

BRAVOLL® PTH-KZ**Picture****Description**

Steel nail hammer-in anchor for fixing expanded polystyrene (EPS) and mineral wool insulation boards in external wall systems (ETICS).

Technical data

European Technical Approval:	ETA 05/0055
Technical guidelines:	ETAG 014
Use categories acc. to ETAG 014:	A - B - C - D
Washer diameter d_p :	60 mm
Drilling diameter d_o :	8 mm
Minimum embedment depth h_{nom} :	25 mm
Minimum drilling depth h_i :	$h_{nom} + 10 - 15$ mm
Point thermal transmission χ :	0.002 W/K
Anchor plate load resistance:	2.1 kN
Anchor plate stiffness:	0.7 kN/mm
Anchor body material:	shock-resistant polypropylene
Expansion pin material:	Galvanized steel

Features

- Special plate surface for optimum render adhesion
- Low embedment depth
- High pull-out values
- Optimum thermal transmittance
- Favourable quantity of anchors per m²
- Quick and easy installation
- Suitable for high thickness insulation boards
- Premounted anchor
- Can be used in connection with **BRAVOLL® IT PTH** washers

Anchor type BRAVOLL®	Code	Total Length L _a (mm)	Max. insulation thickness h _D (mm)	Max. insulation thickness h _D (mm)	Quantity per carton (pcs)
			new ¹⁾	renovation ²⁾	
Material categories:			A - B - C - D		
PTH-KZ 60/8-75	10408	75	40	-	200
PTH-KZ 60/8-95	10409	95	60	40	200
PTH-KZ 60/8-115	10410	115	80	60	200
PTH-KZ 60/8-135	10411	135	100	80	200
PTH-KZ 60/8-155	10412	155	120	100	200
PTH-KZ 60/8-175	10413	175	140	120	100
PTH-KZ 60/8-195	10414	195	160	140	100
PTH-KZ 60/8-215	10415	215	180	160	100
PTH-KZ 60/8-235	10416	235	200	180	100
PTH-KZ 60/8-255	10417	255	220	200	100
PTH-KZ 60/8-275	10418	275	240	220	100
PTH-KZ 60/8-295	10419	295	260	240	100
PTH-KZ 60/8-315	10420	315	280	260	100

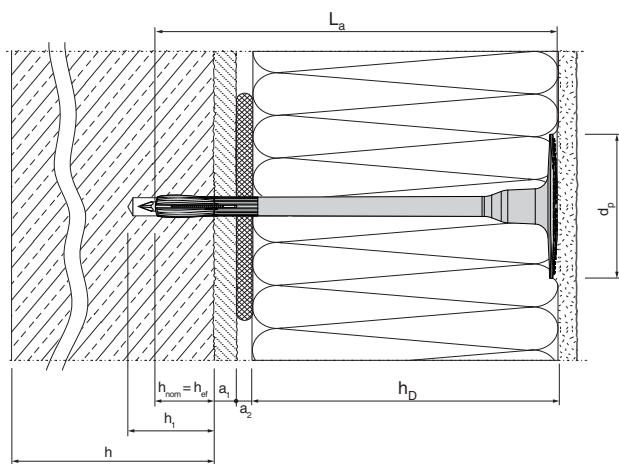
¹⁾ 1) For a 25 mm embedment and 10 mm of glue (a2)

²⁾ 2) For a 25 mm embedment, 20 mm of old render (a1) and 10 mm of glue (a2)

Technical data

Anchor type BRAVOLL®	PTH-KZ
Base material	Characteristic load resistance N_{RK} (kN)
Concrete C 12/15 acc. to EN 206-1	0.7
Concrete C 16/20 - C 50/60 acc. to EN 206-1	0.9
Solid bricks according to EN 771-1	0.9
Sand-lime solid bricks according to EN 771-2	0.9
Hollow blocks from aerated concrete according to EN 771-3	0.9
Lightweight aggregate concrete according to EN 1520 (LAC)	0.9
Hollow bricks acc. to EN 771-1	0.3
Vertically perforated clay bricks acc. to Önorm B6124	0.5
Minimum edge distance c_{min} (mm)	100
Minimum spacing s_{min} (mm)	100
Minimum thickness of member h (mm)	100

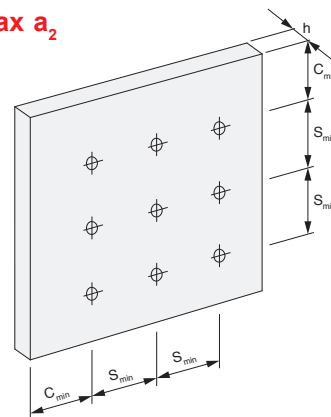
Drawing



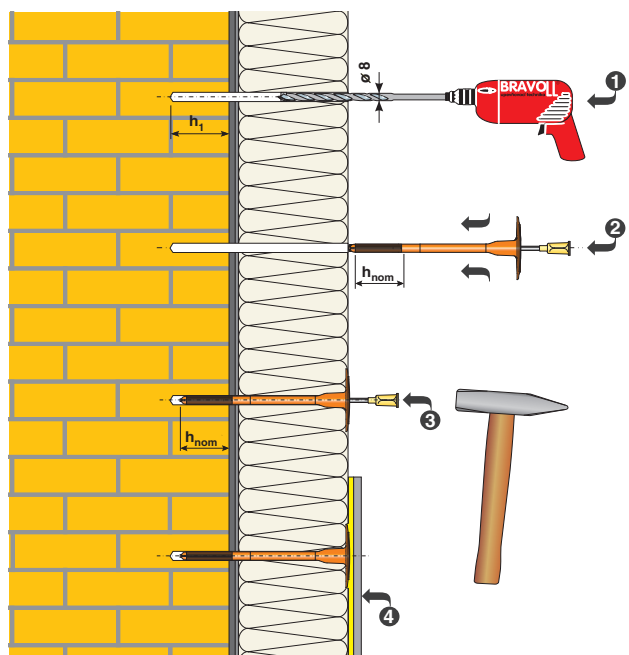
Anchor length calculation

$$L_a \geq h_D + h_{nom} + \max a_1 + \max a_2$$

- d_p - washer diameter
- L_a - anchor length
- h_D - insulation material thickness
- h_{nom} - minimum embedment
- h_{ef} - effective embedment depth
- h_1 - minimum drilling depth
- h - base material thickness
- a_1 - render thickness
- a_2 - gluing mortar thickness + facade surface flatness tolerance



Installation



- Drill a hole through the insulation board with the right diameter. Hollow bricks should be drilled without hammering (ideally with a specially designed drill bit).
- Insert the anchor into the hole with the anchor plate flush in contact with the insulation material. Slightly hammer the anchor plate surface in order to push it between 0 and 2mm under the insulation material surface.
- If the anchor setting is difficult, it probably means that the used drill bit is worn (the drilled diameter is too small or the dust remains inside the hole). It is then necessary to use a new drill bit or better clean the hole.
- Hammer the head of the steel nail until it becomes flush with the anchor plate.
- An 800g hammer is recommended to perform an optimal installation.
- Within 6 weeks the anchors should be covered by the other ETICS components (for UV protection).
- When levelling surface make sure to respect the minimum embedment depth.
- Installation must be done at a temperature $>0^{\circ}\text{C}$.