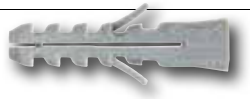
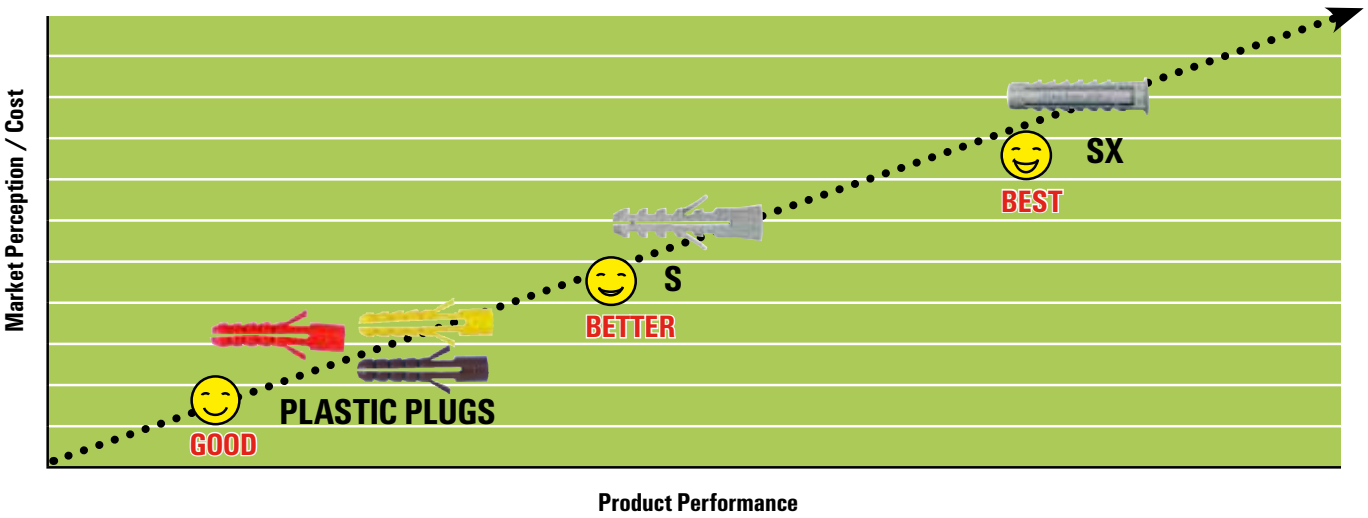
General fixings

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, descendents 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.

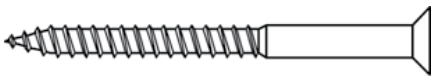


Plug SX

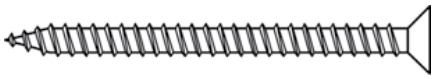
A class of its own. Its combined advantages will convince you, too !

OVERVIEW

Plug **SX**



Wood screw



Chipboard screw

Universal spacing screw **ASL**

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

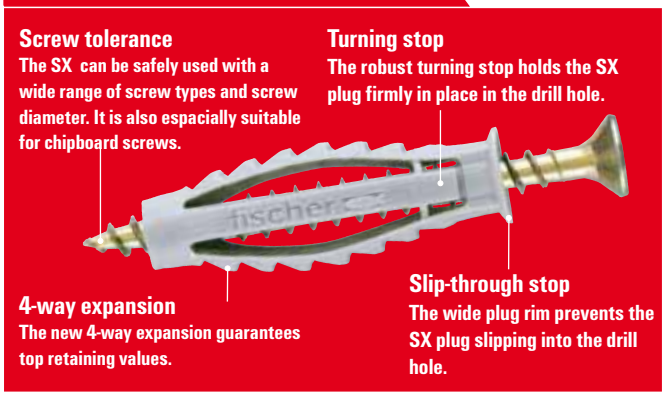
DESCRIPTION

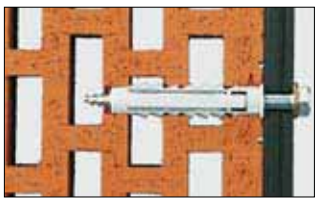
- Nylon expansion fixing
- For use with wood, chipboard and self-tapping screws and ASL spacing screws (see chapter spaceing screws).
- SX long versions for maximum load-bearing capacity in perforated building materials, aerated concrete and to bridge plaster.

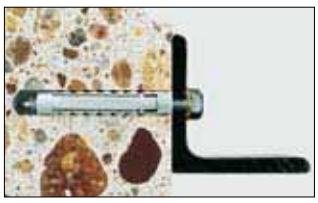
Advantages/Benefits

- 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







INSTALLATION

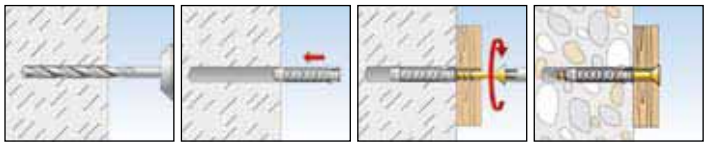
Type of installation

- Pre-positioned and push-through installation.

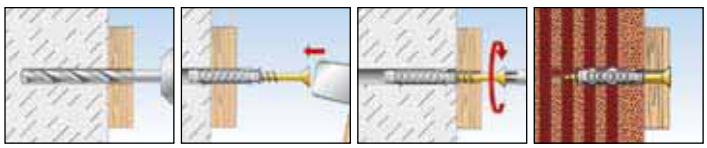
Installation information

- 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

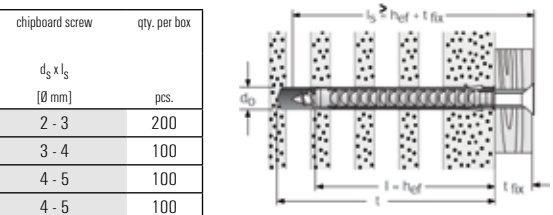
TECHNICAL DATA

Plug **SX**

Plug **SX** - long version

Type	Art.-No.	ID	drill	min. drill hole depth	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]	pcs.
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

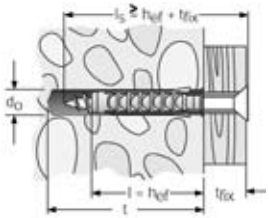
* without collar



Plug **SX** with chipboard screw

Type		Art.-No.	ID	drill	min. drill hole depth	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]	$d_s \times l_s$ [Ø mm]	pcs.
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	
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 ≧ 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 ≧ 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 ≧ 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 ≧ Hlz12 (ρ ≧ 1.0 kg/dm³, 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 ≧ 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 ≧ 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 ≧ 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_r) 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

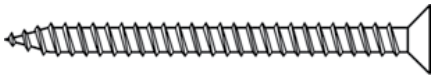
S-Plug

The classics. Often copied - never equalled !

OVERVIEW

S-plug

Wood screw



Chipboard screw

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

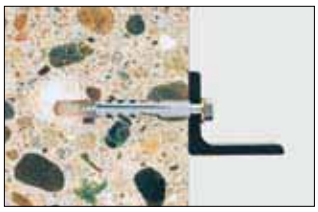
For fixing of:
- Pictures
- Motion detectors
- Lamps
- Skirting
- Electric switches
- Small wall-mounted shelves
- Towel rails
- Lightweight mirror cabinets
- Letter boxes
- Hanging baskets
- Curtain rails

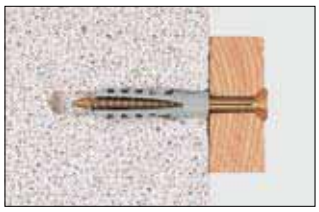
DESCRIPTION

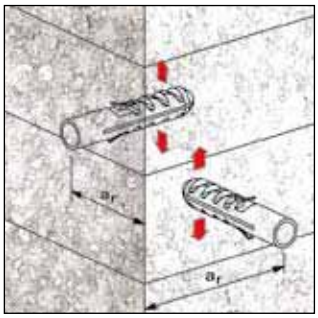
- Nylon expansion fixing.
- For use with wood-, chipboard-, and self-tapping screws (see chapter safety-screws)

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°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.

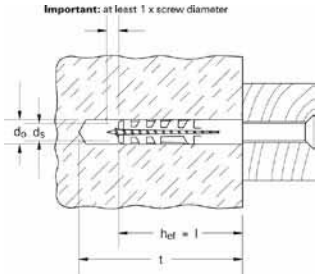
FIXING PRINCIPLES
In detail: The general principles for installation, the correct drilling procedure and much more on page 303

TECHNICAL DATA

S-plug

Type	Art.-No.	ID	drill-Ø d_0 [mm]	min. drill hole depth t [mm]	plug length = min. anchorage depth $l = h_{ef}$ [mm]	wood or chipboard screw min / max d_S [Ø mm]	qty. per box pcs.
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		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 ≧ 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 ≧ 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 ≧ 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 ≧ 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 srews SH 4,5 x 45	1
ST 1 S 6 S	**60509**	7	50 fixings S 6, 50 countersunk wood srews 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 x45 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.

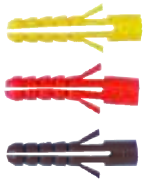
DESCRIPTION

- 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 Ø d_0 mm	min. drill hole depth t mm	fixing length = min. anchorage depth $h_v = l$ mm	wood or chipboard screws from/to d_s Ømm	qty. per box pcs.
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

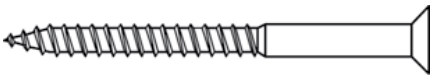
Universal plug UX

The universal fixing for a perfect grip in all walls.

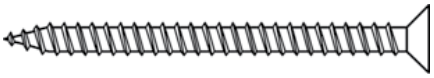
OVERVIEW

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

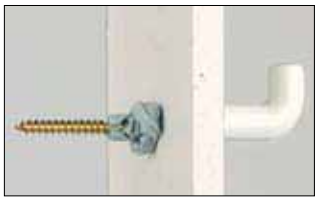
For fixing of:
- Pictures
- Motion detectors
- Lamps
- Skirting
- Electric switches
- Small wall-mounted shelves
- Towel rails
- Lightweight mirror cabinets
- Letter boxes
- Hanging baskets
- Curtain rails

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

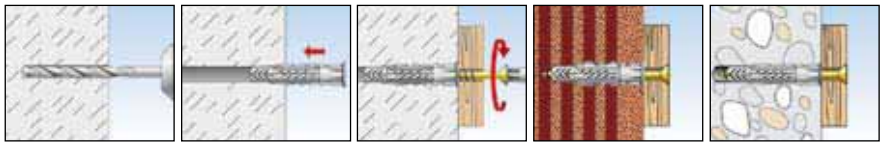
Type of installation

- Pre-positioned and push-through installation.

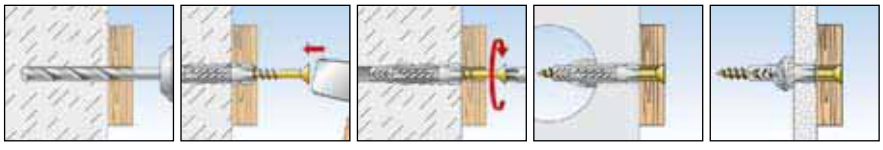
Installation information

- 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

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

TECHNICAL DATA

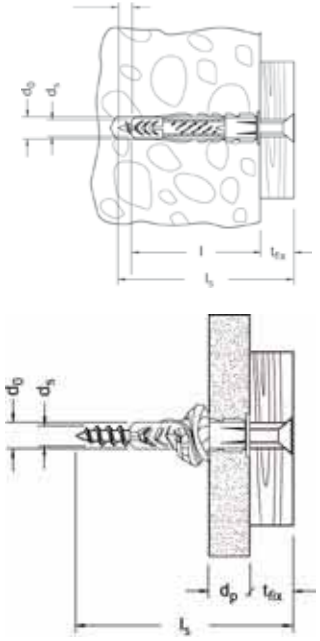
UX - without collar

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_a [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

1 x screw-ø



Universal plug **UX RH**

Universal plug **UX WH**

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 $d_s \times l_s$ [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

Universal plug **UX RH W**

Universal plug **UX WH W**

Universal plug **UX OE W**

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 $d_s \times l_s$ [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**	
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 fixing of:
- Light-weight to heavy fixtures.

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

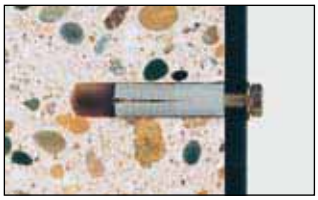
For fixing of:
- Machines
- Steel constructions
- Conveyor equipment
- Gratings
- Vending machines

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

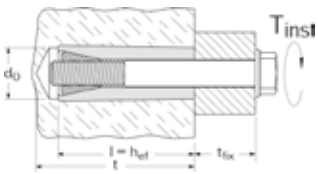
- The tightening torque must be adapted to less strong building materials or perforated brick.
- The required screw length is given by: Fixing length + Thickness of the item being attached + 1 x screw diameter

TECHNICAL DATA

Anchor **M**
for metrical threaded screws

Type		Art.-No.	ID		drill-Ø d_0 [mm]	min. drill hole depth t [mm]	plug length = min. anchorage depth $l = h_{ef}$ [mm]	metric thread size M	Max. installation torque T_{inst} [Nm]	qty. per box pcs.
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]	M 5		M 6		M 8		M 10		M 12		M 16	
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 ≥ 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

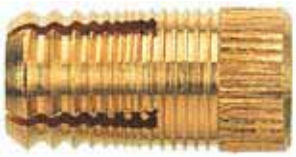
FIXING PRINCIPLES

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.

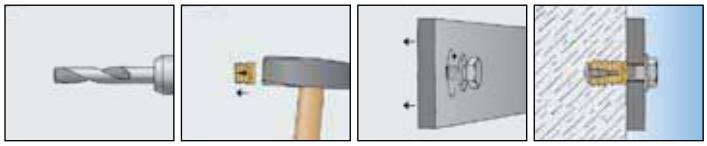
Advantages/benefits

- 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 d_0 [mm]	min. drill hole depth t [mm]	effect. anchorage depth h_{ef} [mm]	usable length l [mm]	matric thread size M	bolt penetration s [mm]	qty. per box pcs.
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**	
Metric thread diameter [mm]	M 6		M 6		M 6		M 8		M 10	
Substrate	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

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

Insulation fixing FID

The fixing system for PU foam panels.

OVERVIEW

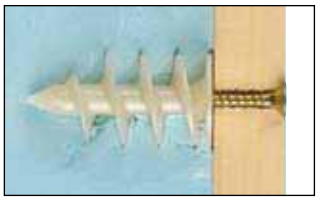
Insulation fixing
FID 50

Suitable for:
- Polystyrene boards
- boards made of poly-urethane high-resistance foam
- insulated fixings

For fixing of:
- Outdoor lightning
- nameplates
- house numbers
- electric switches
- letter boxes
- motion detectors

DESCRIPTION

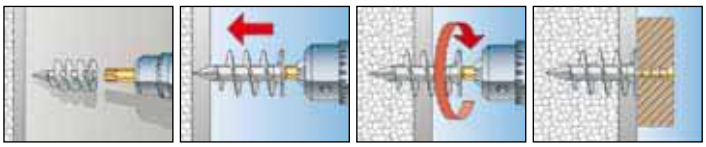
- Insulation fixing made of impact resistant nylon
- Spiral thread taps itself a positive fit in the insulation board.



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

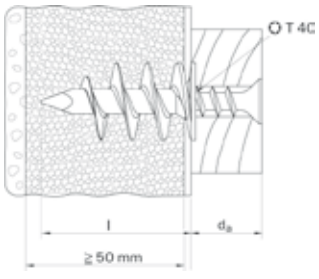
Installation information

- 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
			pcs.
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]	⌀ 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

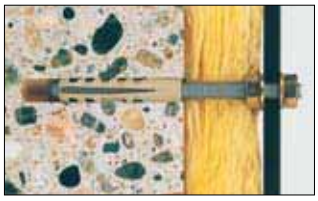
Anchor **M-S**

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



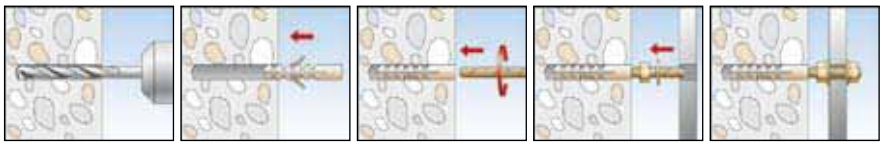
Advantages/benefits

- 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



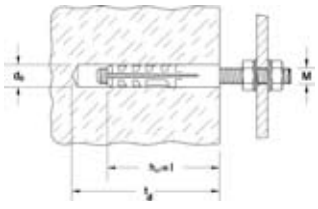
Installation tips

- 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 d_0 [mm]	min. drill hole depth t [mm]	plug length = min. anchoring depth $l = h_{ef}$ [mm]	thread M	qty. per box pcs.
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	
Metric screw diameter [mm]	M 6		M 8		M 10		M 12	
Substrate	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u	N_{rec}	N_u
Concrete ≧ C12/15	0.30	2.1	0.54	3.8	0.66	4.6	1.06	7.4
Solid brick ≧ Mz12 (DIN 105)	0.24	1.7	0.33	2.3	0.46	3.2	0.79	5.5
Solid sand-lime brick ≧ 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.

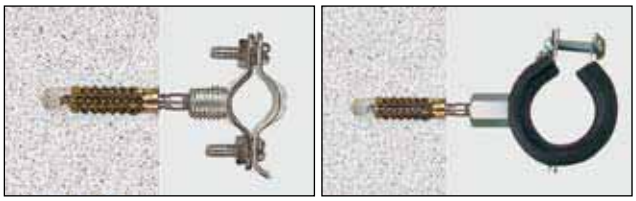
For fixing of:
- Gas pipes
- Water pipes
- Cable- and pipe clips

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

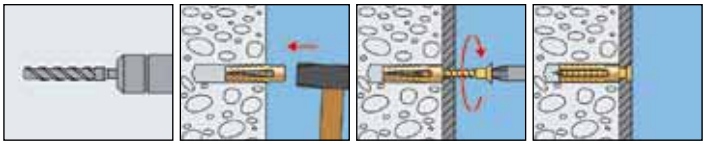
Type of installation

- 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

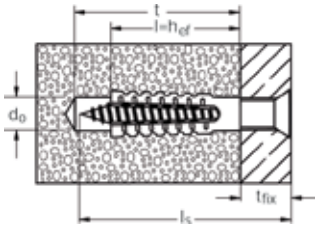


For aerated concrete of low strength

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

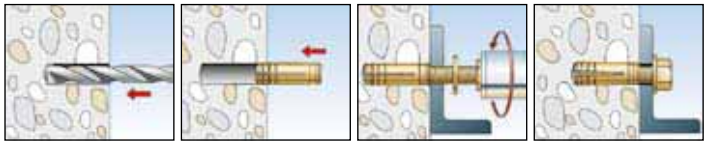
DESCRIPTION

- 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

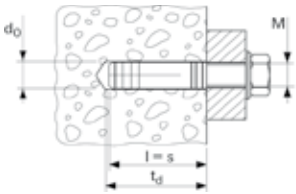
Type of installation
- Pre-positioned installation
- Stand-off installation



TECHNICAL DATA

Brass fixing **MS**
for metric screws

Type	Art.-No.	ID	drill-Ø d_0 [mm]	metric thread size d_s	min. drill hole depth t [mm]	usable length l [mm]	bolt penetration s [mm]	qty. per box pcs.
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 Nrec [kN] and mean ultimate loads Nu [kN].

Fixing type	**MS 6**		**MS 8**		**MS 10**		**MS 12**		**MS 16**	
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 ≥ C25	1.62	6.5	2.75	11	4	16	5.5	22	8.0	32

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

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.

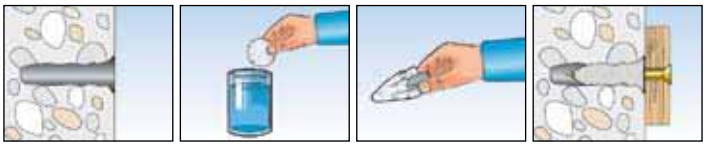
Advantages/benefits

- 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 pcs.
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

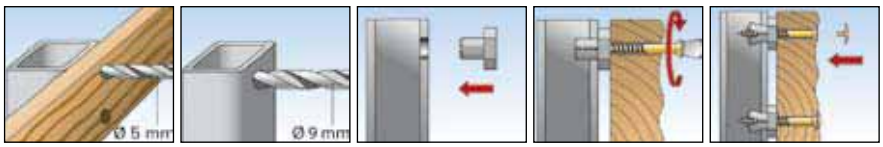
DESCRIPTION

- 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 d_0 [mm]	max. usable length t_{fix} [mm]	screw $d_s \times l_s$ [mm]	collar height [mm]	qty. per box 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 d_0 [mm]	screw $d_s \times l_s$ [mm]	collar height [mm]	wrench size SW	qty. per box 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	
Wall thickness	N_{rec}	N_u
○ □ 2 mm	0.27	1.9
○ □ 3 mm	0.29	2.0
○ □ 4 mm	0.31	2.2

FIXING PRINCIPLES

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

Stair-tread fixing TB

OVERVIEW

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

Stair-tread fixing **TBB** for installation on concrete stair-case 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

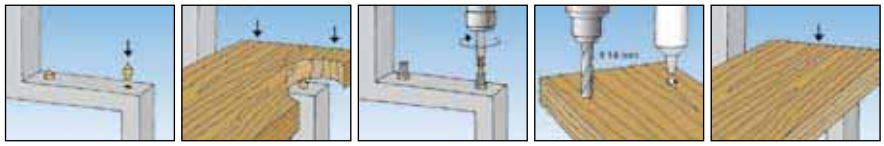
- Plastic expansion fixing for anchoring wooden steps and boards ≧ 30 mm to hollow profiles or concrete.

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

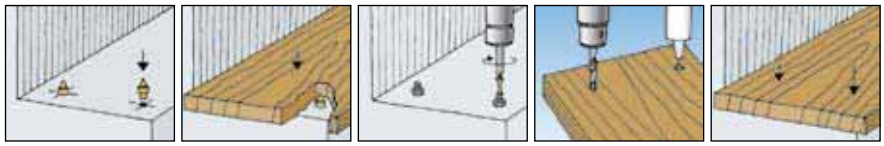
INSTALLATION

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

TB



TBB



TECHNICAL DATA

Stair-tread fixing **TB**

Stair-tread fixing **TBB**

Stair-tread fixing **TBZ2** for centre-marking the stair-tread holes

Type	Art.-No.	ID	drill-hole in step thread [Ø mm]	drill-hole in staircase stringer [Ø mm]	drill-hole in concrete [Ø mm]	collar height [mm]	wrench size SW	adapted for	qty. per box 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**

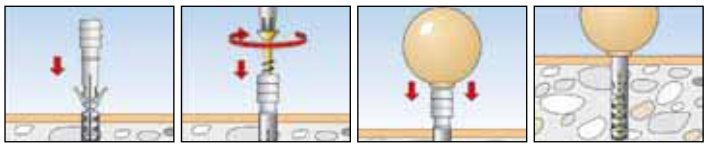
Suitable for:
- Concrete
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick
- Solid block made from lightweight concrete
- Aerated concrete
- Solid panel made from gypsum
- Vertically perforated brick
- Sand-lime perforated brick
- Hollow block made from lightweight concrete

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

Door stop **TS**

Type	Art.-No.	ID		colour	drill-Ø d_0 [mm]	min. drill hole depth t [mm]	qty. per box 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