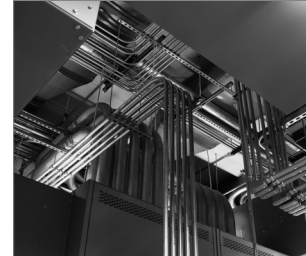


R-FF1-N-K-M Nylon frame fixing with collar hex head - zinc plated

Universal frame fixing with collar and hex head screw for many applications



Product information

Features and benefits

- Collared plug for fixing of hard materials (eg. steel)
- 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
- Plug design ensures multi-axis expansion

Applications

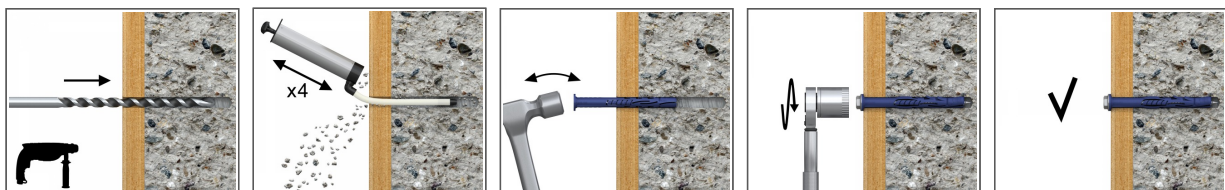
- Door and window frames
- Garage doors
- Gates
- Industrial doors
- Facade (substructures made of wood and metal)
- Wall cabinets
- Satellite dishes
- Shelves
- Handrails
- Cable trays

Base materials

Approved for use in:

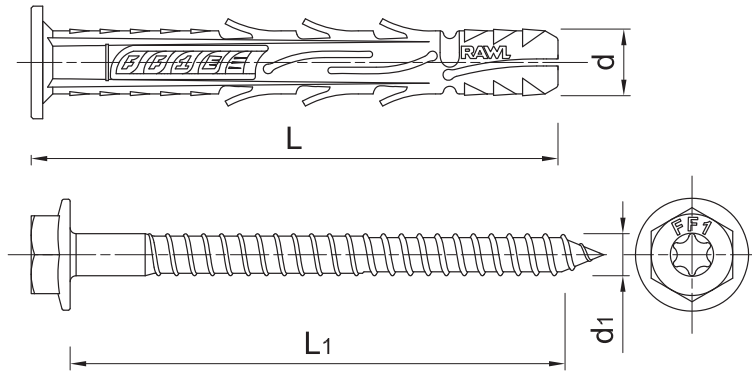
- Solid Brick (Use category B)
- Solid Sand-lime Brick (Use category B)
- Hollow Sand-lime Brick (Use category C)
- Hollow Brick (Use category C)
- Hollow Lightweight Concrete Block (Use category D)
- Aerated Concrete Block (Use category D)
- Concrete \geq C12/15 (Use category A)
- Cracked concrete \geq C12/15 (Use category A)

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]								
Ø10	R-FF1-N-10K080-M	9.8	80	7	89	30	10	10
	R-FF1-N-10K100-M	9.8	100	7	109	50	30	10
	R-FF1-N-10K120-M	9.8	120	7	129	70	50	10
	R-FF1-N-10K140-M	9.8	140	7	149	90	70	10
	R-FF1-N-10K160-M	9.8	160	7	169	110	90	10
	R-FF1-N-10K200-M	9.8	200	7	209	150	130	10

Installation data

Size	Ø10		
Hole diameter in substrate	d ₀	[mm]	10
Min. installation depth	h _{nom}	[mm]	90
Minimum effective embedment depth	h _{ef}	[mm]	90
Min. hole depth in substrate	h ₀	[mm]	h _{ef} + 10
Min. substrate thickness	h _{min}	[mm]	h ₀ + 20
Min. spacing	s _{min}	[mm]	50
Min. edge distance	c _{min}	[mm]	50
Wrench size	Sw	[mm]	13
Screw drive	-	[-]	T40
Fixing diameter	d	[mm]	9.8

Basic performance data

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

Substrate		Concrete min. C20/25	Ceramic solid brick M126	Sand-lime solid brick M125	Perforated ceramic brick M125	Lightweight concrete block 10MPa	Autoclaved aerated concrete AAC 6
MEAN ULTIMATE LOAD							
TENSION LOAD N _{Ru,m}							
Ø10, Effective embedment depth 90 mm	[kN]	30.50	27.63	18.81	-	13.26	5.92
Ø10, Effective embedment depth 110 mm	[kN]	-	-	-	7.88	-	7.38
SHEAR LOAD V _{Ru,m}							
Ø10, Effective embedment depth 90 mm	[kN]	30.50	-	-	-	-	-
Ø10, Effective embedment depth 110 mm	[kN]	-	-	-	-	-	-
DESIGN LOAD							
TENSION LOAD N _{Rd}							
Ø10, Effective embedment depth 90 mm	[kN]	5.10	4.37	3.28	-	2.36	1.07
Ø10, Effective embedment depth 110 mm	[kN]	-	-	-	1.32	-	1.21

Basic performance data

Substrate		Concrete min. C20/25	Ceramic solid brick M126	Sand-lime solid brick M125	Perforated ceramic brick M125	Lightweight concrete block 10MPa	Autoclaved aerated concrete AAC 6
SHEAR LOAD V_{Rd}							
Ø10, Effective embedment depth 90 mm	[kN]	5.10	-	-	-	-	-
Ø10, Effective embedment depth 110 mm	[kN]	-	-	-	-	-	-

Product commercial data

Product Code	Plug		Screw		Quantity [pcs]			Weight [kg]			Bar Codes
	Diameter [mm]	Length [mm]	Box	Outer	Pallet	Box	Outer	Pallet			
R-FF1-N-10K080-M	9.8	7	89	250	250	6000	8.7	8.7	238.8	5906675424637	
R-FF1-N-10K100-M	9.8	7	109	250	250	6000	10.4	10.4	278.7	5906675424651	
R-FF1-N-10K120-M	9.8	7	129	250	250	6000	11.9	11.9	316.1	5906675424675	
R-FF1-N-10K140-M	9.8	7	149	180	180	4320	9.8	9.8	265.6	5906675425399	
R-FF1-N-10K160-M	9.8	7	169	160	160	3840	9.9	9.9	267.6	5906675425412	
R-FF1-N-10K200-M	9.8	7	209	150	150	3600	11.5	11.5	305.3	5906675425047	