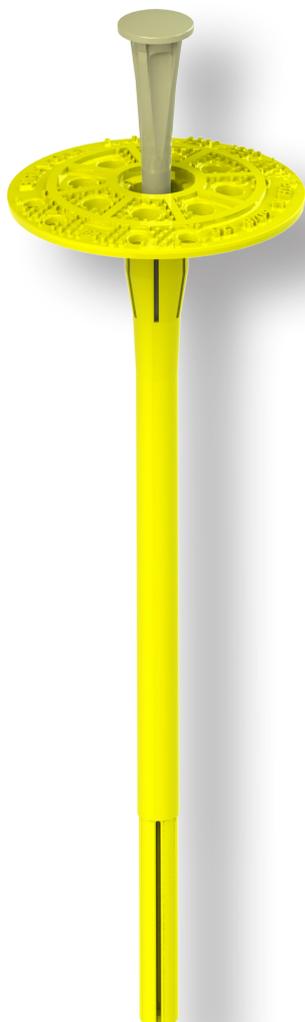


**BRAVOLL® PTH-X**

## Picture



## Description

Hammer-in plastic anchor for fixing expanded polystyrene (EPS) insulation boards. Suitable for ETICS.

## Technical data

European Technical Approval:	ETA 13/0951
Technical guideline:	ETAG 014
Use categories acc. to ETAG 014:	A - B - C - D
Plate diameter $d_p$ :	60 mm
Drilling diameter $d_o$ :	8 mm
Minimum embedment $h_{nom}$ :	35 mm
Maximum embedment $h_{max}$ :	70 mm
Minimum drilling depth $h_1$ :	$h_{nom} + 10 - 15$ mm
Point thermal transmission $\chi$ :	0.000 W/K
Anchor plate stiffness:	0.6 kN/mm
Anchor plate load resistance:	1.4 kN
Anchor body material:	polypropylene
Expansion pin material:	polyamide

## Features

- Special deformation area for easy setting and a perfect finish
- Economical price
- Low embedment - Quick drilling
- High pull-out values
- No thermal conductivity
- Easy and quick setting
- Special plate surface for optimum render adhesion
- Premounted anchor

Anchor type BRAVOLL®	Code	Total length $L_a$ (mm)	max. insulation thickness $h_b$ (mm)	max. insulation thickness $h_b$ (mm)	Quantity per carton (pcs)
			New <sup>1)</sup>	Renovation <sup>2)</sup>	
Base material categories:			A - B - C - D		
<b>PTH-X 115</b>		115	70	50	200
<b>PTH-X 135</b>		135	90	70	200
<b>PTH-X 155</b>		155	110	90	200
<b>PTH-X 175</b>		175	130	110	200
<b>PTH-X 195</b>		195	150	130	200
<b>PTH-X 215</b>		215	170	150	100
<b>PTH-X 235</b>		235	190	170	100
<b>PTH-X 255</b>		255	210	190	100

<sup>1)</sup> For a 35 mm embedment and 10 mm of glue ( $a_2$ )

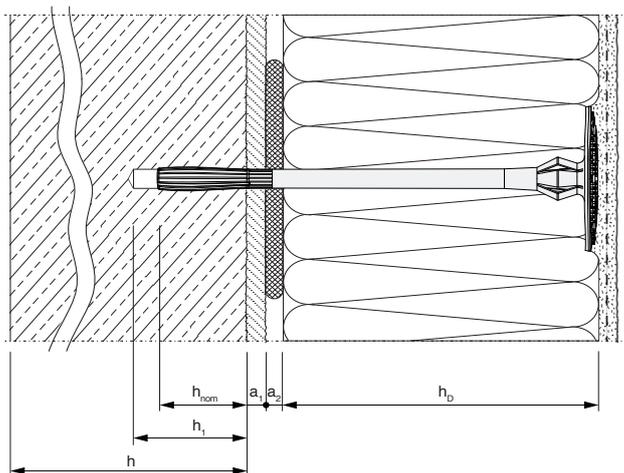
<sup>2)</sup> For a 35 mm embedment, 20 mm of old render ( $a_1$ ) and 10 mm of glue ( $a_2$ )

Technical data

Anchor type BRAVOLL®	PTH-X
Base materials	characteristic resistance $N_{RK}$ (kN)
Concrete C 12/15 acc. to EN 206-1	0.60
Concrete C 16/20 - C 50/60 acc. to EN 206-1	0.75
Solid clay bricks acc. to EN 771-1	0.75
Sand-lime solid bricks acc. to EN 771-2	0.75
Hollow blocks from aerated concrete acc. to EN 771-3	0.60
Lightweight aggregate concrete acc. to EN 1520 (LAC)	0.50
Perforated clay bricks acc. to EN 771-1	0.50
Vertically perforated clay bricks acc. to ÖNORM B6124	0.40
Minimum edge distance $c_{min}$ (mm)	100
Minimum spacing $s_{min}$ (mm)	100
Minimum thickness of member $h$ (mm)	100

\*) Based on a safety coefficient  $\gamma$  of 3

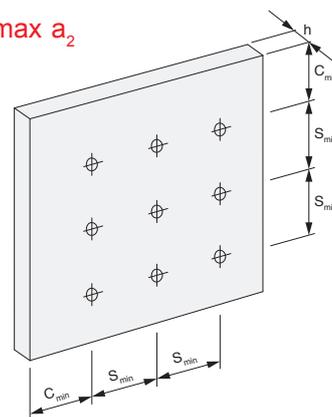
Drawing



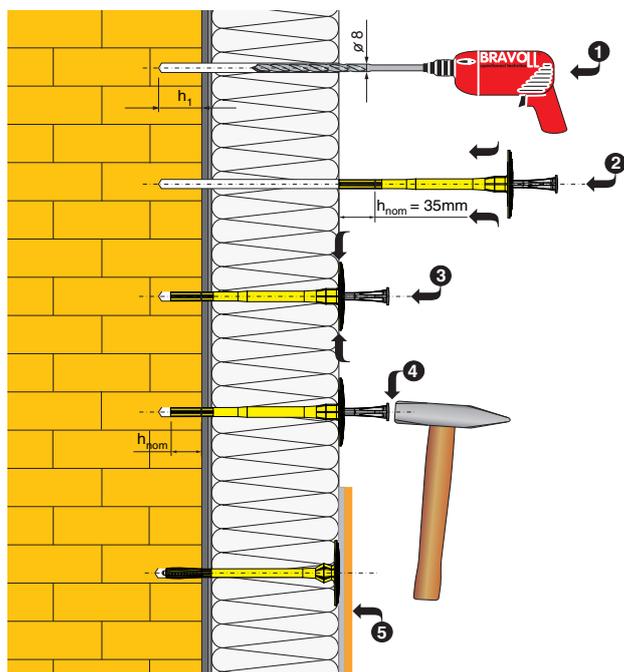
Anchor length calculation

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

- $d_p$  - plate diameter
- $L_a$  - anchor length
- $h_D$  - ins. material thickness
- $h_{nom}$  - minimum embedment
- $h_{ef}$  - effective embedment depth
- $h_1$  - minimum drilling depth
- $a_1$  - render thickness
- $a_2$  - gluing mortar thickness + facade surface flatness tolerance



Installation



- Drill a hole through the insulation board to 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 in order to push it between 0 and 2 mm under the insulation material surface.
- If the anchor is difficult to set, 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 pin until it becomes flush with the anchor plate.
- A 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).
- Installation must be done at a temperature  $> 0^\circ\text{C}$ .