

## FIX EXPANSION PLUG

Easy-to-install plug giving exceptional performance in solid base materials



### Product information

#### Features and benefits

- Anti-rotation fins prevent spinning during tightening of the screw.
- Engineered grip feature for extra holding power.
- Two-way expansion mechanism provides a strong anchorage in solid base materials.

#### Applications

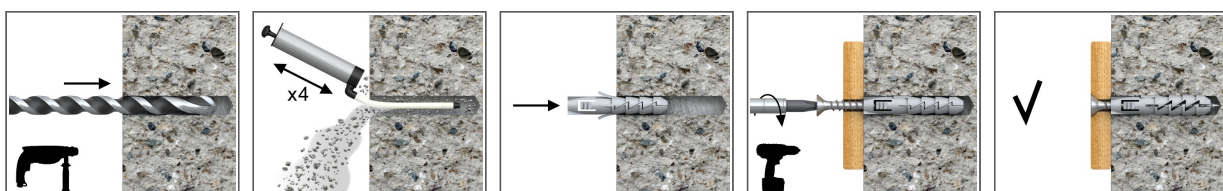
- Pictures
- Lighting
- Skirting / Dado railing
- Shelves
- Trunking
- Cable trays
- Electrical fittings
- Letterboxes

#### Base materials

##### Approved for use in:

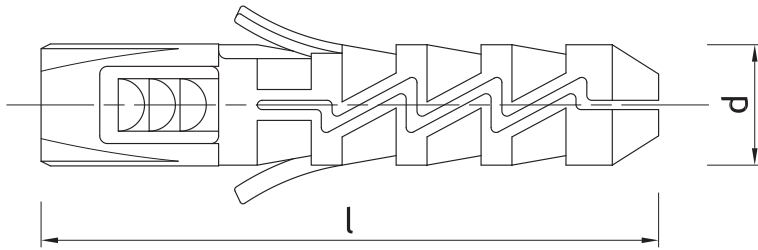
- Concrete
- Solid Brick
- Solid Sand-lime Brick
- Aerated Concrete Block

### Installation guide



1. Drill a hole of required diameter.
2. Insert FIX plug into hole and tap home.
3. Insert screw of required diameter into plug through fixture and tighten.

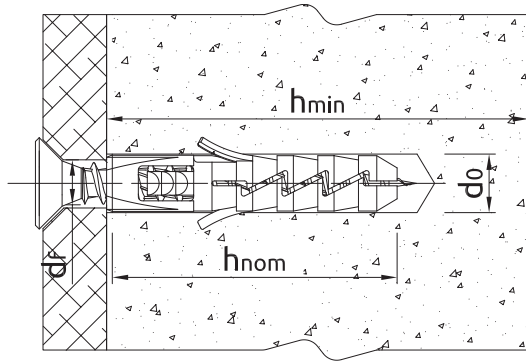
### Product information



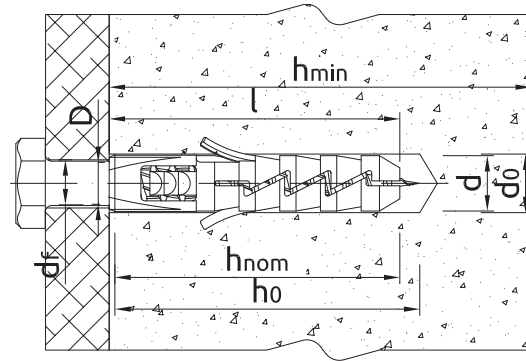
Product dimensions

Size	Product Code
------	--------------

### Installation data



Installation data



Installation data for countersunk head screw

Size			Ø5	Ø6	Ø8	Ø10	Ø12	Ø14
Hole diameter in substrate	$d_0$	[mm]	5	6	8	10	12	14
Min. hole depth in substrate	$h_0$	[mm]	35	40	50	60	70	80
Min. installation depth	$h_{nom}$	[mm]	25	30	40	50	60	70
Min. substrate thickness	$h_{min}$	[mm]	80	80	80	80	90	105
Min. spacing	$s_{min}$	[mm]	50	60	80	100	120	140
Min. edge distance	$c_{min}$	[mm]	50	60	80	100	120	140
Fixing diameter	$d$	[mm]	5	6	8	10	12	14

### Basic performance data

Performance data for single fixing without influence of edge distance and spacing

Substrate		Concrete C20/25 - C50/60	Solid clay brick min 20MPa (eg Mz20/2.0)	Sand-lime solid brick	Aerated concrete 600 Mark V	Hollow lightweight concrete block
<b>CHARACTERISTIC LOAD</b>						
<b>TENSION LOAD <math>N_{Rk}</math></b>						
Ø5, Embedment depth 25mm	[kN]	0.10	0.10	0.10	0.15	0.20
Ø6, Embedment depth 30mm	[kN]	0.15	0.15	0.30	0.40	0.40
Ø8, Embedment depth 40mm	[kN]	0.50	0.50	1.20	0.75	-
Ø10, Embedment depth 50mm	[kN]	0.40	0.40	0.60	0.90	-
Ø12, Embedment depth 60mm	[kN]	1.20	1.20	3.00	2.00	-
Ø14, Embedment depth 70mm	[kN]	1.20	1.20	1.20	1.15	-
<b>SHEAR LOAD <math>V_{Rk}</math></b>						
Ø5, Embedment depth 25mm	[kN]	0.10	0.10	0.10	0.15	0.20
Ø6, Embedment depth 30mm	[kN]	0.15	0.15	0.30	0.40	0.40
Ø8, Embedment depth 40mm	[kN]	0.50	0.50	1.20	0.75	-
Ø10, Embedment depth 50mm	[kN]	0.40	0.40	0.60	0.90	-
Ø12, Embedment depth 60mm	[kN]	1.20	1.20	3.00	2.00	-
Ø14, Embedment depth 70mm	[kN]	1.20	1.20	1.20	1.15	-

### Basic performance data

Substrate		Concrete C20/25 - C50/60	Solid clay brick min 20MPa (eg Mz20/2.0)	Sand-lime solid brick	Aerated concrete 600 Mark V	Hollow lightweight concrete block
<b>DESIGN LOAD</b>						
TENSION LOAD $N_{Rd}$						
Ø5, Embedment depth 25mm	[kN]	0.06	0.04	0.04	0.08	0.08
Ø6, Embedment depth 30mm	[kN]	0.08	0.06	0.12	0.20	0.16
Ø8, Embedment depth 40mm	[kN]	0.28	0.20	0.48	0.38	-
Ø10, Embedment depth 50mm	[kN]	0.22	0.16	0.24	0.45	-
Ø12, Embedment depth 60mm	[kN]	0.67	0.48	1.20	1.00	-
Ø14, Embedment depth 70mm	[kN]	0.67	0.48	0.48	0.58	-
SHEAR LOAD $V_{Rd}$						
Ø5, Embedment depth 25mm	[kN]	0.08	0.08	0.08	0.12	0.16
Ø6, Embedment depth 30mm	[kN]	0.12	0.12	0.24	0.32	0.32
Ø8, Embedment depth 40mm	[kN]	0.40	0.40	0.96	0.60	-
Ø10, Embedment depth 50mm	[kN]	0.32	0.32	0.48	0.72	-
Ø12, Embedment depth 60mm	[kN]	0.96	0.96	2.40	1.60	-
Ø14, Embedment depth 70mm	[kN]	0.96	0.96	0.96	0.92	-
<b>RECOMMENDED LOAD</b>						
TENSION LOAD $N_{rec}$						
Ø5, Embedment depth 25mm	[kN]	0.04	0.03	0.03	0.05	0.06
Ø6, Embedment depth 30mm	[kN]	0.06	0.04	0.09	0.14	0.11
Ø8, Embedment depth 40mm	[kN]	0.20	0.14	0.34	0.27	-
Ø10, Embedment depth 50mm	[kN]	0.16	0.11	0.17	0.32	-
Ø12, Embedment depth 60mm	[kN]	0.48	0.34	0.86	0.71	-
Ø14, Embedment depth 70mm	[kN]	0.48	0.34	0.34	0.41	-
SHEAR LOAD $V_{rec}$						
Ø5, Embedment depth 25mm	[kN]	0.06	0.06	0.06	0.09	0.11
Ø6, Embedment depth 30mm	[kN]	0.09	0.09	0.17	0.23	23.00
Ø8, Embedment depth 40mm	[kN]	0.29	0.29	0.69	0.43	-
Ø10, Embedment depth 50mm	[kN]	0.23	0.23	0.34	0.51	-
Ø12, Embedment depth 60mm	[kN]	0.69	0.69	1.71	1.14	-
Ø14, Embedment depth 70mm	[kN]	0.69	0.69	0.69	0.66	-