Structherm
STRUCTURAL INSULATED FACADES

Facade Insulation Fixings

RAWLPLUG®

KI-10 Facade fixing with plastic pin

Hammerset insulation fixing with reinforced plastic nail

Approvals and Reports

- ETA-07/0291

Product information

Features and benefits

- Installation in all substrates (categories A,B,C,D,E).
- The plastic nail reduces heat transmission (value 0.0W/K)
- Plastic nail reinforced with glass fibre allows fast and trouble-free installation with correct expansion of the plug.
- Expansion zone designed for low embedment depths, reducing the amount of drilling required.
- Can be used with additional KWL insulation holding plate, available in 90, 110 and 140mm flange sizes (recommended for soft insulation materials such as mineral wool).
- Optimal product parameters enable cost-saving solutions.
- Optimum plate stiffness ensures stability and excellent pull-over values

Applications

- Polystyrene boards
- Mineral wool (MW) boards
- Light wood wool building boards
- Polyurethane boards
- Wood fibre boards
- Lightweight recycled panels
- External Thermal Insulation Composite Systems (ETICS)

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)
- Vertically-perforated clay block (Use category C)
- Hollow Lightweight Concrete Block (Use category D)
- Lightweight Concrete Block (Use category C)
- Reinforced components of lightweight aggregate concrete (Use category D)
- Aerated Concrete Block (Use category D)

Installation guide

1. Drill a hole of required diameter and depth
2. Drilling depth of min 35 in masonry, 50mm in perforated materials and 70mm in lightweight concrete block and aerated concrete
3. Lightly tap the plastic sleeve through the insulation material into hole with a hammer, until fixing depth is reached
4. Embedment depth of min 25 in masonry, 40mm in perforated materials and 60mm in lightweight concrete block and aerated concrete
5. Lightly tap the plastic nail into the plastic sleeve until fixing is secure and flush with insulation material.

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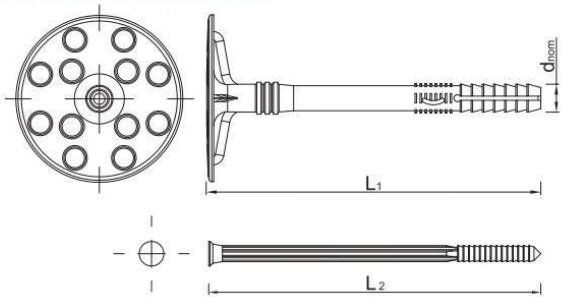

Size	Product Code	Fixing			Fixture		
		Diameter	Length	Plate diameter	Recommended thickness		
		d	L	D	t_{fix} A, B, C	t_{fix} D	t_{fix} E
		[mm]					
Ø10	R-KI-070	10	70	60	35	20	0
	R-KI-090	10	90	60	55	40	20
	R-KI-120	10	120	60	85	70	50
	R-KI-140	10	140	60	105	90	70
	R-KI-160	10	160	60	125	110	90
	R-KI-180	10	180	60	145	130	110
	R-KI-200	10	200	60	165	150	130
	R-KI-220	10	220	60	185	170	150

Installation data

Substrate			A, B, C	D	E
Fixing diameter	d	[mm]	10	10	10
Hole diameter in substrate	d_o	[mm]	10	10	10
Min. hole depth in substrate	h_o	[mm]	35	50	70
Min. installation depth	h_{nom}	[mm]	25	40	60
Min. substrate thickness	h_{min}	[mm]	100	100	100
Min. spacing	s_{min}	[mm]	100	100	100
Min. edge distance	c_{min}	[mm]	100	100	100

Basic performance data

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

Substrate		Concrete C12/15	Concrete min. C16/20	Solid brick	Sand-lime solid brick	Calcium silicate hollow	Perforated ceramic brick	Perforated ceramic brick (i.e. Porotherm)	MEGA MAX	Lightweight concrete hollow block	Lightweight concrete block	Aerated concrete
Effective embedment depth h_{ef}	[mm]	25	25	25	25	25	25	25	25	40	60	60
MEAN ULTIMATE LOAD $N_{Rk,m}$												
KI-10	[kN]	0.78	0.70	0.72	0.89	0.96	0.74	0.57	0.67	0.75	0.78	0.25
CHARACTERISTIC LOAD N_{Rk}												
KI-10	[kN]	0.50	0.50	0.50	0.60	0.60	0.40	0.40	0.30	0.40	0.50	0.10
DESIGN LOAD N_{Rd}												
KI-10	[kN]	0.25	0.25	0.25	0.30	0.30	0.20	0.20	0.15	0.20	0.25	0.05

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RECOMMENDED LOAD N_{rec}												
KI-10	[kN]	0.18	0.18	0.18	0.21	0.21	0.14	0.14	0.11	0.14	0.18	0.04

Fixing type		KI-10
Plate resistance	[kN]	2.1
Plate stiffness	[kN/mm]	0.5
Point thermal transmittance	-	0

Product commercial data

Size	Product Code	Fixing			Quantity [pcs]			Weight [kg]			Bar Codes
		Diameter [mm]	Length [mm]	Plate diameter [mm]	Box	Outer	Pallet	Box	Outer	Pallet	
Ø10	R-KI-070	10	70	60	250	250	14000	1.93	1.93	138.1	5906675258171
	R-KI-090	10	90	60	250	250	14000	1.65	1.65	122.4	5906675258188
	R-KI-120	10	120	60	250	250	12000	2.7	2.7	161.0	5906675258195
	R-KI-140	10	140	60	250	250	10000	3.3	3.3	162.8	5906675258201
	R-KI-160	10	160	60	250	250	10000	3.7	3.7	179.2	5906675258218
	R-KI-180	10	180	60	250	250	7500	4.4	4.4	161.4	5906675258225
	R-KI-200	10	200	60	250	250	7500	5.0	5.0	180.6	5906675258232
	R-KI-220	10	220	60	250	250	7500	5.1	5.1	182.1	5906675270029