

FF1-L Nylon frame fixing countersunk version - zinc plated

Universal frame fixing, countersunk zinc plated screw for many applications



Approvals and Reports

- ETA-12/0398



Product information

Features and benefits

- The countersunk plug for flush fixing of soft material (eg. timber)
- Specially-formulated nylon allows best performance installation for use in all base material categories according to ETAG 020 (A, B, C, D)
- Internal plug geometry designed to fit the screw head
- Embedment depth markings facilitate precise installation
- The zinc plated countersunk screw (with T40 recess) provides flush finish in the fixture

Applications

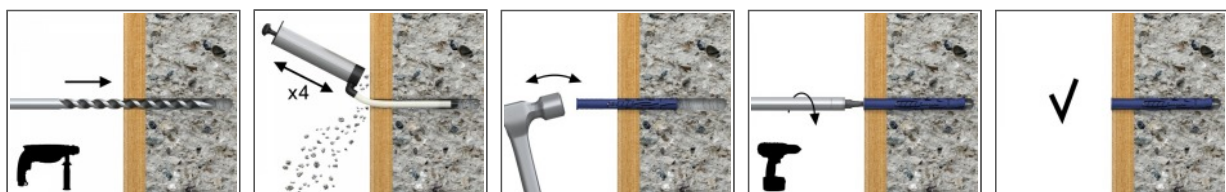
- Door and window frames
- Gates
- Industrial doors
- Facade (substructures made of wood and metal)
- Wall cabinets
- Satellite dishes
- Garage doors
- Shelves
- Handrails
- Cable trays

Base materials

Approved for use in:

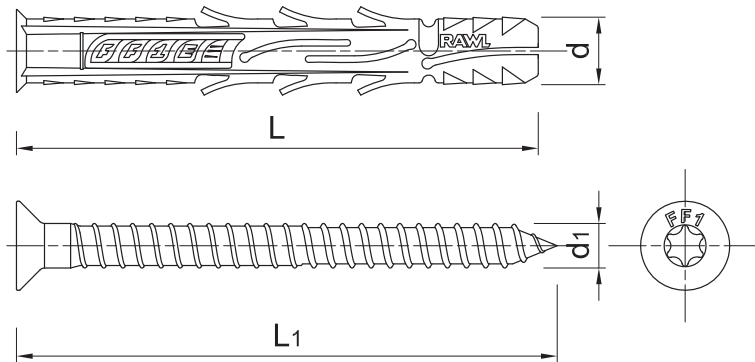
- Concrete C12/15-C50/60 (Use category A)
- Solid Brick (Use category B)
- Solid Sand-lime Brick (Use category B)
- Hollow Sand-lime Brick (Use category C)
- Hollow Brick
- Hollow Lightweight Concrete Block (Use category C)
- Aerated Concrete Block (Use category E)

Installation guide



1. Drill a hole of required diameter and depth
2. With a hammer, lightly tap the plug through the fixture into hole until fixing depth is reached
3. Tighten the FF1 screw

Product information



Size	Product Code	Plug		Screw		Fixture		
		Diameter	Length	Diameter	Length	Max. thickness		Hole diameter
		d	l	d ₁	L1	t _{fix} 50	t _{fix} 70	d _f
[mm]								
Ø8	R-FF1-N-08L080	7.8	80	5.8	87	-	10	8
	R-FF1-N-08L100	7.8	100	5.8	107	-	30	8
	R-FF1-N-08L120	7.8	120	5.8	127	-	50	8
Ø10	R-FF1-N-10L080	9.8	80	7	87	30	10	10
	R-FF1-N-10L100	9.8	100	7	107	50	30	10
	R-FF1-N-10L120	9.8	120	7	127	70	50	10
	R-FF1-N-10L140	9.8	140	7	147	90	70	10
	R-FF1-N-10L160	9.8	160	7	167	110	90	10
	R-FF1-N-10L200	9.8	200	7	207	150	130	10
	R-FF1-N-10L240	9.8	240	7	247	190	170	10
Ø14	R-FF1-N-14L120	13.8	120	10.8	131	-	50	14
	R-FF1-N-14L160	13.8	160	10.8	171	-	90	14
	R-FF1-N-14L200	13.8	200	10.8	211	-	130	14
	R-FF1-N-14L240	13.8	240	10.8	251	-	170	14

Installation data

Size			Ø8	Ø8	Ø10	Ø10	Ø14
Effective embedment depth	h _{ef}		50	70	50	70	70
Fixing diameter	d	[mm]	7.8	7.8	9.8	9.8	13.8
Hole diameter in substrate	d ₀	[mm]	8	8	10	10	14
Min. hole depth in substrate	h ₀	[mm]	60	80	60	80	80
Installation depth	h _{nom}	[mm]	50	70	50	70	70
Min. substrate thickness	h _{min}	[mm]	100	100	100	100	100
Min. spacing	s _{min}	[mm]	60	100	90	95	120
Min. edge distance	c _{min}	[mm]	60	100	80	80	120
Screw drive	-	[-]	T30	T30	T40	T40	T50

Basic performance data

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

Substrate		Concrete C12/15	Concrete min. C16/20	Solid clay brick min 20MPa (eg	Solid silicate brick min 20MPa (eg KS	Perforated ceramic blocks min 15MPa	Perforated ceramic blocks min 15MPa	Sand-lime hollow block min. 20MPa	Lightweight concrete hollow block min	Hollow brick min. 12MPa	Hollow brick min. 15MPa	Autoclaved aerated concrete AAC 2	Autoclaved aerated concrete AAC 6	Solid brick min. 50MPa	Sand-lime brick min. 30MPa	Hollow clay block min. 7.5MPa
		CHARACTERISTIC LOAD F_{Rk}														
Ø8, Effective embedment depth 50 mm	[kN]	1.50	2.00	1.50	1.50	0.75	0.40	0.50	0.90	0.60	1.20	-	-	-	-	-
Ø8, Effective embedment depth 70 mm	[kN]	-	-	-	-	-	-	-	-	-	-	0.40	0.90	-	-	-
Ø10, Effective embedment depth 50 mm	[kN]	1.20	2.00	-	-	-	-	-	-	-	-	-	-	-	1.50	-
Ø10, Effective embedment depth 70 mm	[kN]	2.50	4.00	-	-	1.50	1.50	3.50	0.90	0.90	0.75	0.40	0.90	5.00	-	0.75
Ø14, Effective embedment depth 70 mm	[kN]	4.00	5.50	4.50	3.50	1.20	1.20	1.20	1.20	0.90	1.50	0.60	1.50	-	-	-
DESIGN LOAD F_{Rd}																
Ø8, Effective embedment depth 50 mm	[kN]	0.83	1.11	0.60	0.60	0.30	0.16	0.20	0.36	0.24	0.48	-	-	-	-	-
Ø8, Effective embedment depth 70 mm	[kN]	-	-	-	-	-	-	-	-	-	-	0.20	0.45	-	-	-
Ø10, Effective embedment depth 50 mm	[kN]	0.67	1.11	-	-	-	-	-	-	-	-	-	-	-	0.60	-
Ø10, Effective embedment depth 70 mm	[kN]	1.39	2.22	-	-	0.60	0.60	1.40	0.36	0.36	0.30	0.20	0.45	2.00	-	0.30
Ø14, Effective embedment depth 70 mm	[kN]	2.22	3.06	1.80	1.40	0.48	0.48	0.48	0.48	0.36	0.60	0.30	0.75	-	-	-
RECOMMENDED LOAD F_{rec}																
Ø8, Effective embedment depth 50 mm	[kN]	0.60	0.79	0.43	0.43	0.21	0.11	0.14	0.26	0.17	0.34	-	-	-	-	-
Ø8, Effective embedment depth 70 mm	[kN]	-	-	-	-	-	-	-	-	-	-	0.14	0.32	-	-	-
Ø10, Effective embedment depth 50 mm	[kN]	0.48	0.79	-	-	-	-	-	-	-	-	-	-	-	0.43	-
Ø10, Effective embedment depth 70 mm	[kN]	0.99	1.59	-	-	0.43	0.43	1.00	0.26	0.26	0.21	0.14	0.32	1.43	-	0.21
Ø14, Effective embedment depth 70 mm	[kN]	1.59	2.18	1.29	1.00	0.34	0.34	0.34	0.34	0.26	0.43	0.21	0.54	-	-	-

Product commercial data

Size	Product Code	Plug	Screw		Quantity [pcs]			Weight [kg]			Bar Codes
		Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet		
Ø14	R-FF1-N-14L120 ¹⁾	13.8	10.8	131							
	R-FF1-N-14L160 ¹⁾	13.8	10.8	171							
	R-FF1-N-14L200 ¹⁾	13.8	10.8	211							
	R-FF1-N-14L240 ¹⁾	13.8	10.8	251							
Ø8	R-FF1-N-08L080 ¹⁾	7.8	5.8	87	50	800	19200	0.89	14.2	370.2	5906675163703
	R-FF1-N-08L100 ¹⁾	7.8	5.8	107	50	800	19200	1.15	18.3	470.2	5906675163741
	R-FF1-N-08L120 ¹⁾	7.8	5.8	127	50	800	19200	1.35	21.6	549.0	5906675292830
Ø10	R-FF1-N-10L080 ¹⁾	9.8	7	87	50	400	9600	1.38	11.1	295.9	5906675266909
	R-FF1-N-10L100 ¹⁾	9.8	7	107	25	400	9600	1.07	17.0	439.0	5906675266916
	R-FF1-N-10L120 ¹⁾	9.8	7	127	25	300	7200	1.05	12.6	333.4	5906675266923
	R-FF1-N-10L140 ¹⁾	9.8	7	147	25	300	7200	1.22	14.6	380.2	5906675266930
	R-FF1-N-10L160 ¹⁾	9.8	7	167	25	300	7200	1.38	16.6	428.4	5906675266947
	R-FF1-N-10L200 ¹⁾	9.8	7	207	25	25	6000	1.72	1.72	442.6	5906675033983
	R-FF1-N-10L240 ¹⁾	9.8	7	247	25	25	3000	2.1	2.1	280.2	5906675034102
	R-FF1-N-10L300 ¹⁾	9.8	7	307	10	10	3120	1.05	1.05	357.0	5906675034119

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