

BRAVOLL® PTH-SX**Picture****Description**

Screw-in insulation anchor for fixing all popular types of insulation material boards in ETICS systems. Suitable for surface and countersunk application.

Technical data

European Technical Approval:	ETA 10/0028
Technical guidelines:	ETAG 014
Use categories acc. to ETAG 014:	A, B, C, D, E
Plate diameter d_p :	60 mm
Drilling diameter d_o :	8 mm
Minimum embedment h_{nom} :	35/55 mm ¹⁾
Maximum embedment h_{max} :	70 mm
Minimum drilling depth h_1 :	actual embedment + 10 - 15 mm ²⁾
Setting tool:	MPS (TORX® T30)
Point thermal transmission χ :	0.000 W/K
Anchor plate resistance:	1.54kN
Anchor plate stiffness:	0.7 kN/mm
Anchor body material:	shock-resistant polypropylene
Screw material:	glass fiber reinforced polyamide

¹⁾ The second value applies for cellular concrete.

²⁾ For countersunk application the values are 20mm higher.

Features

- approved and suitable for all categories of base materials
- high pull-out values - reduced quantity of anchors per m² - economical
- can be installed surface and countersunk
- no thermal conductivity
- collapse zone in the anchor body for an easier setting of the anchor plate into the insulation boards
- particularly suitable for difficult and brittle substrates
- quick and easy installation through the insulation material
- pre-assembled screw for faster setting
- can be used in connection with extension washers **BRAVOLL® IT PTH and ZP**

BRAVOLL® name	code	total length L_a (mm)	max. insulation thickness h_D (mm)	max. insulation thickness h_D (mm)	max. insulation thickness h_D (mm)	max. insulation thickness h_D (mm)	Qty per carton (pcs)
			newbuild ¹⁾	renovation ²⁾	newbuild ³⁾	renovation ⁴⁾	
Base material categories:			A, B, C, D		E		
PTH-SX 135	11601	135	90	70	70	50	200
PTH-SX 155	11602	155	110	90	90	70	200
PTH-SX 175	11603	175	130	110	110	90	100
PTH-SX 195	11604	195	150	130	130	110	100
PTH-SX 215	11605	215	170	150	150	130	100
PTH-SX 235	11606	235	190	170	170	150	100
PTH-SX 255	11607	255	210	190	190	170	100

¹⁾ for 35mm embedment and 10mm of gluing mortar (a_2)

²⁾ for 35mm embedment, 20mm of old render (a_1) and 10 mm of gluing mortar (a_2)

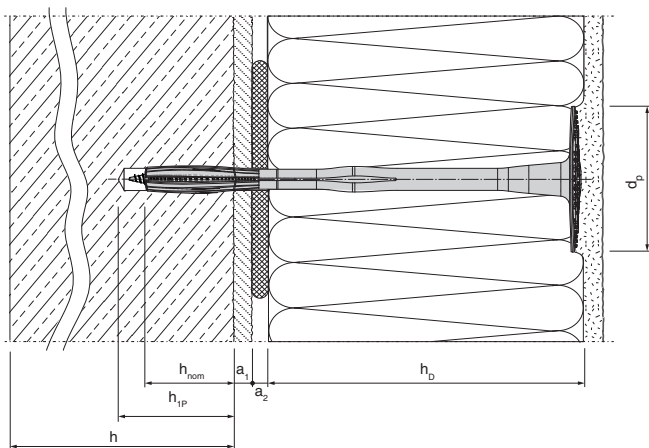
³⁾ for 55mm embedment and 10mm of gluing mortar (a_2)

⁴⁾ for 55mm embedment, 20mm of old render (a_1) and 10 mm of gluing mortar (a_2)

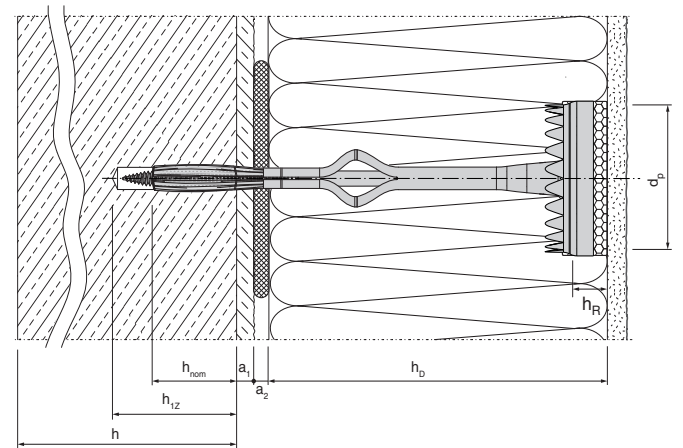
Technical data

BRAVOLL® name	PTH-SX	
Base material	characteristic load resistance N_{RK} (kN) for installation	
	surface	countersunk
Concrete C 20/25 acc. to EN 206-1	1.2	1.5
Concrete C 16/20 - C 50/60 acc. to EN 206-1	1.2	1.5
Solid bricks acc. to EN 771-1	1.2	1.5
Sand-lime solid bricks acc. to EN 771-2	1.2	1.5
Hollow blocks from aerated concrete acc. to EN 771-3	1.2	1.5
Lightweight aggregate concrete acc. to EN 771-3 LAC	0.9	1.5
Hollow bricks acc. to EN 771-1	0.6	0.9
Vertically perforated clay bricks acc. to ÖN B6124	0.9	0.9
Aerated concrete P 2-400 acc. to EN 771-4	0.5	0.5
Minimum edge distance c_{min} (mm)	100	
Minimum spacing s_{min} (mm)	100	

Drawing - Surface installation

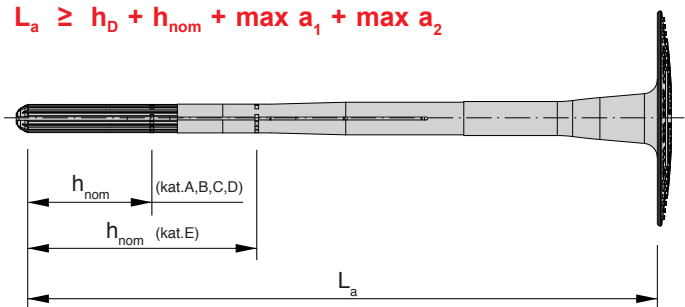


Drawing - Countersunk installation



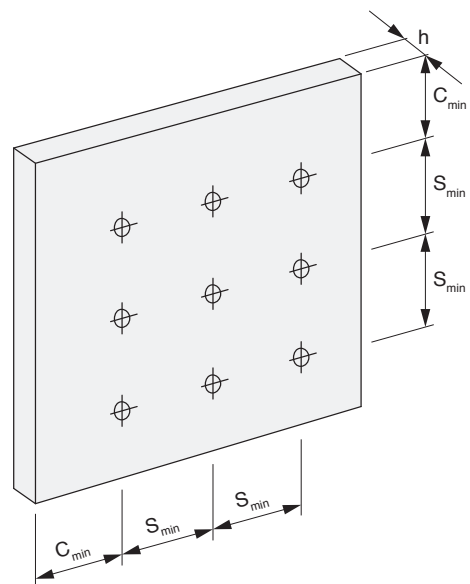
Anchor length calculation

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

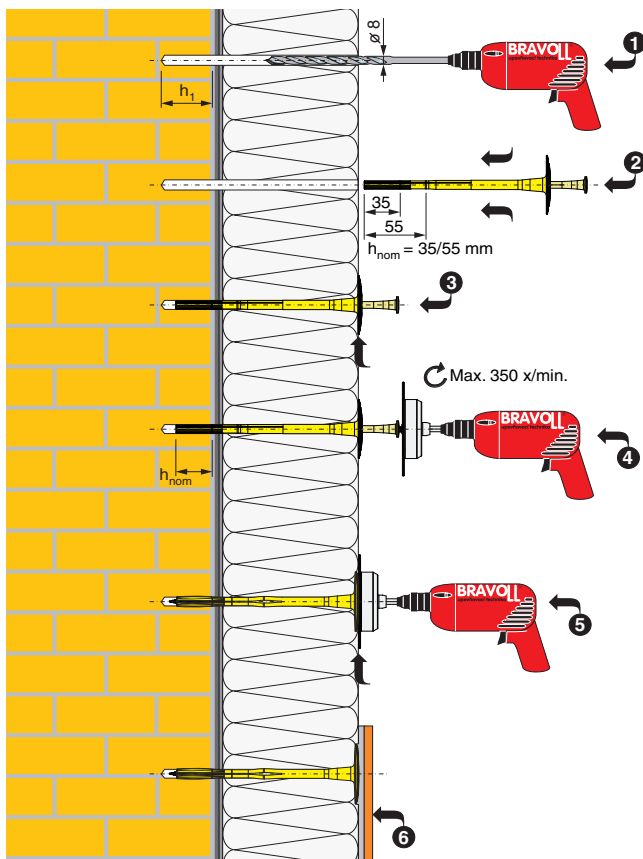


- d_p - plate diameter
- L_a - anchor length
- h_D - insulation material thickness
- h_{nom} - minimum embedment depth
- h_{ip} - minimum drilling depth - surface installation
- h_{iz} - minimum drilling depth - countersunk installation
- h - base material thickness
- h_R - IZ insulation cap thickness
- a_1 - render thickness
- a_2 - gluing mortar thickness + facade surface flatness tolerance

Anchor positioning

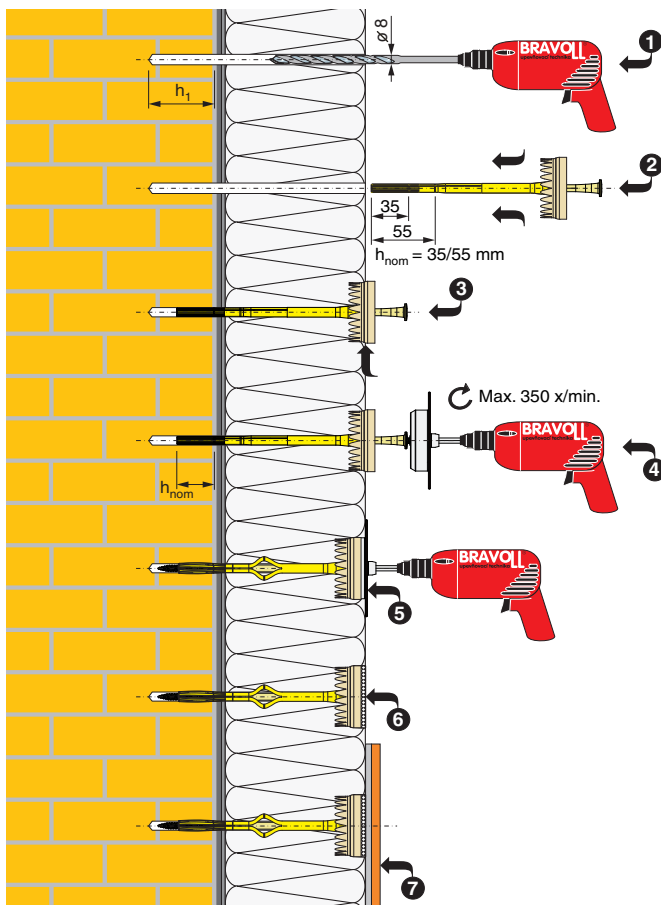


Surface installation with MPS



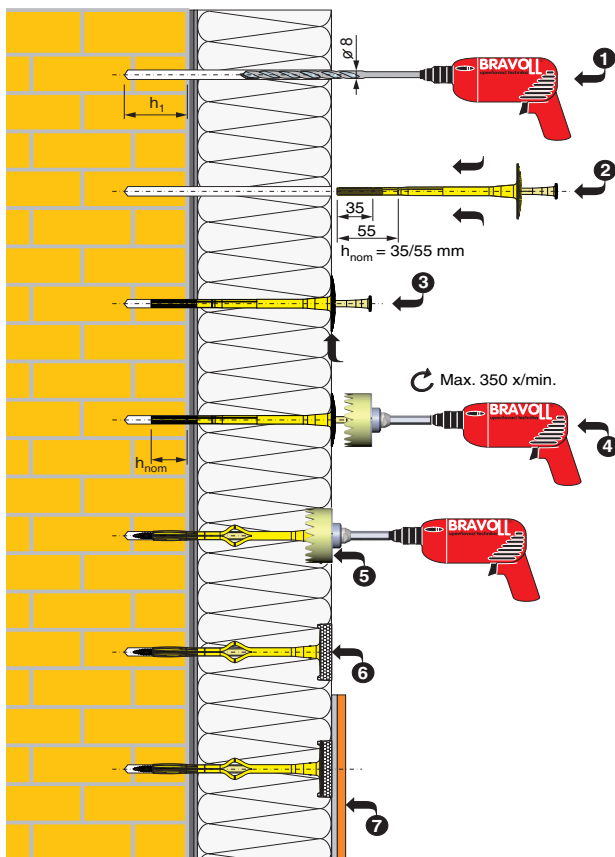
- Drill a hole, insert the anchor in ensuring that the plate is fully in contact with the insulation material. If necessary slightly push the anchor with the screwdriver.
- Shall the anchor setting be difficult, it probably means that the used drill bit is worn (the drilled diameter is too small or too much dust remains inside the hole). It is then necessary to use a new drill bit or better clean the hole. Hollow bricks and aerated concrete should only be drilled without hammering (ideally with a specially designed drill bit).
- Installation should be performed with an electrical screwdriver (max. 350 rpm, ideally with electronic regulation) and the setting tool BRAVOLL MPS (Torx 30).
- Stop screwing when the anchor plate gets flush or between 0 and 2mm below the surface of the insulation material.
- Within 6 weeks the set anchors should be covered by the other ETICS components (for UV protection).
- When levelling out surface unevenness, make sure to respect the minimum embedment depth.
- Installation must be done at a minimum temperature of 0° C.

Countersunk installation with MPS



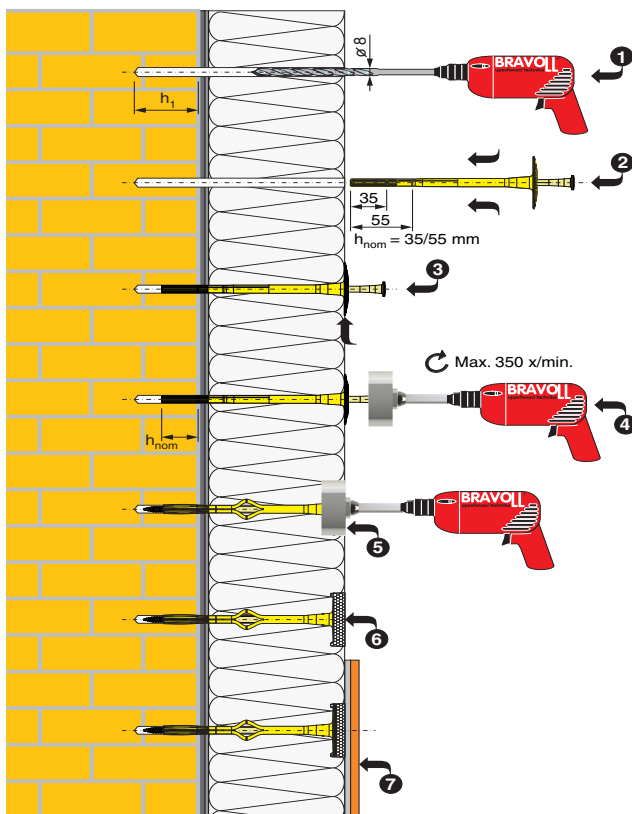
- Assemble the countersunk accessory BRAVOLL ZP with the anchor, so that it comes in contact with the bottom of the anchor plate.
- Insert the anchor and the BRAVOLL ZP accessory together into the drilled hole. Gently press the teeth into the insulation material.
- Shall the anchor setting be difficult, it probably means that the used drill bit is worn (the drilled diameter is too small or too much dust remains inside the hole). It is then necessary to use a new drill bit or better clean the hole. Hollow bricks and aerated concrete should only be drilled without hammering (ideally with a specially designed drill bit).
- Installation must be done with the BRAVOLL MPS setting tool and an electrical screwdriver with electronic regulation (at a maximum speed of 350 rpm).
- Drive the screw until the red depth plate of the BRAVOLL MPS setting tool comes into contact with the insulation material.
- Insert the BRAVOLL IZ insulation cap in to the shaped cavity, and level it off with the insulation material surface.
- When levelling out surface unevenness, make sure to respect the minimum embedment depth.
- Installation must be done at a minimum temperature of 0° C.

Countersunk installation with ZPS



- Insert the anchor into the predrilled hole. If necessary, slightly push the anchor with the screwdriver. Shall the anchor setting be difficult, it probably means that the used drill bit is worn (the drilled diameter is too small or too much dust remains inside the hole). It is then necessary to use a new drill bit or better clean the hole. Hollow bricks and aerated concrete should only be drilled without hammering (ideally with a specially designed drill bit).
- Installation must be done with the BRAVOLL ZPS setting tool and an electrical screwdriver with electronic regulation (at a maximum speed of 350 rpm!).
- Drive the screw until the surface of BRAVOLL ZPS with red narrows and „STOP“ comes to the level of the surface of insulation material.
- Insert the BRAVOLL IZ insulation cap in to the shaped cavity, and level it off with the insulation material surface.
- When levelling out surface unevenness, make sure to respect the minimum embedment depth.
- Installation must be done at a minimum temperature of 0° C.

Countersunk installation with ZPR



- Insert the anchor into the predrilled hole. If necessary, slightly push the anchor with the screwdriver. Shall the anchor setting be difficult, it probably means that the used drill bit is worn (the drilled diameter is too small or too much dust remains inside the hole). It is then necessary to use a new drill bit or better clean the hole. Hollow bricks and aerated concrete should only be drilled without hammering (ideally with a specially designed drill bit).
- Installation must be done with the BRAVOLL ZPR setting tool and an electrical screwdriver with electronic regulation (at a maximum speed of 350 rpm!).
- Drive the screw until the surface of BRAVOLL ZPR with red narrows and „STOP“ comes to the level of the surface of insulation material.
- Insert the BRAVOLL IZ insulation cap in to the shaped cavity, and level it off with the insulation material surface.
- When levelling out surface unevenness, make sure to respect the minimum embedment depth.
- Installation must be done at a minimum temperature of 0° C.

Accessories - BRAVOLL® IZ

Pictures



Description

Insulation cap from expanded polystyrene or mineral wool against thermal bridges and for a uniform surface finish (countersunk installation) in external wall insulation systems (ETICS).

Technical data

Diameter: 65 mm
Material: EPS

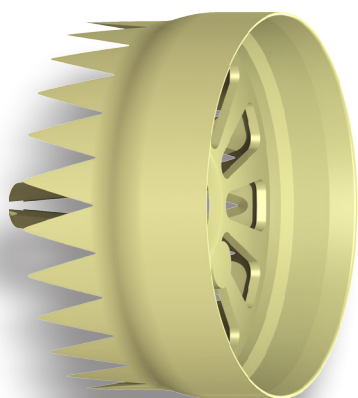
Features

- removal of unwished visual problems on facades
- special centering point for precise setting
- perfectly fits on the anchor plate and the insulation board

Type BRAVOLL®	code (pc)	Qty per carton (pcs)
Insulation cap IZ - EPS white	11682	100
Insulation cap IZ - EPS grey	11683	100

Accessories - BRAVOLL® ZP

Picture



ZP

Description

Accessory for the countersunk installation of the Bravoll anchor BRAVOLL PTH-SX for fixing insulation boards in external wall insulation systems (ETICS).

Technical data

Diameter: 65 mm
Material: Polyamide

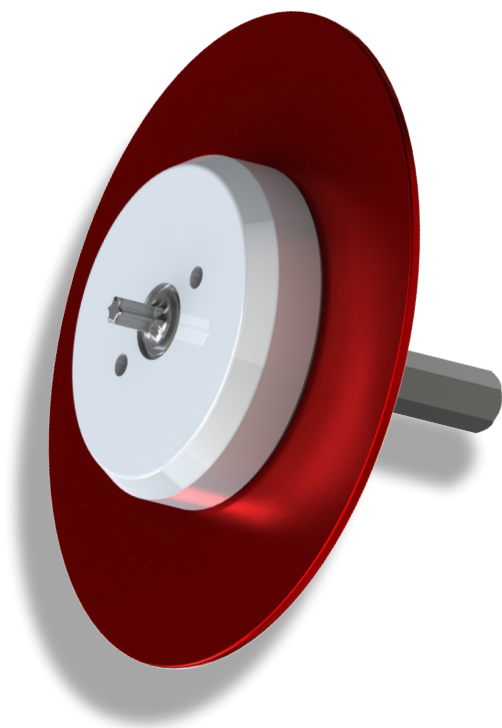
Features

- removal of unwished visual problems on facades
- limitation of thermal bridges

Type BRAVOLL®	code (pc)	Qty per carton (pcs)
Countersunk accessory ZP	11686	100

Accessories - BRAVOLL® MPS

Picture



Description

Double-sided setting tool BRAVOLL MPS for surface and countersunk installation of insulation anchors in external wall insulation systems (ETICS).

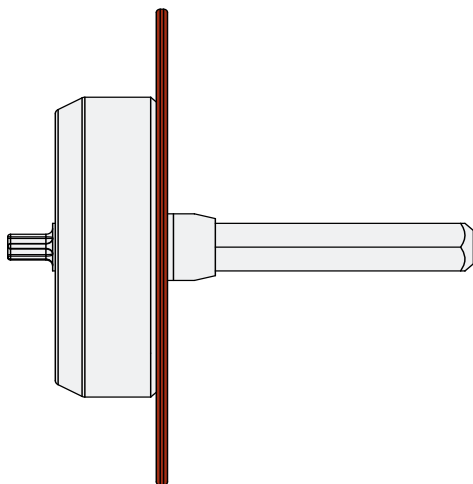
Technical data

Bit: TORX® T30
 Shank: hexagonal 10 mm
 Material: aluminium, steel

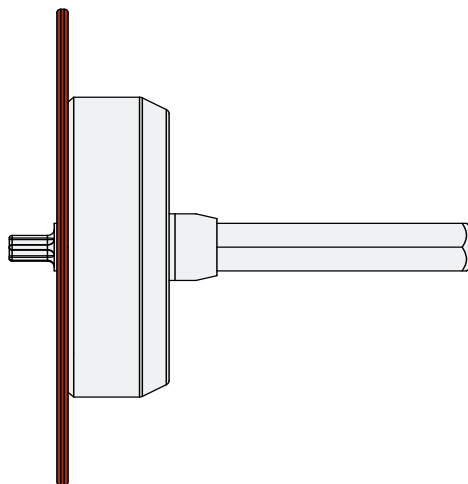
Features

- precise and uniform setting of anchors into the insulation material - removal of all visual defects on facades
- double-sided tool for surface and countersunk installation
- lightweight
- very simple and easy to use

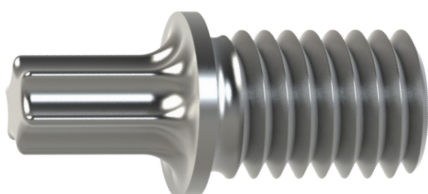
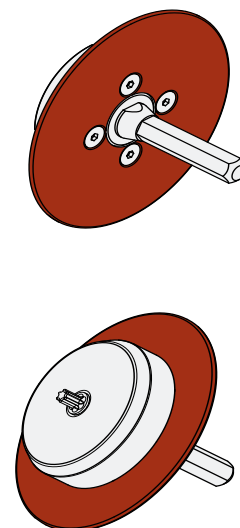
Type BRAVOLL®	Code	Qty
Setting tool MPS	11689	1



MPS - Countersunk installation



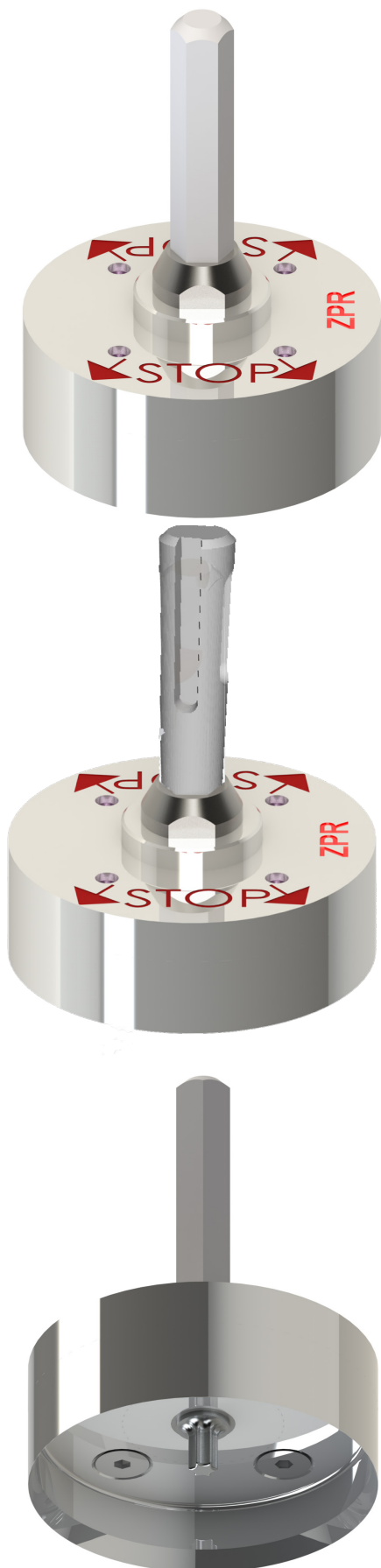
MPS - Surface installation



Type BRAVOLL®	code	Qty per box
spare BIT for MPS, ZPS and ZPR	11545	1
spare BIT for MPS, ZPS and ZPR	11546	10

Accessories - BRAVOLL® ZPR

Picture



Description

Setting tool ZPR - for countersunk installation of screw-in anchors in contact insulation systems (ETICS).

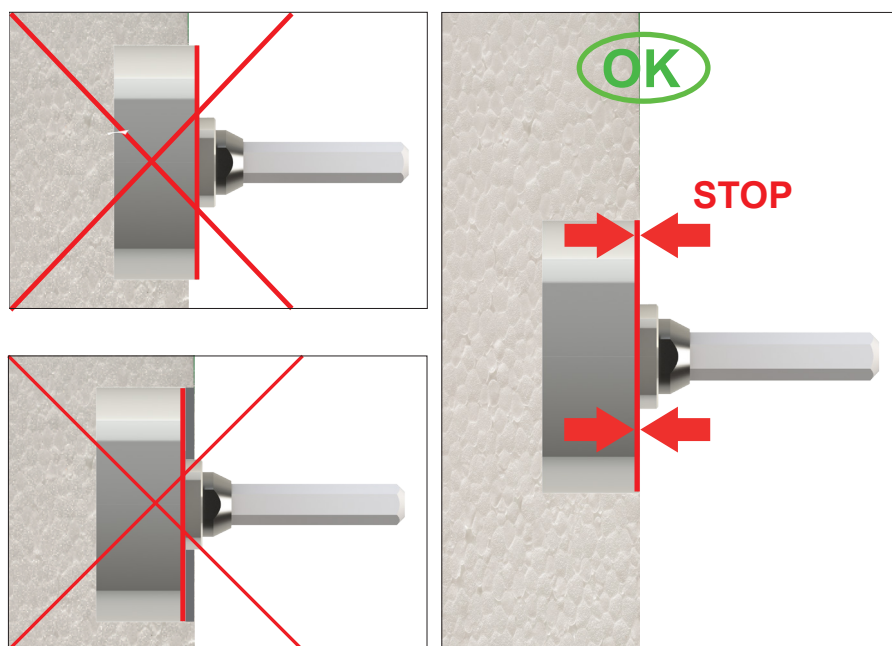
Technical data

Screwing bit: TORX® T30
 Shank ZPR: hexagonal 10 mm
 Shank ZPR SDS: SDS - plus
 Material: Aluminium, steel

Features

- cleanliness during application - no waste of EPS, MW!
- precise and uniform setting of insulation anchor plates into the insulation material boards - eliminates all unwished visual problems on facades
- low weight of the setting tool
- very simple and easy-to-use tool

Product	order number	pc
ZPR	12297	1
ZPR SDS	12305	1



Accessories - BRAVOLL® ZPS

Picture



Description

Setting tool ZPS for countersunk installation of screw-in anchors in contact insulation systems (ETICS).

Technical data

Screwing bit: TORX® T30
Shank: hexagonal 10 mm
Material: Aluminium, steel, PP

Features

- precise and uniform setting of insulation anchor plates into the insulation material boards - eliminates all unwished visual problems on facades
- low weight of the setting tool
- very simple and easy-to-use tool

Product	order number	pc(s)
ZPS	11440	1
Spare crown	11443	5

