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European Technical Assessment

ETA-17/0303 of 20/02/2023

General Part

Technical Assessment Body issuing the European Technical Assessment	Instytut Techniki Budowlanej
Trade name of the construction product	S-IPT 8/p and S-IPT 8/s
Product family to which the construction product belongs	Screwed-in plastic anchors for fixing of external thermal insulation composite systems with rendering in concrete and masonry
Manufacturer	pgb-Polska Sp. z o.o. ul. Fryderyka Wilhelma Redena 3 PL 41-807 Zabrze Poland
Manufacturing plant	pgb-Polska Sp. z o.o. ul. Fryderyka Wilhelma Redena 3 PL 41-807 Zabrze Poland
This European Technical Assessment contains	17 pages including 3 Annexes which form an integral part of this Assessment
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	European Assessment Document EAD 330196-01-0604 "Plastic anchors made of virgin or non-virgin material for fixing of external thermal insulation composite systems with rendering"
This version replaces	ETA-17/0303 issued on 28/09/2018

Specific Part

1 Technical description of the product

The S-IPT 8/p screwed in plastic anchor consists of sleeve with a plate made of polypropylene (virgin material) and an accompanying screw made of fiberglass reinforced polyamide.

The S-IPT 8/s screwed in plastic anchor consists of sleeve with a plate made of polypropylene (virgin material) and an accompanying screw made of zinc plated carbon steel with head covered with fiberglass reinforced polyamide.

The S-IPT8/p and S-IPT 8/s anchors may be combined with the additional plates IWP ø90 mm and IWP ø140 mm, made of fiberglass reinforced polyamide or polypropylene.

The description of the products is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

The performances given in clause 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The provisions made in this European Technical Assessment are based on an assumed working life of the anchor of 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer or Technical Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Performance of the product

3.1.1 Safety in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance under tension load	Annex C1
Edge distance and spacing	Annex B2
Plate stiffness	Annex C2
Displacements	Annex C3

3.1.2 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal transmittance	Annex C2

3.2 Methods used for the assessment

The assessment has been made in accordance with EAD 330196-01-0604.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to the Decision 97/463/EC of the European Commission, system 2+ of assessment and verification of constancy of performance (see Annex V to the regulation (EU) No 305/2011) applies.

5 Technical details necessary for the implementation of the AVCP system, as provided in the applicable European Assessment Document (EAD)

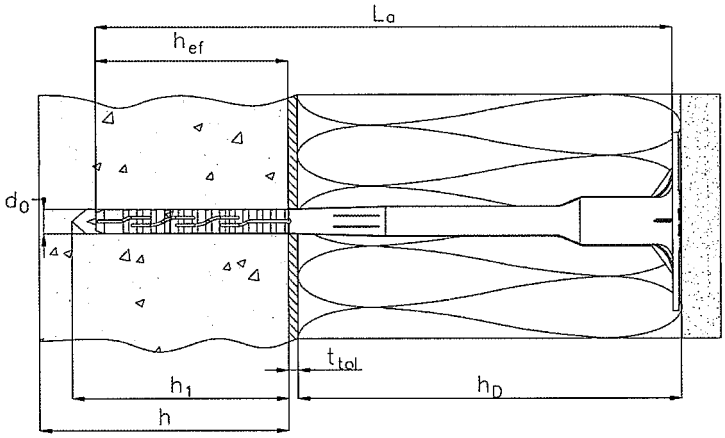
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited in Instytut Techniki Budowlanej.

For the type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

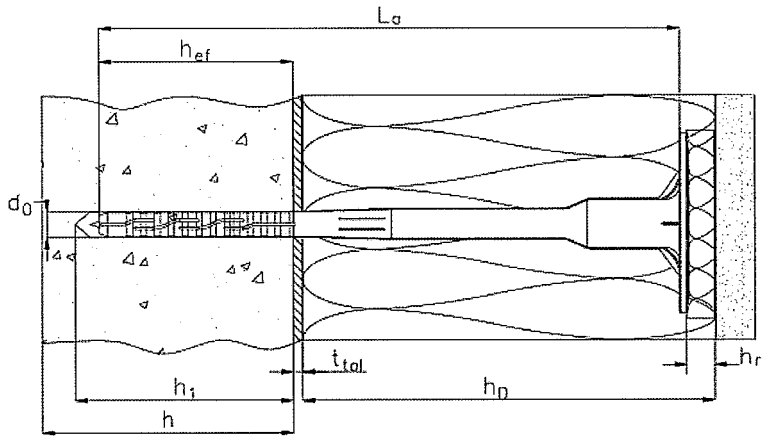
Issued in Warsaw on 20/02/2023 by Instytut Techniki Budowlanej

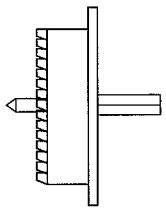
Anna Panek, MSc
Deputy Director of ITB

a) Flush installation – without styrofoam disc



b) Countersunk installation – with styrofoam disc





special drill for installation

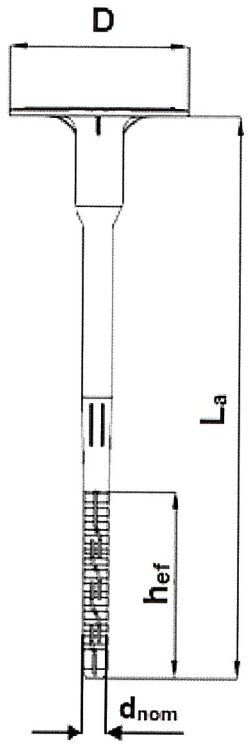
Intended Use

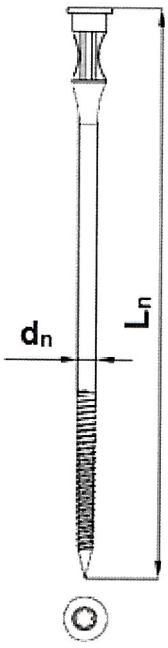
Fixing of external thermal insulation composite systems in concrete and masonry

Legend

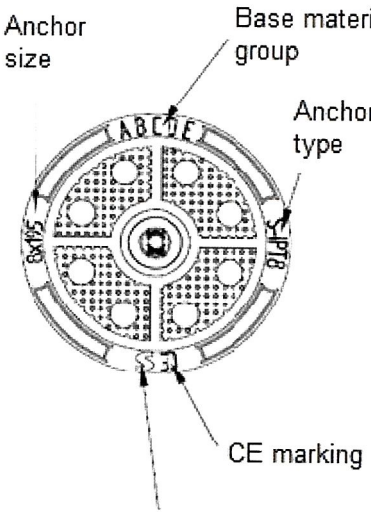
d_0 = drill hole diameter
h_{ef} = effective anchorage depth
h_1 = depth of drill hole to deepest point (in base material)
h = thickness of base material (wall)
h_D = thickness of insulation material
t_{tol} = thickness of equalizing layer for compensation of tolerance or non-load-bearing coating
h_r = thickness of styrofoam disc
L_a = length of plastic anchor

S-IPT 8/p and S-IPT 8/s	**Annex A1**
Product description Installation conditions	of European Technical Assessment ETA-17/0303





Plastic expansion screw



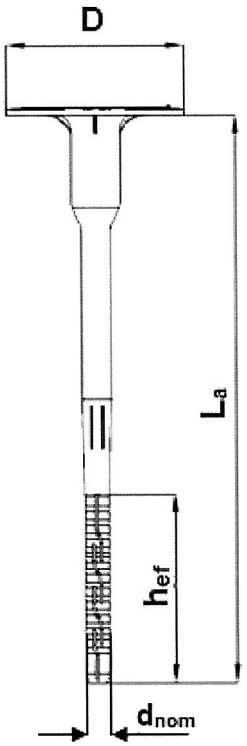
Marking:
Identifying mark (producer's logo):
S
Length of anchor:
(e.g. 195)
Nominal diameter d_{nom}:
(ϕ8)
Base material group:
(A, B, C, D, E)

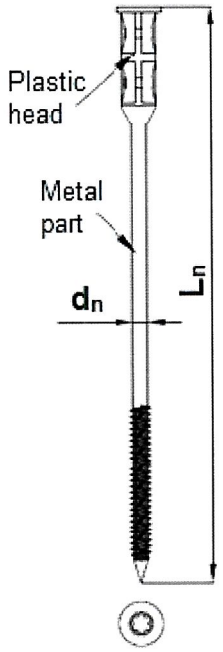
Table A1: S-IPT 8/p anchor dimensions [mm]

Anchor designation	S-IPT 8/p anchor sleeve					S-IPT 8/p expansion pin	
	d_{nom}	L_a	D	$h_{ef\ (ABCD)}$	$h_{ef\ (E)}$	d_n	L_n
S-IPT 8/p x 95	8,0	95	60	30	50	6,0	100
S-IPT 8/p x 115	8,0	115	60	30	50	6,0	120
S-IPT 8/p x 135	8,0	135	60	30	50	6,0	140
S-IPT 8/p x 155	8,0	155	60	30	50	6,0	160
S-IPT 8/p x 175	8,0	175	60	30	50	6,0	180
S-IPT 8/p x 195	8,0	195	60	30	50	6,0	200
S-IPT 8/p x 215	8,0	215	60	30	50	6,0	220
S-IPT 8/p x 235	8,0	235	60	30	50	6,0	240
S-IPT 8/p x 255	8,0	255	60	30	50	6,0	260
S-IPT 8/p x 275	8,0	275	60	30	50	6,0	280
S-IPT 8/p x 295	8,0	295	60	30	50	6,0	300

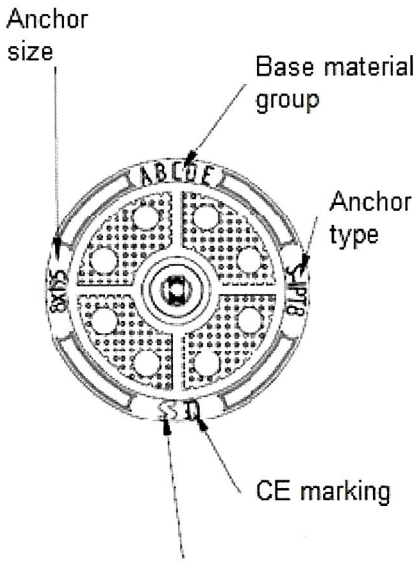
$h_{ef\ (ABCD)}$ – for anchors in the base material group A, B, C and D
$h_{ef\ (E)}$ – for anchors in the base material group E
Determination of maximum thickness of insulation material: $h_D = L_a - t_{tol} - h_{ef}$

S-IPT 8/p and S-IPT 8/s	**Annex A2** of European Technical Assessment ETA-17/0303
Product description Marking and dimensions of the S-IPT 8/p anchors	





Metal expansion screw with plastic head



Marking:
Identifying mark (producer's logo):
S
Length of anchor:
(e.g. 195)
Nominal diameter d_{nom}:
(ϕ8)
Base material group:
(A, B, C, D, E)

Table A2: S-IPT 8/s anchor dimensions [mm]

Anchor designation	S-IPT 8/s anchor sleeve					S-IPT 8/s expansion pin	
	d_{nom}	L_a	D	$h_{ef\ (ABCD)}$	$h_{ef\ (E)}$	d_n	L_n
S-IPT 8/s x 95	8,0	95	60	30	50	5,7	100
S-IPT 8/s x 115	8,0	115	60	30	50	5,7	120
S-IPT 8/s x 135	8,0	135	60	30	50	5,7	140
S-IPT 8/s x 155	8,0	155	60	30	50	5,7	160
S-IPT 8/s x 175	8,0	175	60	30	50	5,7	180
S-IPT 8/s x 195	8,0	195	60	30	50	5,7	200
S-IPT 8/s x 215	8,0	215	60	30	50	5,7	220
S-IPT 8/s x 235	8,0	235	60	30	50	5,7	240
S-IPT 8/s x 255	8,0	255	60	30	50	5,7	260
S-IPT 8/s x 275	8,0	275	60	30	50	5,7	280
S-IPT 8/s x 295	8,0	295	60	30	50	5,7	300
S-IPT 8/s x 315	8,0	315	60	30	50	5,7	320
S-IPT 8/s x 335	8,0	335	60	30	50	5,7	340

$h_{ef\ (ABCD)}$ – for anchors in the base material group A, B, C and D
$h_{ef\ (E)}$ – for anchors in the base material group E
Determination of maximum thickness of insulation material: $h_D = L_a - t_{tol} - h_{ef}$

S-IPT 8/p and S-IPT 8/s	**Annex A3** of European Technical Assessment ETA-17/0303
Product description Marking and dimensions of the S-IPT 8/s anchors	

extension of table A2

Anchor designation	S-IPT 8/s anchor sleeve					S-IPT 8/s expansion pin	
	d_{nom}	L_a	D	$h_{ef\ (ABCD)}$	$h_{ef\ (E)}$	d_n	L_n
S-IPT 8/s x 355	8,0	355	60	30	50	5,7	360
S-IPT 8/s x 375	8,0	375	60	30	50	5,7	380
S-IPT 8/s x 395	8,0	395	60	30	50	5,7	400
S-IPT 8/s x 415	8,0	415	60	30	50	5,7	420
S-IPT 8/s x 435	8,0	435	60	30	50	5,7	440
S-IPT 8/s x 455	8,0	455	60	30	50	5,7	460

$h_{ef\ (ABCD)}$ – for anchors in the base material group A, B, C and D
$h_{ef\ (E)}$ – for anchors in the base material group E
Determination of maximum thickness of insulation material: $h_D = L_a - t_{tol} - h_{ef}$

Table A3: Materials

Designation	Material
Anchor sleeve S-IPT 8/p and S-IPT 8/s	Virgin material: polypropylene (gray or natural)
Expansion pin S-IPT 8/p	Fiberglas reinforced polyamide (black)
Expansion pin S-IPT 8/s	Carbon steel ($f_{y,k} \geq 220$ MPa, $f_{u,k} \geq 360$ MPa), galvanized ≥ 5 µm according to EN ISO 4042, with fiberglass reinforced polyamide (black) coated head

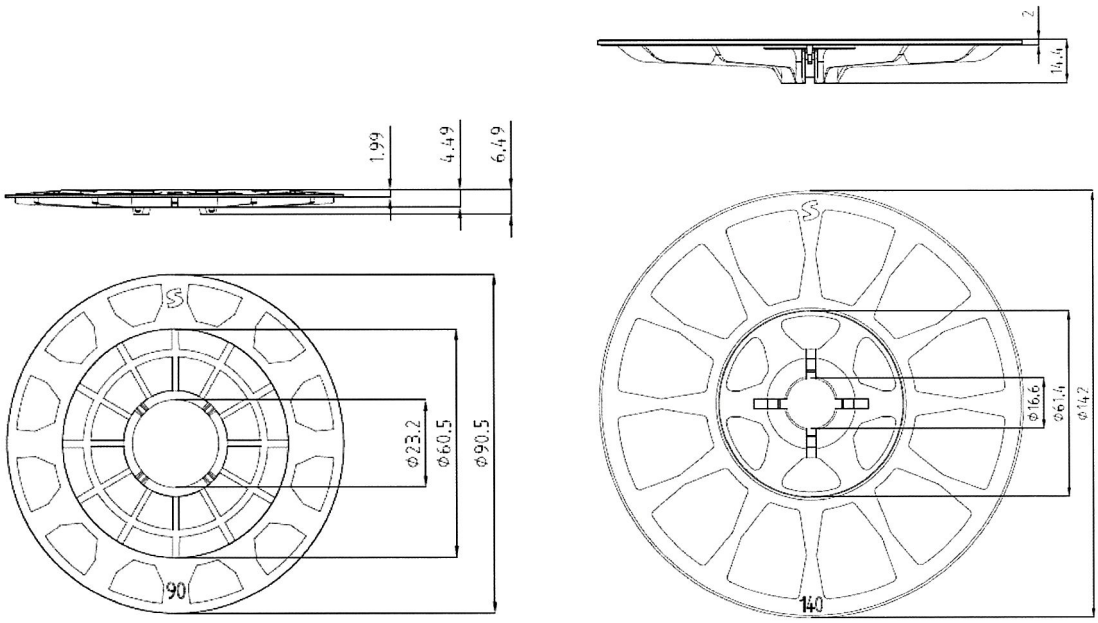


Table A4: Additional plate IWP ø90 mm

Plate type	Outer diameter [mm]	Material
IWP ø90 mm	90	Fiberglass reinforced polyamide (gray) or polypropylene (natural)

Table A5: Additional plate IWP ø140 mm

Plate type	Outer diameter [mm]	Material
IWP ø140 mm	140	Fiberglass reinforced polyamide (gray) or polypropylene (natural)

S-IPT 8/p and S-IPT 8/s	**Annex A5** of European Technical Assessment ETA-17/0303
Product description Additional plates IWP ø90 mm and IWP ø140 mm, used in combination with S-IPT 8/p and S-IPT 8/s anchor sleeve	

Specification of intended use

Anchorages subject to:

- Wind suction loads.
  Note: The anchor shall not be used for the transmission of dead loads of the external thermal insulation composite system.

Base materials:

- Reinforced or unreinforced normal weight concrete (base material group A), according to Annex C1 and C3.
- Solid masonry (base material group B), according to Annex C1 and C3.
- Hollow or perforated masonry (base material group C), according to Annex C1 and C3.
- Lightweight aggregate concrete (base material group D), according to Annex C1 and C3.
- Autoclaved aerated concrete (base material group E), according to Annex C1 and C3.
- For other base materials of the base material group A, B, C, D or E the characteristic resistance of the anchor may be determined by job site tests according to EOTA Technical Report TR 051, edition December 2016.

Application temperature range:

- 0°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C).

Design:

- The anchorages are designed under the responsibility of an engineer experienced in anchorages and masonry work with the partial safety factors γ_M = 2,0 and γ_F = 1,5, if there are no other national regulations.
- Verifiable calculation notes and drawings with anchor positions are prepared taking into account of the loads to be anchored.
- Fasteners are only to be used for multiple fixings of thermal insulation composite system (ETICS).

Installation:

- Hole shall be drilled by the drill methods according to Annex C1.
- Anchor installation shall be carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Installation shall be executed in temperature from 0°C to +40°C.
- Exposure to UV due to solar radiation of the anchor not protected by rendering shall not exceed 6 weeks.

S-IPT 8/p and S-IPT 8/s	**Annex B1**
Intended use Specifications	of European Technical Assessment ETA-17/0303

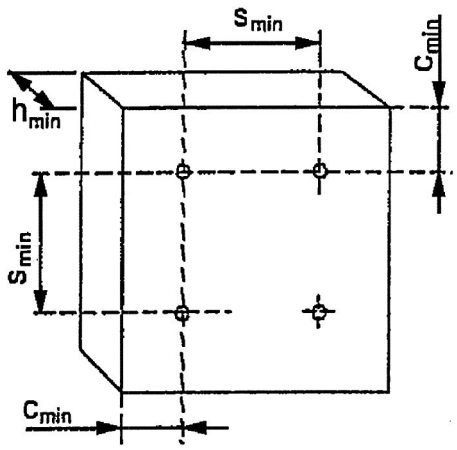
Table B1: Installation characteristics

Anchor type		S-IPT 8/p	S-IPT 8/s
Nominal diameter of drill bit	d_0 [mm]	8	8
Cutting diameter of drill bit	d_{cut} [mm]	≤ 8,45	≤ 8,45
Depth of drill hole for base material group A, B, C, D	h_1 [mm]	≥ 40	≥ 40
Effective anchorage depth for base material group A, B, C, D	h_{ef} [mm]	≥ 30	≥ 30
Depth of drill hole for base material group E	h_1 [mm]	≥ 60	≥ 60
Effective anchorage depth for base material group E	h_{ef} [mm]	≥ 50	≥ 50

Table B2: Minimum thickness of base material, spacing and edge distance

Anchor type		S-IPT 8/p and S-IPT 8/s
Minimum thickness of base material	h_{min} [mm]	100
Minimum spacing	s_{min} [mm]	100
Minimum edge distance	c_{min} [mm]	100

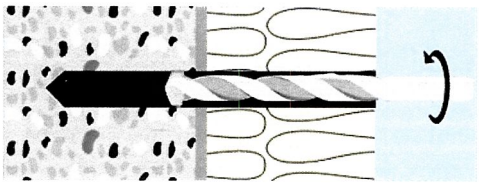
Diagram of spacing



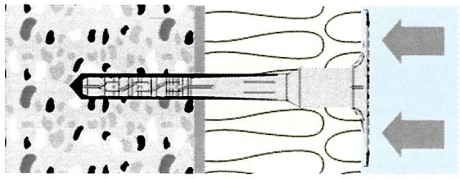
S-IPT 8/p and S-IPT 8/s	Annex B2
Intended use Installation characteristics, minimum thickness of base material, spacing and edge distance	of European Technical Assessment ETA-17/0303

Installation instruction:

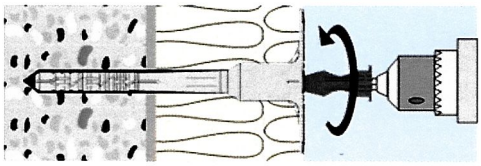
a) Flush installation – without styrofoam disc



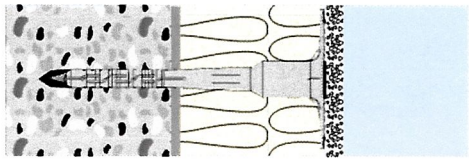
1. Drill the hole by corresponding drilling method according to Annex C1. Drill perpendicular.



2. Clean the hole. Set-in the anchor and make sure that the plate bottom is flush with the ETICS surface.

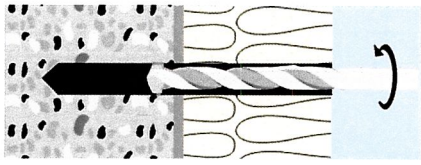


3. Screw-in the expansion pin (Tx30).

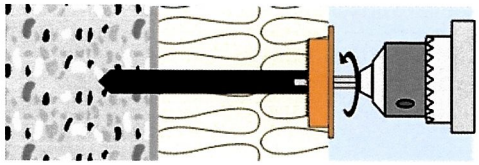


4. Correctly installed anchor.

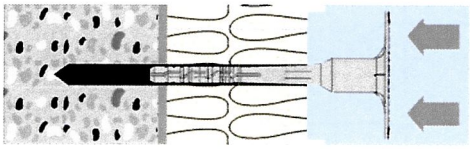
b) Countersunk installation – with styrofoam disc



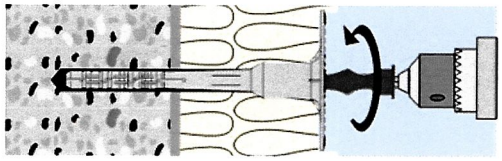
1. Drill the hole by corresponding drilling method according to Annex C1. Drill perpendicular.



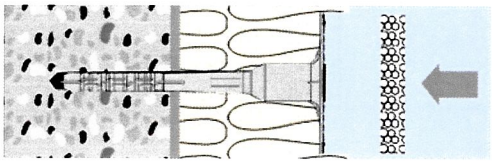
2. Clean the drill hole. Drill the recess in the installation with the corresponding tool.



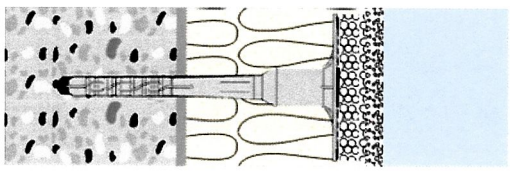
3. Set-in the anchor and make sure that the plate bottom is flush with the ETICS surface.



4. Screw-in the expansion pin (Tx30).



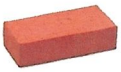
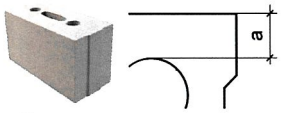
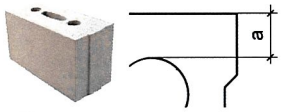
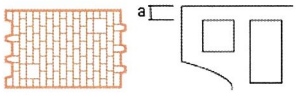
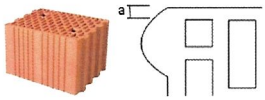
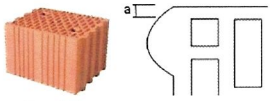
5. Place the styrofoam disc.



6. Correctly installed anchor.

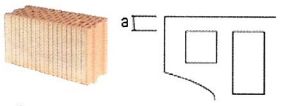
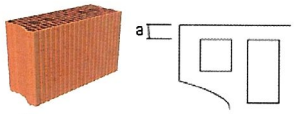
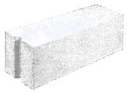
S-IPT 8/p and S-IPT 8/s	**Annex B3** of European Technical Assessment ETA-17/0303
Intended use Installation instruction	

Table C1: Characteristic resistance to tension loads N_{Rk} in concrete and in masonry for single S-IPT 8/p and S-IPT 8/s anchors

Base material group	Base material	Bulk density [kg/dm³]	Compressive strength [N/mm²]	Referring standard	N_{Rk} [kN]		Drill method
					S-IPT 8/p	S-IPT 8/s	
A	Concrete C12/15			EN 206	0,95	1,1	hammer
A	Concrete C20/25 – C50/60			EN 206	1,3	1,5	hammer
B	Clay bricks 	≥ 1,8	≥ 20,0	EN 771-1	1,4	1,5	hammer
B	Calcium silicate bricks KS 	≥ 1,8	≥ 20,0	EN 771-2	1,5	1,5	hammer
C	Calcium silicate hollow blocks (e.g. KSL 340 x 180 x 197 mm)  a [1] = 24 mm	≥ 1,45	≥ 15,0	EN 771-2	1,4	1,2	hammer
C	Calcium silicate hollow blocks (e.g. KSL 254 x 180 x 237 mm)  a [1] = 20 mm	≥ 1,45	≥ 15,0	EN 771-2	1,1	0,9	hammer
C	Vertically perforated porosited clay blocks (e.g. Porotherm 25)  a [1] = 10 mm	≥ 0,8	≥ 15,0	EN 771-1	0,75	0,75	rotary
C	Vertically perforated clay bricks (e.g. MEGA-MAX 250)  a [1] = 12 mm	≥ 0,8	≥ 15,0	EN 771-1	0,95	0,80	rotary
C	Perforated ceramic brick (490 x 132 x 250 mm)  a [1] = 12 mm	≥ 0,8	≥ 15,0	EN 771-1	0,60	0,65	rotary

[1] minimum values "a"; for elements with lower value of "a" the load tests on the construction site are required
[2] in the absence of national regulation

extension of table C1

Base material group	Base material	Bulk density [kg/dm³]	Compressive strength [N/mm²]	Referring standard	N_{Rk} [kN]		Drill method
					S-IPT 8/p	S-IPT 8/s	
C	Perforated ceramic brick LODE  a [1] = 11 mm	≥ 0,65	≥ 15,0	EN 771-1	0,55	0,75	rotary
C	Perforated ceramic brick (e.g. Porotherm GF R20)  a [1] = 9 mm	≥ 0,6	≥ 10,0	EN 771-1	0,40	0,65	rotary
C	Concrete hollowed brick B40 405 x 188 x 196 mm  a [1] = 18 mm	≥ 0,8	≥ 6,0	EN 771-3	0,55	0,75	rotary
D	Lightweight concrete blocks LAC3 	≥ 0,88	≥ 5,0	EN 771-3	0,50	0,35	rotary
E	Autoclaved concrete blocks AAC 2 	≥ 0,35	≥ 2,0	EN 771-4	1,4	0,8	rotary
E	Autoclaved concrete blocks AAC 7 	≥ 0,65	≥ 3,5	EN 771-4	1,4	0,8	rotary
Partial safety factor for anchor resistance γ_M [2]		2,0					

[1] minimum values "a"; for elements with lower value of "a" the load tests on the construction site are required
[2] in the absence of national regulation

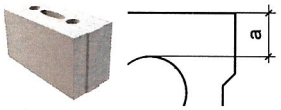
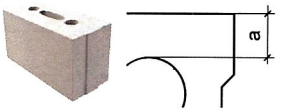
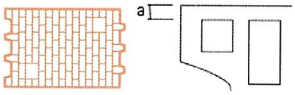
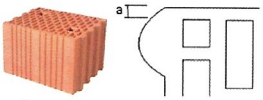
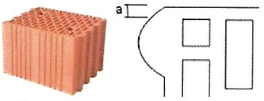
Table C2: Plate stiffness according to EOTA Technical Report TR 026

Anchor type	Diameter of the anchor plate d_{plate} [mm]	Characteristic load resistance of the anchor plate [kN]	Plate stiffness [kN/mm]
S-IPT 8/p and S-IPT 8/s	60	2,87	0,4

Table C3: Insulation thickness and point thermal transmittance according to EOTA Technical Report TR 025

Anchor type	Insulation thickness h_D [mm]	Point thermal transmittance χ [W/K]
S-IPT 8/p	95	0
	105	0
	150	0
	445	0
S-IPT 8/s	95	0,003
	105	0,003
	150	0,003
	445	0,002

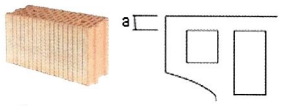
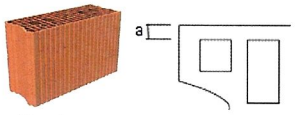
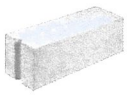
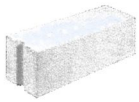
Table C4: Displacements for S-IPT 8/p and S-IPT 8/s anchors

Base material group	Base material	Bulk density [kg/dm³]	Compressive strength [N/mm²]	$\frac{N_{Rk}}{3}$ [kN]		$\delta\left(\frac{N_{Rk}}{3}\right)$ [mm]	
				S-IPT 8/p	S-IPT 8/s	S-IPT 8/p	S-IPT 8/s
A	Concrete C12/15			0,32	0,37	0,62	0,78
A	Concrete C20/25 – C50/60			0,43	0,50	0,84	1,05
B	Clay bricks 	≥ 1,8	≥ 20,0	0,47	0,50	0,97	1.04
B	Calcium silicate bricks KS 	≥ 1,8	≥ 20,0	0,50	0.50	1.08	0,70
C	Calcium silicate hollow blocks (e.g. KSL 340 x 180 x 197 mm)  a [1] = 24 mm	≥ 1,45	≥ 15,0	0,47	0,40	0,77	0,27
C	Calcium silicate hollow blocks (e.g. KSL 254 x 180 x 237 mm)  a [1] = 20 mm	≥ 1,45	≥ 15,0	0,37	0,30	0,66	0,34
C	Vertically perforated porosited clay blocks (e.g. Porotherm 25)  a [1] = 10 mm	≥ 0,8	≥ 15,0	0,25	0,25	0,39	0,30
C	Vertically perforated clay bricks (e.g. MEGA-MAX 250)  a [1] = 12 mm	≥ 0,8	≥ 15,0	0,32	0,27	0,62	0,43
C	Perforated ceramic brick (490 x 132 x 250 mm)  a [1] = 12 mm	≥ 0,8	≥ 15,0	0,20	0,22	0,28	0,16

[1] minimum values "a"; for elements with lower value of "a" the load tests on the construction site are required

S-IPT 8/p and S-IPT 8/s	**Annex C3** of European Technical Assessment ETA-17/0303
Performances Displacements	

extension of table C4

Base material group	Base material	Bulk density [kg/dm³]	Compressive strength [N/mm²]	$\frac{N_{Rk}}{3}$ [kN]		$\delta\left(\frac{N_{Rk}}{3}\right)$ [mm]	
				S-IPT 8/p	S-IPT 8/s	S-IPT 8/p	S-IPT 8/s
C	Perforated ceramic brick LODE  a [1] = 11 mm	≥ 0,65	≥ 15,0	0,18	0,25	0.26	0,27
C	Perforated ceramic brick (e.g. Porotherm GF R20)  a [1] = 9 mm	≥ 0,6	≥ 10,0	0,13	0,22	0,19	0.20
C	Concrete hollowed brick B40 405 x 188 x 196 mm  a [1] = 18 mm	≥ 0,8	≥ 6,0	0,18	0,25	0.42	0.35
D	Lightweight concrete blocks LAC3 	≥ 0,88	≥ 5,0	0,17	0,12	0,35	0,17
E	Autoclaved concrete blocks AAC 2 	≥ 0,35	≥ 2,0	0,47	0,27	0,46	0,16
E	Autoclaved concrete blocks AAC 7 	≥ 0,65	≥ 3,5	0,47	0,27	0,40	0,24

[1] minimum values "a"; for elements with lower value of "a" the load tests on the construction site are required

S-IPT 8/p and S-IPT 8/s	**Annex C3** of European Technical Assessment ETA-17/0303
Performances Displacements	