

# FIX EXPANSION PLUG WITH HEX HEAD SCREW

Easy-to-install plug with hex head screw giving exceptional performance in solid base materials



## Approvals and Reports

- KOT-2022/2086



## 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.
- Hex head screw for many application scenarios

### Applications

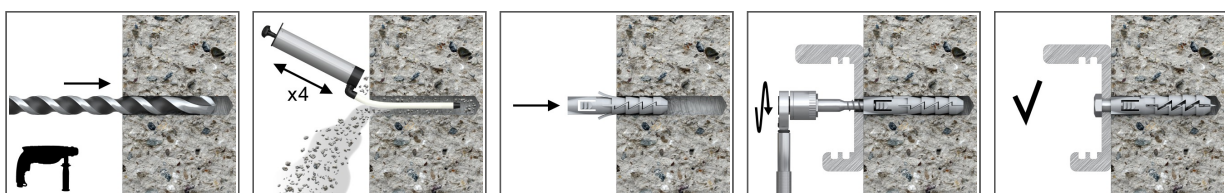
- Lighting
- Skirting / Dado railing
- Shelves
- Trunking
- Cable trays
- Electrical fittings
- Letterboxes

### Base materials

**Approved for use in:**

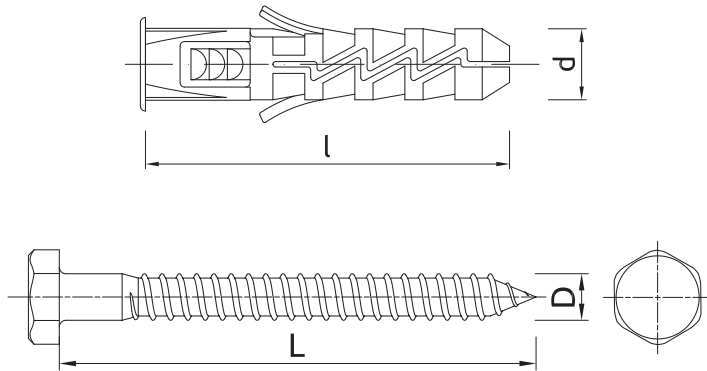
- Concrete
- Solid Brick
- Solid Sand-lime Brick
- Aerated Concrete Block

## 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.

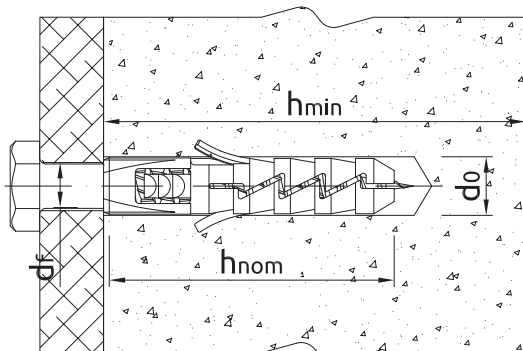
**Product information**



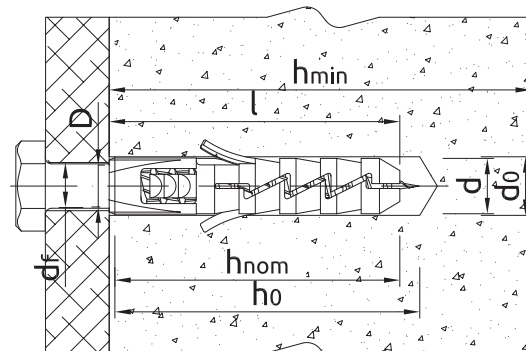
Product dimensions

Size	Product Code	Plug		Screw		Fixture	
		Diameter	Length	Diameter	Length	Max. thickness	Hole diameter
		d	l	D	L	t <sub>fix</sub>	d <sub>f</sub>
[mm]							
Ø10	R-FIX-10/660	10	50	5	60	10	7
	R-FIX-10/680	10	50	6	80	30	7
	R-FIX-10/100	10	50	6	100	50	7
	R-FIX-10/120	10	50	6	120	70	7
Ø12	R-FIX-12/60	12	60	8	60	1	9
	R-FIX-12/70	12	60	8	70	10	9
	r-FIX-12/80	12	60	8	80	20	9
	R-FIX-12/100	12	60	8	100	40	9
	R-FIX-12/120	12	60	8	120	60	9
	R-FIX-12/140	12	60	8	140	80	9
	R-FIX-12/160	12	60	8	160	100	9
Ø14	R-FIX-14/80	14	70	10	80	10	11
	R-FIX-14/100	14	70	10	100	30	11
	R-FIX-14/120	14	70	10	120	50	11
	R-FIX-14/160	14	70	10	160	90	11
	R-FIX-14/180	14	70	10	180	110	11
	R-FIX-14/200	14	70	10	200	130	11
	R-FIX-14/220	14	70	10	220	150	11
	R-FIX-14/260	14	70	10	260	190	11

**Installation data**



Installation data



Installation data for hex head screws

## Installation data

Size			Ø10	Ø12	Ø14
Hole diameter in substrate	$d_0$	[mm]	10	12	14
Min. hole depth in substrate	$h_0$	[mm]	60	70	80
Min. installation depth	$h_{nom}$	[mm]	50	60	70
Min. substrate thickness	$h_{min}$	[mm]	80	90	100
Min. spacing	$s_{min}$	[mm]	50	60	70
Min. edge distance	$c_{min}$	[mm]	50	60	70
Fixing diameter	$d$	[mm]	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
<b>MEAN ULTIMATE LOAD <math>F_{Ru,m}</math></b>					
Ø10, Embedment depth 50mm	[kN]	0.78	1.86	1.62	1.64
Ø12, Embedment depth 60mm	[kN]	1.82	5.80	4.06	2.99
Ø14, Embedment depth 70mm	[kN]	2.29	3.73	2.37	1.80
<b>CHARACTERISTIC LOAD <math>F_{Rk}</math></b>					
Ø10, Embedment depth 50mm	[kN]	0.40	0.90	0.60	0.90
Ø12, Embedment depth 60mm	[kN]	1.20	4.00	3.00	2.00
Ø14, Embedment depth 70mm	[kN]	1.20	2.50	1.20	1.15
<b>DESIGN LOAD <math>F_{Rd}</math></b>					
Ø10, Embedment depth 50mm	[kN]	0.22	0.36	0.24	0.45
Ø12, Embedment depth 60mm	[kN]	0.66	1.60	1.20	1.00
Ø14, Embedment depth 70mm	[kN]	0.66	1.00	0.48	0.57
<b>RECOMMENDED LOAD <math>F_{rec}</math></b>					
Ø10, Embedment depth 50mm	[kN]	0.16	0.26	0.17	0.32
Ø12, Embedment depth 60mm	[kN]	0.47	1.14	0.86	0.71
Ø14, Embedment depth 70mm	[kN]	0.47	0.71	0.34	0.41

## Product commercial data

Product Code	Plug	Screw	Quantity [pcs]			Weight [kg]			Bar Codes
	Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-FIX-10/660 <sup>1)</sup>	10	60	100	1200	43200	1.34	16.1	608.9	5906675168302
R-FIX-10/680 <sup>1)</sup>	10	80	50	600	14400	0.83	10.0	269.0	5906675133942
R-FIX-10/100 <sup>1)</sup>	10	100	50	600	14400	1.01	12.1	320.9	5906675134079
R-FIX-10/120 <sup>1)</sup>	10	120	50	600	14400	1.17	14.0	367.0	5906675134086
R-FIX-12/60 <sup>1)</sup>	12	60	50	600	14400	1.18	14.2	369.8	5906675134093
R-FIX-12/70 <sup>1)</sup>	12	70	50	600	21600	1.38	16.6	626.2	5906675168364
R-FIX-12/80 <sup>1)</sup>	12	80	50	600	14400	1.52	18.2	467.8	5906675134109
R-FIX-12/100 <sup>1)</sup>	12	100	50	600	14400	1.77	21.2	539.8	5906675134116
R-FIX-12/120 <sup>1)</sup>	12	120	50	600	14400	2.0	23.9	603.1	5906675134123
R-FIX-12/140 <sup>1)</sup>	12	140	25	300	7200	1.20	14.4	375.6	5906675134154
R-FIX-12/160 <sup>1)</sup>	12	160	25	300	7200	1.37	16.4	424.6	5906675134161
R-FIX-12/180 <sup>1)</sup>	12	180	25	200	4800	1.51	12.1	319.9	5906675134178
R-FIX-14/80 <sup>1)</sup>	14	80	25	300	7200	1.24	14.9	387.1	5906675134185
R-FIX-14/100 <sup>1)</sup>	14	100	25	300	7200	1.44	17.3	444.7	5906675134192
R-FIX-14/120 <sup>1)</sup>	14	120	25	300	7200	1.69	20.3	516.7	5906675134239
R-FIX-14/160 <sup>1)</sup>	14	160	25	300	7200	2.2	26.8	672.2	5906675134246
R-FIX-14/180 <sup>1)</sup>	14	180	25	200	4800	2.3	18.6	475.4	5906675134253
R-FIX-14/200 <sup>1)</sup>	14	200	25	200	4800	2.6	20.8	529.2	5906675134284
R-FIX-14/220 <sup>1)</sup>	14	220	25	200	4800	2.8	22.4	567.6	5906675134291

## Product commercial data

Product Code	Plug	Screw	Quantity [pcs]			Weight [kg]			Bar Codes
	Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
R-FIX-14/260 <sup>1)</sup>	14	260	25	200	4800	3.2	25.8	650.2	5906675134307

1) KOT-2022/2086