20	0.09	0.63

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303

Anchor M-S

For machine screws and threaded bolts.

OVERVIEW



Anchor M-S

Suitable for:

- Concrete
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Slabs made of perforated bricks
- Hollow concrete blocks etc.

For fixing of:

- Handles
- Fixings for shutters
- Gratings
- Handrails
- Steel constructions
- Stand-off installations



DESCRIPTION

- Plastic expansion fixing for machine screws and threaded bolts

Advantages/benefits

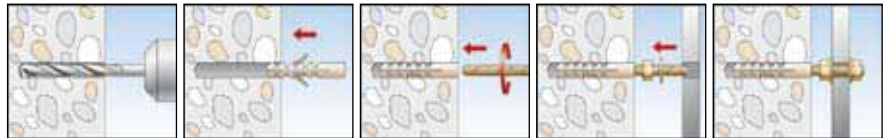
- Quick and simple push-through installation reduces installation time.
- Anti-rotation lock prevents the fixing rotating in the drill hole.
- Expansion-free neck of the plug prevents damage to tiles and plaster.



INSTALLATION

Type of installation

- Pre-positioned and push-through installation
- Stand-off installation



Installation tips

- Chamfer the thread to make it easier to screw in screws and studs.

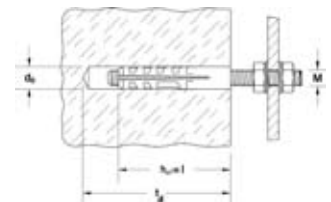
- The required screw length is given by:
 Fixing length
 + Plaster and/or insulation layer thickness
 + Thickness of the item being attached
 + 1 x screw diameter

TECHNICAL DATA



Anchor M-S for metric threaded screws

Type	Art.-No.	ID	drill		min. drill hole depth		plug length = min. anchoring depth		thread	qty. per box
			d_0 [mm]	t [mm]	t [mm]	$l = h_{ef}$ [mm]				
M 6 S	50152	8	8	55	40	M 6	100			
M 8 S	50153	5	10	70	50	M 8	50			
M 10 S	50154	2	14	90	70	M 10	20			
M 12 S	50155	9	16	100	80	M 12	10			



LOADS

Recommended loads N_{rec} [kN] and mean ultimate loads N_u [kN].

Fixing type	M 6 S		M 8 S		M 10 S		M 12 S	
	M 6		M 8		M 10		M 12	
Metric screw diameter [mm]								
Substrate	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u
Concrete \geq C12/15	0.30	2.1	0.54	3.8	0.66	4.6	1.06	7.4
Solid brick \geq Mz12 (DIN 105)	0.24	1.7	0.33	2.3	0.46	3.2	0.79	5.5
Solid sand-lime brick \geq KS12 (DIN 106)	0.24	1.7	0.33	2.3	0.43	3.0	0.71	5.0

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303

Metal expansion fixing FMD

Metal fixing for wood and chipboard screws.

OVERVIEW



Metal expansion fixing **FMD**

Suitable for:

- Concrete
- Prestressed hollow-core concrete slabs
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Aerated concrete
- Solid panel made from gypsum
- Vertically perforated brick

- Perforated sand-lime brick
- Hollow block made from lightweight concrete
- Slabs made of perforated bricks
- Hollow concrete blocks etc.

For fixing of:

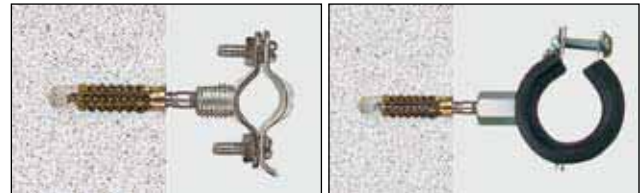
- Gas pipes
- Water pipes
- Cable- and pipe clips

DESCRIPTION

- Metal expansion fixing for wood- and chipboard screws

Advantages/benefits

- Ribbed internal geometry to guide the screw securely.
- External teeth ensure high load-bearing capacity.
- Suitable for wood and chipboard screws widens the range of applications.
- Complies with technical regulations for gas lines (TRGI 3.3.7.2)



INSTALLATION

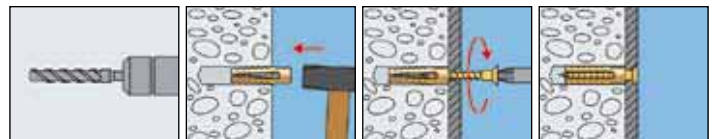
Type of installation

- Pre-positioned installation

Installation tips

- Sizes 6 x 32 and 8 x 38 can be driven directly into low-strength aerated concrete (without drilling a hole first). The hole diameter for all other sizes and building materials depends on the material strength.
- The required screw length is given by:
 - Fixing length
 - + Plaster and/or insulation layer thickness
 - + Thickness of the item being attached
 - + 1 x screw diameter

For concrete and brickwork



For aerated concrete of low strength

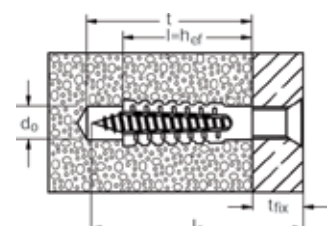


TECHNICAL DATA



Metal expansion fixing **FMD**

Type	Art.-No.	ID	drill-Ø d_0 [mm]	plug length = min. anchorage depth $l = h_{ef}$ [mm]	min. drill hole depth t [mm]	Screw-diameter d_s [mm]	qty. per box pcs.
FMD 6 x 32	1) 61224	8	7 - 9	32	38	5 - 6	100
FMD 8 x 38	1) 61225	5	10 - 12	38	46	6 - 8	100
FMD 8 x 60	1) 61226	2	10 - 12	60	68	6 - 8	50
FMD 10 x 60	1) 61209	5	12 - 14	60	68	8 - 10	50



1) The drill diameter is relative to the substrate compressive strength. Generally, the higher the compressive strength, the greater the drill diameter.

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303

Brass fixing MS

OVERVIEW



Brass fixing **MS**

Suitable for:

- Concrete
- Prestressed hollow-core concrete slabs
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick

For fixing of:

- Small wall-mounted shelves
- Curtain rails
- Wardrobes
- Substructures made of wood and metal
- Kitchen cabinets

DESCRIPTION

- Brass expansion fixing for metric screws

Advantages/benefits

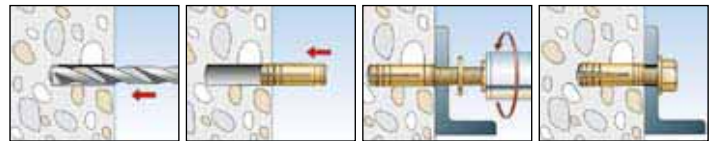
- Low installation depth reduces drilling efforts.
- Special surface structure prevents it rotating in the hole.
- Fixing allows the attached item to be removed and refitted several times.



INSTALLATION

Type of installation

- Pre-positioned installation
- Stand-off installation

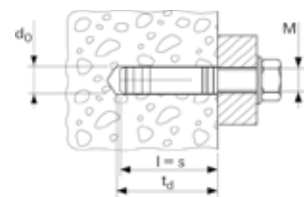


TECHNICAL DATA



Brass fixing **MS**
for metric screws

Type	Art.-No.	ID	drill-Ø		metric thread size		min. drill hole depth	usable length	bolt penetration	qty. per box
			d_0 [mm]	d_s [mm]	t [mm]	l [mm]	s [mm]			
MS 6 x 24	78660	4	8	M 6	27	24	24	100		
MS 8 x 30	78981	0	11	M 8	35	30	30	50		
MS 10 x 34	78661	1	13	M 10	39	34	34	25		
MS 12 x 41	78662	8	16	M 12	46	41	41	10		
MS 16 x 45	78663	5	22	M 16	50	45	45	10		



LOADS

Recommended loads N_{rec} [kN] and mean ultimate loads N_u [kN].

Fixing type	MS 6		MS 8		MS 10		MS 12		MS 16	
	M6		M8		M10		M12		M16	
Metric screw diameter [mm]	M6		M8		M10		M12		M16	
Substrate	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u
Concrete \geq C25	1.62	6.5	2.75	11	4	16	5.5	22	8.0	32

FIXING PRINCIPLES

Repair pad Wet N Fix

OVERVIEW



Repair pad **Wet N Fix**

DESCRIPTION

- Repair pad for damaged holes.
- Wet the special pad with water, wrap it around the fixing and push it into the damaged hole.
- After about three minutes the special pad has hardened and the component can then be attached.
- Specially developed for lightweight fixings.

Advantages/benefits

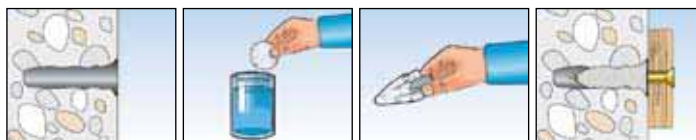
- Simple and quick to use: just wrap pad around the fixing - done!
- Can be used in almost all building materials in combination with plastic fixings.
- Universal application in stripped, overlarge or badly-drilled holes.
- Attached items can stay in the same place, as no new holes need to be drilled.
- Also suitable for closing up holes before painting over them.



INSTALLATION

Installation tips

- For large tolerances, we advise using several pads.
- Approx. 3 minutes hardening time for the first pad, with another minute for each additional pad.



TECHNICAL DATA



Repair pad **Wet N Fix**

Type	Art.-No.	ID	languages on the label	contents	qty. per box
Display Box	42759	5	GB	40 x Wet N Fix in a display box	40

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303.

Balcony fixing BBF

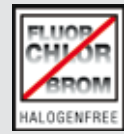
OVERVIEW



Plug **P 9 K**
 + Brass locking
 screws **MLS**
 + Cover cap **ADK**
 = fischer Balcony
 fixing **BBF**

For fixing of:

- Balcony panels
- Bracings
- Lamps
- Electric switches
- Motion detectors
- Letter boxes

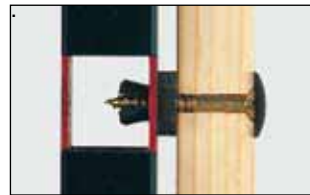


DESCRIPTION

- Plastic expansion fixing for anchoring in hollow sections
- Complete fixing set, with brass screw for fixing balcony panelling, etc.

Advantages/benefits

- No need to drill a hole on the inside of the rail.
- Elastic and load-bearing joint increases the panelling life.
- Hole seal prevents corrosion.
- Ventilation behind the panelling prevents the appearance of rot.



INSTALLATION



TECHNICAL DATA



Balcony fixing **BBF**

Type	Art.-No.	ID	drill-Ø	max. usable length	screw	collar height	qty. per box
			d_0 [mm]	l_{fix} [mm]	$d_s \times l_s$ [mm]	[mm]	pcs.
BBF 5 x 40	59396	7	9	20	5 x 40	5	50
BBF 5 x 50	59397	4	9	30	5 x 50	5	50



Plug **P 9 K**

Type	Art.-No.	ID	drill-Ø	screw	collar height	wrench size	qty. per box
			d_0 [mm]	$d_s \times l_s$ [mm]	[mm]	SW	pcs.
P 9 K	59395	0	9	5	5	15	50

LOADS

Recommended loads N_{rec} [kN] and mean ultimate loads N_u [kN].

Fixing type	P9K	
	N_{rec}	N_u
Wall thickness		
○ □ 2 mm	0.27	1.9
○ □ 3 mm	0.29	2.0
○ □ 4 mm	0.31	2.2

FIXING PRINCIPLES

Stair-tread fixing TB

OVERVIEW



Stair-tread fixing **TB** for installation on steel staircase stringers



Stair-tread fixing **TBB** for installation on concrete staircase stringers



Stair-tread fixing **TBZ 2** for centre-marking the stair-tread holes

Suitable for:

- Concrete
- Prestressed hollow-core concrete slabs
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Steel hollow sections

For fixing of:

- Wooden step treads



DESCRIPTION

- Plastic expansion fixing for anchoring wooden steps and boards ≥ 30 mm to hollow profiles or concrete.

Advantages/benefits

- Simple and quick installation.
- Elastic shaft geometry stops creaking stairs.

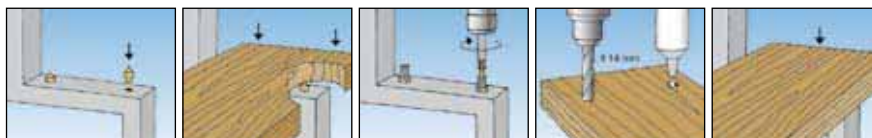


INSTALLATION

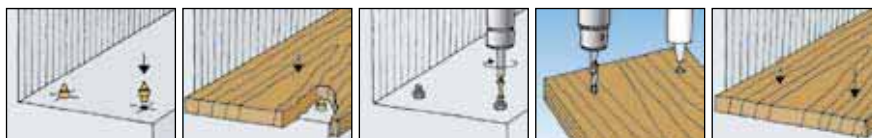
Installation tips

- Plastic washers are included in the TBB packet to compensate uneven surfaces.

TB



TBB



TECHNICAL DATA

Type	Art.-No.	ID	Stair-tread fixing TB			Stair-tread fixing TBB		adapted for	qty. per box
			drill-hole in step tread	drill-hole in staircase stringer	drill-hole in concrete	collar height	wrench size		
			[Ø mm]	[Ø mm]	[Ø mm]	[mm]	SW		pcs.
TB	60580	6	14 x 25	9	-	5	15	-	50
TBB	60583	7	14 x 25	-	8 x 55	-	-	-	50
TBZ 2	60584	4	-	-	-	-	-	TB and TBB	10

LOADS

Mean ultimate loads in kN for a fixing point when using a cold wood glue. An appropriate safety coefficient should be applied on these ultimate loads.

Type	Staircase stringer made of steel tube 2 mm	Steel tube 4 mm	Concrete
TB	1.9	2.2	-
TBB	-	-	3.1

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303.

Doorstop TS

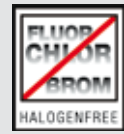
OVERVIEW



Doorstop TS

Suitable for:

- Concrete
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Aerated concrete
- Solid panel made from gypsum
- Vertically perforated brick
- Sand-lime perforated brick
- Hollow block made from lightweight concrete



DESCRIPTION

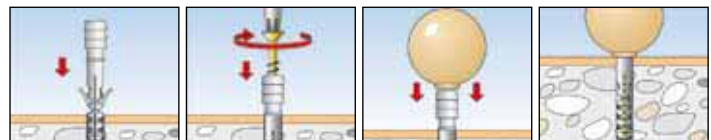
- Doorstop for floors and walls, with invisible fixing.

Advantages/benefits

- Spherical doorstop in a range of colours for individual design solutions.
- Invisible fixing for visual appeal.
- Simple and quick to install



INSTALLATION



TECHNICAL DATA



Type	Art.-No.	ID	colour	drill-Ø	min. drill hole depth	qty. per box
				d ₀ (mm)	t (mm)	pcs.
TS 8 G	60535	6	grey	8	50	10
TS 8 W	60536	3	white	8	50	10
TS 8 S	60539	4	black	8	50	10
TS 8 BR	60540	0	brown	8	50	10
TS 8 BG	60551	6	beige	8	50	10

Type	Art.-No.	ID	contents	qty. per box
				pcs.
TS-SORT	60521	9	5 colours, set of 5 each - grey, white, black, brown, beige	1

FIXING PRINCIPLES

In detail: The general principles for installation, the correct drilling procedure and much more on page 303