

4ALL Universal Plug with Screw

High performance nylon plug with the screw for all types of substrates.



Product information

Features and benefits

- Unique internal design provides positive grip for screws
- Rib detail at plug head provides added grip.
- Expanding section designed to collapse in hollow materials and provide positive grip behind surfaces.
- Unique 4 way expansion allowing application in any substrate material and type.
- Solid head design provides strength whilst plug is installed.
- Anti-rotational lugs promote grip in wide range of substrates including soft masonry materials.

Applications

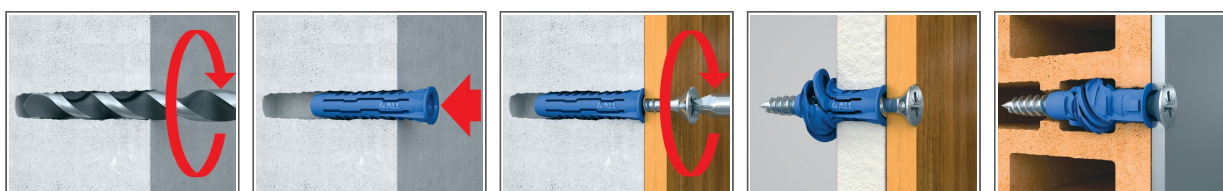
- Lighting
- Wall cabinets
- Wardrobes
- Letterboxes
- TV brackets
- Bathroom fittings
- Electrical fittings
- Shelves

Base materials

Suitable for use in

- Concrete
- Hollow-core Slab
- High-Density Natural Stone
- Solid Brick
- Hollow Brick
- Vertically-perforated Clay Block
- Lightweight Concrete Block
- Hollow Lightweight Concrete Block
- Aerated Concrete Block
- Plasterboard

Installation guide

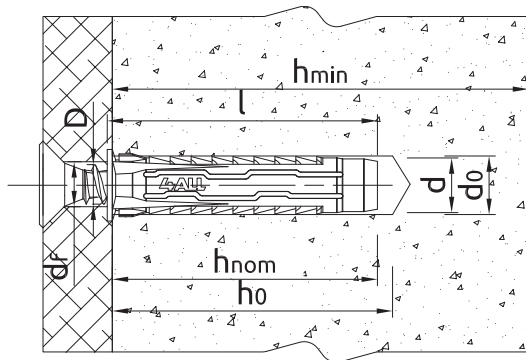


1. Drill a hole of required diameter.
2. Insert 4ALL plug into hole and tap home.
3. Insert screw of required diameter into plug through fixture and tighten.

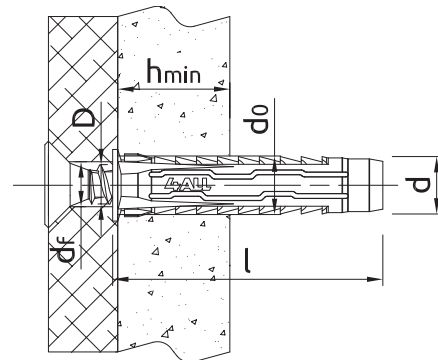
Product information

Size	Product Code	Plug		Screw		Fixture	
		Diameter	Length	Diameter	Length	Max. thickness	Hole diameter
		d	l	D	L	t _{fix}	d _f
[mm]							
Ø5	4ALL-05+3530	5	25	3.5	30	5	4
Ø6	4ALL-06+4540	6	30	4.5	40	10	5
	4ALL-06050+4560	6	50	4.5	60	10	5
Ø8	4ALL-08+5060	8	40	5	60	20	6
	4ALL-08065+5080	8	65	5	80	15	6
Ø10	4ALL-10+6060	10	50	6	60	10	7
Ø12	4ALL-12/80	12	60	8	80	20	9
	4ALL-12/100	12	60	8	100	40	9
Ø14	4ALL-14/100	14	70	10	100	30	11

Installation data



Installation data in solid substrates



Installation data in hollow substrates

Size			Ø5	Ø6	Ø6L	Ø8	Ø8L	Ø10	Ø12	Ø14
Fixing diameter	d	[mm]	5	6	6	8	8	10	12	14
Hole diameter in substrate	d ₀	[mm]	5	6	6	8	8	10	12	14
Min. hole depth in substrate	h ₀	[mm]	35	40	60	50	75	60	70	80
Min. installation depth	h _{nom}	[mm]	25	30	50	40	65	50	60	70
Min. substrate thickness	h _{min}	[mm]	80	80	80	80	95	80	90	105
Min. spacing	s _{min}	[mm]	50	60	100	80	130	100	120	140
Min. edge distance	c _{min}	[mm]	50	60	100	80	130	100	120	140

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 MZZ0/2.0)	Sand-lime solid brick	Perforated ceramic brick	Perforated brick 15MPa	Sand-lime hollow block min. 20MPa	Silicate hollow block class 15	Autoclaved aerated concrete AAC 6	Plasterboard min. 12.5 mm	Plasterboard min. 2x12.5 mm	Lightweight concrete hollow block	
		CHARACTERISTIC LOAD											
		TENSION LOAD N_{Rk}											
Ø5, Embedment depth 25mm	[kN]	0.10	-	0.20	0.20	0.15	0.50	-	0.20	0.11	-	0.20	
Ø6, Embedment depth 30mm	[kN]	0.20	0.15	0.60	0.30	0.30	0.60	-	0.30	0.21	-	0.60	
Ø6, Embedment depth 50mm	[kN]	0.30	0.60	0.90	0.50	-	-	0.90	0.60	-	0.60	0.60	
Ø8, Embedment depth 40mm	[kN]	0.50	0.75	0.90	0.30	1.20	0.75	-	0.50	0.15	-	0.40	
Ø8, Embedment depth 65mm	[kN]	0.50	0.50	0.60	0.90	-	-	0.90	0.50	-	0.75	0.60	
Ø10, Embedment depth 50mm	[kN]	0.50	0.90	1.20	0.60	0.60	0.75	-	0.60	0.26	-	0.90	
Ø12, Embedment depth 60mm	[kN]	4.50	4.00	7.00	0.60	3.00	4.50	-	3.50	-	0.66	1.50	
Ø14, Embedment depth 70mm	[kN]	5.50	6.00	10.50	1.20	1.20	5.00	-	5.50	-	0.74	2.00	
		SHEAR LOAD V_{Rk}											
Ø5, Embedment depth 25mm	[kN]	0.10	-	0.20	0.20	0.15	0.50	-	0.20	0.11	-	0.20	
Ø6, Embedment depth 30mm	[kN]	0.20	0.15	0.60	0.30	0.30	0.60	-	0.30	0.12	-	0.60	
Ø6, Embedment depth 50mm	[kN]	0.30	0.60	0.90	0.50	-	-	0.90	0.60	-	0.60	0.60	
Ø8, Embedment depth 40mm	[kN]	0.50	0.75	0.90	0.30	1.20	0.75	-	0.50	0.15	-	0.40	
Ø8, Embedment depth 65mm	[kN]	0.50	0.50	0.60	0.90	-	-	0.90	0.50	-	0.75	0.60	
Ø10, Embedment depth 50mm	[kN]	0.50	0.90	1.20	0.60	0.60	0.75	-	0.60	0.26	-	0.90	
Ø12, Embedment depth 60mm	[kN]	4.50	4.00	7.00	0.60	3.00	4.50	-	3.50	-	0.66	1.50	
Ø14, Embedment depth 70mm	[kN]	5.50	6.00	10.50	1.20	1.20	5.00	-	5.50	-	0.74	2.00	
		DESIGN LOAD											
		TENSION LOAD N_{Rd}											
Ø5, Embedment depth 25mm	[kN]	0.06	-	0.08	0.08	0.06	0.20	-	0.10	0.06	-	0.08	
Ø6, Embedment depth 30mm	[kN]	0.11	0.06	0.24	0.12	0.12	0.24	-	0.15	0.06	-	0.24	
Ø6, Embedment depth 50mm	[kN]	0.17	0.24	0.36	0.20	-	-	0.36	0.30	-	0.30	0.24	
Ø8, Embedment depth 40mm	[kN]	0.28	0.30	0.36	0.12	0.48	0.30	-	0.25	0.08	-	0.16	
Ø8, Embedment depth 65mm	[kN]	0.28	0.20	0.24	0.36	-	-	0.36	0.25	-	0.38	0.24	
Ø10, Embedment depth 50mm	[kN]	0.28	0.36	0.48	0.24	0.24	0.30	-	0.30	0.13	-	0.36	
Ø12, Embedment depth 60mm	[kN]	2.50	1.60	2.80	0.24	1.20	1.80	-	1.75	-	0.33	0.60	
Ø14, Embedment depth 70mm	[kN]	3.06	2.40	4.20	0.48	0.48	2.00	-	2.75	-	0.37	0.80	
		SHEAR LOAD V_{Rd}											
Ø5, Embedment depth 25mm	[kN]	0.08	-	0.16	0.16	0.12	0.40	-	0.16	0.09	-	0.16	
Ø6, Embedment depth 30mm	[kN]	0.16	0.12	0.48	0.24	0.24	0.48	-	0.24	0.10	-	0.48	
Ø6, Embedment depth 50mm	[kN]	0.24	0.48	0.72	0.40	-	-	0.72	0.48	-	0.48	0.48	
Ø8, Embedment depth 40mm	[kN]	0.40	0.60	0.72	0.24	0.96	0.60	-	0.40	0.12	-	0.32	
Ø8, Embedment depth 65mm	[kN]	0.40	0.40	0.48	0.72	-	-	0.72	0.40	-	0.60	0.48	
Ø10, Embedment depth 50mm	[kN]	0.40	0.72	0.96	0.48	0.48	0.60	-	0.48	0.21	-	0.72	
Ø12, Embedment depth 60mm	[kN]	3.60	3.20	5.60	0.48	2.40	3.60	-	2.80	-	0.53	1.20	
Ø14, Embedment depth 70mm	[kN]	4.40	4.80	8.40	0.96	0.96	4.00	-	4.40	-	0.59	1.60	

Basic performance data

Substrate		Concrete C20/25 - C50/60	Solid clay brick min 20MPa (eg Mzz0/2.0)	Sand-lime solid brick	Perforated ceramic brick	Perforated brick 15MPa	Sand-lime hollow block min. 20MPa	Silicate hollow block class 15	Autoclaved aerated concrete AAC 6	Plasterboard min. 12.5 mm	Plasterboard min. 2x12.5 mm	Lightweight concrete hollow block
RECOMMENDED LOAD												
TENSION LOAD N_{rec}												
Ø5, Embedment depth 25mm	[kN]	0.04	-	0.06	0.06	0.04	0.14	-	0.07	0.04	-	0.06
Ø6, Embedment depth 30mm	[kN]	0.08	0.04	0.17	0.09	0.09	0.17	-	0.11	0.04	-	0.17
Ø6, Embedment depth 50mm	[kN]	0.12	0.17	0.26	0.14	-	-	0.26	0.21	-	0.21	0.17
Ø8, Embedment depth 40mm	[kN]	0.20	0.21	0.26	0.09	0.34	0.21	-	0.18	0.05	-	0.11
Ø8, Embedment depth 65mm	[kN]	0.20	0.14	0.17	0.26	-	-	0.26	0.18	-	0.27	0.17
Ø10, Embedment depth 50mm	[kN]	0.20	0.26	0.34	0.17	0.17	0.21	-	0.21	0.09	-	0.26
Ø12, Embedment depth 60mm	[kN]	1.79	1.14	2.00	0.17	0.86	1.29	-	1.25	-	0.24	0.43
Ø14, Embedment depth 70mm	[kN]	2.18	1.71	3.00	0.34	0.34	1.43	-	1.96	-	0.26	0.57
 SHEAR LOAD V_{rec}												
Ø5, Embedment depth 25mm	[kN]	0.06	-	0.11	0.11	0.09	0.29	-	0.11	0.06	-	0.11
Ø6, Embedment depth 30mm	[kN]	0.11	0.09	0.34	0.17	0.17	0.34	-	0.17	0.07	-	0.34
Ø6, Embedment depth 50mm	[kN]	0.17	0.34	0.51	0.29	-	-	0.51	0.34	-	0.34	0.34
Ø8, Embedment depth 40mm	[kN]	0.29	0.43	0.51	0.17	0.69	0.43	-	0.29	0.09	-	0.23
Ø8, Embedment depth 65mm	[kN]	0.29	0.29	0.34	0.51	-	-	0.51	0.29	-	0.43	0.34
Ø10, Embedment depth 50mm	[kN]	0.29	0.51	0.69	0.34	0.34	0.43	-	0.34	0.15	-	0.51
Ø12, Embedment depth 60mm	[kN]	2.57	2.29	4.00	0.34	1.71	2.57	-	2.00	-	0.38	0.86
Ø14, Embedment depth 70mm	[kN]	3.14	3.43	6.00	0.69	0.69	2.86	-	3.14	-	0.42	1.14

Product commercial data

Product Code	Plug	Quantity [pcs]			Weight [kg]			Bar Codes
	Diameter [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
4ALL-06050+4560	6	50	1600	38400	0.29	9.1	248.9	5906675383491
4ALL-08065+5080	8	50	800	19200	0.48	7.6	213.2	5906675383507
4ALL-06+4540	6	50	1600	76800	0.19	6.1	321.8	5906675028941
4ALL-08+5060	8	50	800	19200	0.35	5.5	162.9	5906675028958
4ALL-05+3530	5	50	1600	76800	0.09	3.0	172.8	5906675028934
4ALL-10+6060	10	25	400	19200	0.28	4.5	245.8	5906675028965
4ALL-12/80	12	10	160	7680	0.32	5.2	277.3	5906675159492
4ALL-12/100	12	10	160	7680	0.38	6.1	323.4	5906675159515
4ALL-14/100	14	10	160	8960	0.62	9.9	584.6	5906675159539