

## DÉCLARATION DES PERFORMANCES

### DoP 0324

pour fischer termoz SV II ecotwist (Cheville plastique pour l'utilisation dans le béton et la maçonnerie)

FR

1. <u>Code d'identification unique du type de produit:</u>	<b>DoP 0324</b>	
2. <u>Usage(s) prévu(s):</u>	<b>Cheville à visser en plastique pour la fixation de systèmes composites d'isolation thermique par l'extérieur (ETICS) sous enduit dans le béton et la maçonnerie, voir annexes, en particulier les annexes B1 - B3.</b>	
3. <u>Fabricant:</u>	<b>fischerwerke GmbH &amp; Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Allemagne</b>	
4. <u>Mandataire:</u>	<b>-</b>	
5. <u>Système(s) d'évaluation et de vérification de la constance des performances:</u>	<b>2+</b>	
6. <u>Document d'évaluation européen:</u> Evaluation Technique Européenne: Organisme d'évaluation technique: Organisme(s) notifié(s):	<b>EAD 330196-01-0604, Edition 10/2017 ETA-12/0208; 2022-10-18 DIBt- Deutsches Institut für Bautechnik 2873 TU Darmstadt</b>	
7. <u>Performance(s) déclarée(s):</u> <b>Sécurité d'utilisation (BWR 4)</b>		
<b>Résistance caractéristique:</b>	<b>Résistance caractéristique sous charge de traction: Distance au bord mini.: Entraxe mini.:</b>	<b>Annexe C1 Annexe B2 Annexe B2</b>
<b>Déplacements:</b>	<b>Charge de traction avec coefficient partiel de sécurité: Déplacements:</b>	<b>Annexe C2 Annexe C2</b>
<b>Rigidité de la rosace:</b>	<b>Diamètre de la rosace: Résistance à la charge de la rosace: Rigidité de la rosace:</b>	<b>NPD NPD NPD</b>
<b>Économie d'énergie et isolation thermique (BWR 6)</b>		
<b>Transmission thermique:</b>	<b>Transmission thermique ponctuelle de la cheville: Épaisseur de la couche d'isolant ETICS:</b>	<b>Annexe C2 Annexe C2</b>
8. <u>Documentation technique appropriée et/ou documentation technique spécifique:</u>	<b>-</b>	

Les performances du produit identifié ci-dessus sont conformes aux performances déclarées. Conformément au règlement (UE) no 305/2011, la présente déclaration des performances est établie sous la seule responsabilité du fabricant mentionné ci-dessus.

Signé pour le fabricant et en son nom par:



Dr.-Ing. Oliver Geibig, Directeur Général Business Units & Ingénierie  
Tumlingen, 2022-10-31



Jürgen Grün, Directeur Général Chimie & Qualité

Cette DoP a été préparée en plusieurs langues. En cas de différend relatif à l'interprétation, la version anglaise prévaudra.

L'annexe comprend des informations volontaires et complémentaires en langue anglaise dépassant les exigences légales (spécifiées de manière neutre).

## Specific part

### 1 Technical description of the product

The fischer TermoZ SV II Ecotwist screwed-in anchor consist of an anchor sleeve and a screw plate in different colours, both made of polyamide (virgin material) and an accompanying specific screw of galvanised steel.

The product description is given in Annex A.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

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

The verification and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, 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 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic load bearing capacity <ul style="list-style-type: none"><li>- Characteristic resistance under tension load</li><li>- Minimum edge distance and spacing</li></ul>	See Annex C 1 See Annex B 2
Displacements	See Annex C 2
Plate stiffness	No performance assessed

#### 3.2 Energy economy and heat retention (BWR 6)

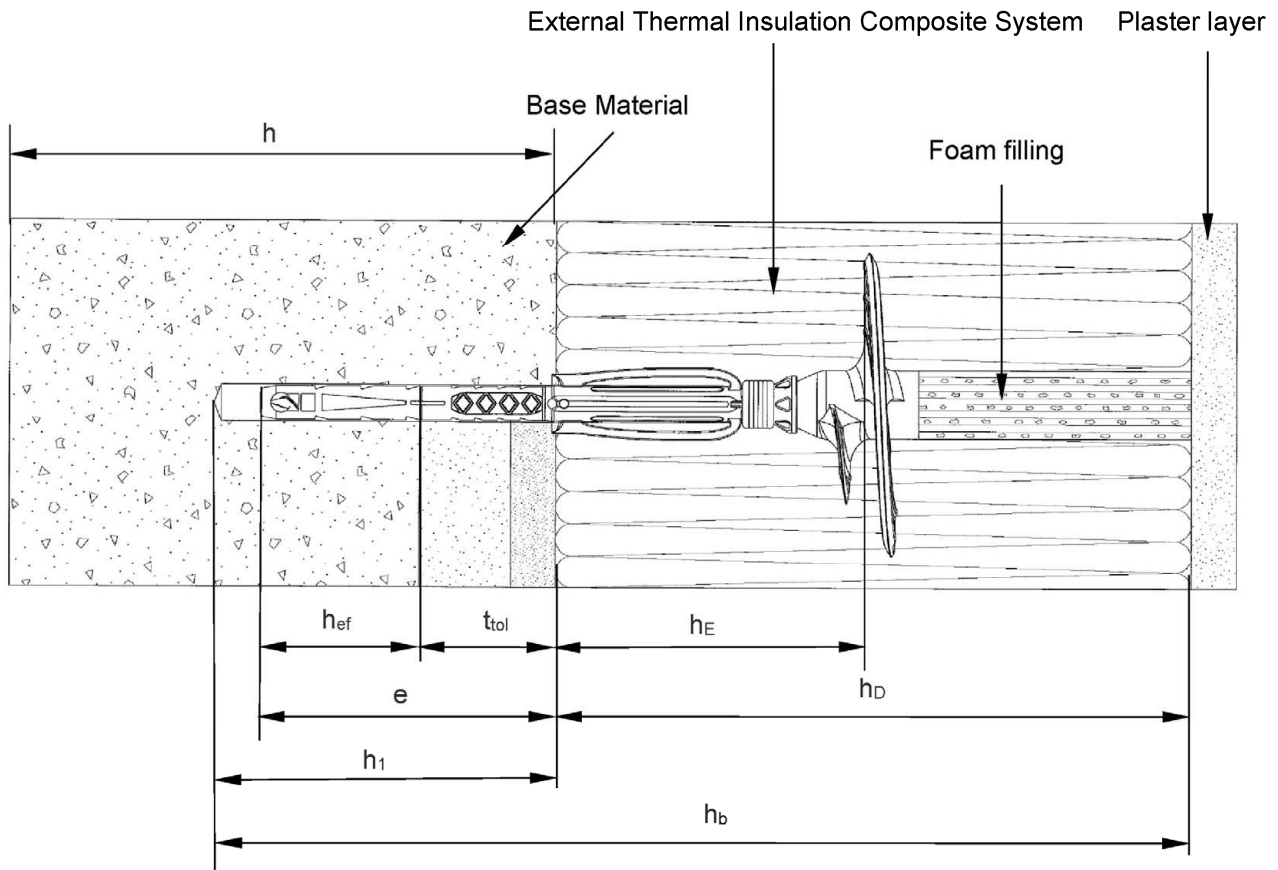
Essential characteristic	Performance
Point thermal transmittance	See Annex C 2

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

In accordance with EAD No. 330196-01-0604, the applicable European legal act is: [97/463/EC].

The system to be applied is: 2+

# TermoZ SV II Ecotwist



## Legend

- $h_1$  = Depth of drilled hole to deepest point in the base material
- $h$  = Thickness of base material (wall)
- $h_D$  = Thickness of insulation material
- $t_{tol}$  = Thickness of equalising layer and / or non-load bearing coating
- $h_E$  = Embedment depth
- $h_b$  = Total bore hole depth
- $h_{ef}$  = Effective anchor embedment depth in the base material
- $e$  = Effective anchor embedment depth in the base material including thickness of equalising layer and / or non-load bearing coating

Figure not to scale

fischer TermoZ SV II Ecotwist

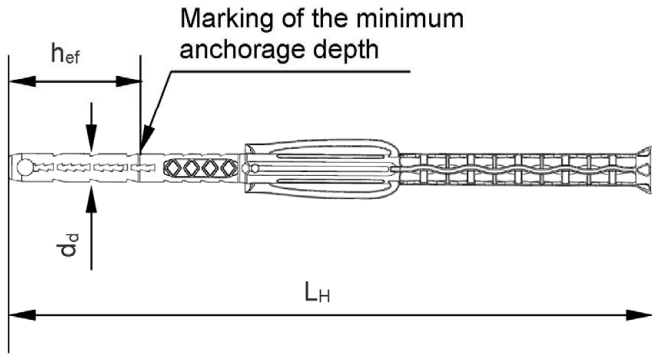
Product description  
Installed anchor

Annex A 1

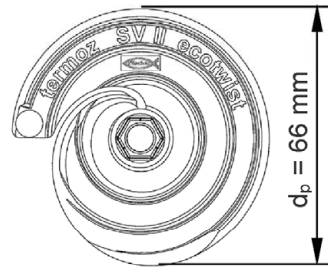
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# TermoZ SV II Ecotwist

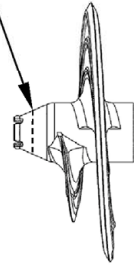
## Anchor sleeve



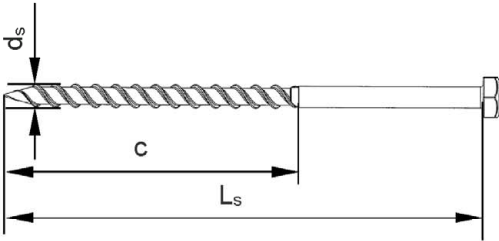
## Screw plate



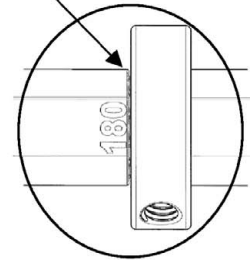
## Coupling



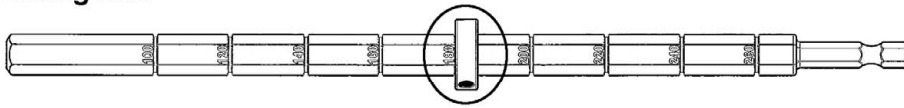
## Special screw



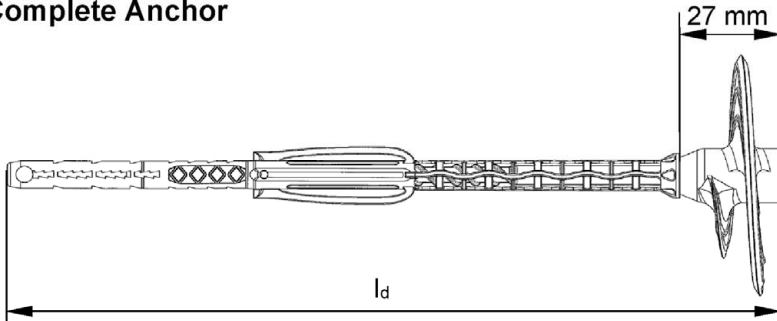
Adjustment of the ring depends on the insulation material thickness, e.g.  $h_D = 180 \text{ mm}$   
 → adjust value 180 at the setting tool



## Setting tool



## Complete Anchor



Figures not to scale

fischer TermoZ SV II Ecotwist

**Product description**  
 Anchor type and single parts

**Annex A 2**


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**Table A3.1: Dimensions**

Anchor type	Anchor sleeve					Special screw			
	$d_d$	$h_{er}^{(1)}$	$h_E^{(1)}$	$l_d$	$L_H$	$d_s$	$L_s$	$c$	
TermoZ SV II Ecotwist	[mm]								
	$t_{tol}$ 0-10 mm	8	35	70	162	135	6	100	74
	$t_{tol}$ 0-30 mm				202	175		120	
	$t_{tol}$ 30-60 mm				232	205		150	

<sup>1)</sup> see Annex A 1.

**Table A3.2: Marking on the screw plate**

Anchor type	Marking
Name	termoz SV II ecotwist
Works symbol	

**Table A3.2: Marking on the anchor sleeve**

Anchor type	Marking
TermoZ SV II Ecotwist $t_{tol}$ 0-10 mm	$t_{tol}$ 0 - 10
TermoZ SV II Ecotwist $t_{tol}$ 0-30 mm	$t_{tol}$ 0 - 30
TermoZ SV II Ecotwist $t_{tol}$ 30-60 mm	$t_{tol}$ 30 - 60

**Table A3.2: Material**

Designation	Material
Anchor sleeve	PA6, colour: grey
Screw plate	PA6 GF, colour: grey, yellow, red, orange, green, blue, mocca-latte, black
Special screw	Galvanised steel gvz with Zn5/Ag or Zn5/An in accordance with EN ISO 4042
Insulation plug	Polystyrene, mineral wool

**fischer TermoZ SV II Ecotwist**

**Product description**

Dimensions anchor types, marking on the screw plate/anchor sleeve  
Material

**Annex A 3**

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## Specifications of intended use

### Anchorage subject to:

- The anchor may only be used for transmission of wind suction loads and shall not be used for the transmission of dead loads of the external thermal insulation composite system.

### Base materials:

- Normal weight concrete without fibres  $\geq$  C12/15 (base material group "A") as per EN 206, see Annex C 1.
- Solid masonry (base material group "B") as per EN 771-1, EN 771-2 or EN 771-3, see Annex C 1.
- Hollow or perforated masonry (base material group "C") as per EN 771-1, EN 771-2 or EN 771-3, see Annex C 1.
- Lightweight aggregate concrete (base material group "D") as per EN 1520, see Annex C 1.
- Autoclaved aerated concrete (base material group "E") as per EN 771-4, see Annex C 1.
- For other base materials of the base material groups "A", "B", "C", "D" and "E" the characteristic resistance of the anchor may be determined by job site tests in accordance with EOTA Technical Report TR 051.

### Temperature Range:

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

### Design:

- The anchorages are designed under the responsibility of an engineer experienced in anchorages and masonry work with the partial safety factors for material related resistances  $\gamma_M = 2,0$  and for action loads  $\gamma_F = 1,5$  in absence of other national regulations.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchors is indicated on the design drawings.
- Fasteners are only to be used for multiple fixings of external thermal insulation composite systems.

### Installation:

- Drilling method according to Annex C 1.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters on the site.
- Installation temperature from 0 °C to + 40 °C.
- Exposure to UV due to solar radiation of the anchor not protected by rendering  $\leq$  6 weeks.

fischer TermoZ SV II Ecotwist

Intended use  
Specifications

**Annex B 1**

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**Table B2.1: Installation parameters in all regulated base material groups**

Anchor type		TermoZ SV II Ecotwist
Drill hole diameter	$d_0 = [\text{mm}]$	8
Cutting diameter of drill bit	$d_{\text{cut}} \leq [\text{mm}]$	8,45
Depth of drill hole to deepest point		
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 0-10 mm	$h_1 \geq [\text{mm}]$	55
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 0-30 mm	$h_1 \geq [\text{mm}]$	75
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 30-60 mm	$h_1 \geq [\text{mm}]$	105
Total bore hole depth at		
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 0-10 mm	$h_b \geq [\text{mm}]$	$h_D + 55$
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 0-30 mm	$h_b \geq [\text{mm}]$	$h_D + 75$
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 30-60 mm	$h_b \geq [\text{mm}]$	$h_D + 105$
Overall plastic anchor embedment depth in the base material including equalising layers / coatings ( $h_{\text{ef}} + t_{\text{tol,max}}$ ) <sup>1)</sup>		
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 0-10 mm	$e = [\text{mm}]$	45
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 0-30 mm	$e = [\text{mm}]$	65
<b>TermoZ SV II Ecotwist</b> $t_{\text{tol}}$ 30-60 mm	$e = [\text{mm}]$	95

<sup>1)</sup> see Annex A 1.

**Table B2.2: Minimum thickness of member, edge distances and spacing in all regulated base material groups**

Anchor type		TermoZ SV II Ecotwist
Minimum thickness of member	$h_{\text{min}} = [\text{mm}]$	100 <sup>1)</sup>
Minimum spacing	$s_{\text{min}} = [\text{mm}]$	100
Minimum edge distance	$c_{\text{min}} = [\text{mm}]$	100

<sup>1)</sup> For weather resistant external wall panels:  $h_{\text{min}}=40$  mm.

**Scheme of edge distances and spacing**  
for base material group “A”, concrete,  
group “B” solid bricks, group “C” hollow or  
perforated masonry, group “d” lightweight  
aggregate concrete, group “E” autoclaved  
aerated concrete

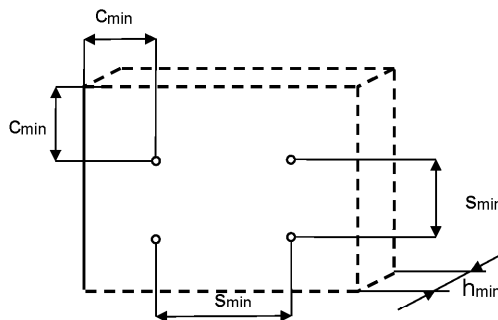


Figure not to scale

**fischer TermoZ SV II Ecotwist**

**Intended use**

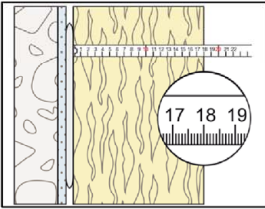
Installation Parameters

Minimum thickness of member, edge distances and spacing

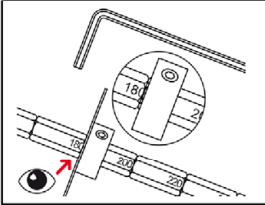
**Annex B 2**

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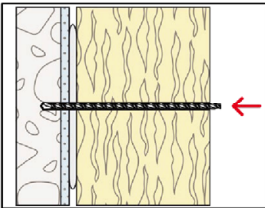
## Installation instructions



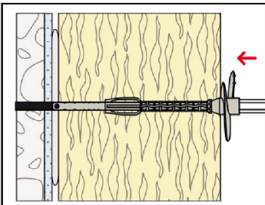
1. Measure insulation thickness  $h_D$  (example: 18 cm = 180 mm).



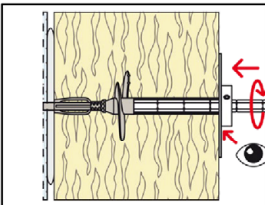
2. Adjust the setting tool ring corresponding to the insulation material thickness  $h_D$  in mm. Number is legible. Additionally to the setting tool ring, a thin plastic plate (maximum 1 mm thickness) can be used as a stop unit for easier mounting.



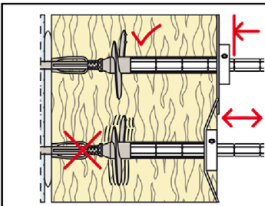
3. Drill bore hole. Total drill hole depth must be at  
 $t_{tol}$  0-10 mm →  $h_D + 55$  mm  
 $t_{tol}$  0-30 mm →  $h_D + 75$  mm  
 $t_{tol}$  30-60 mm →  $h_D + 105$  mm.  
Note: bore holes in Hlz and autoclaved aerated concrete only by rotary drilling.



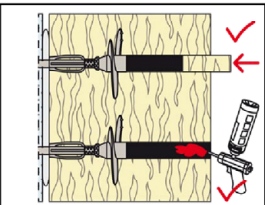
4. Press the anchor with the screw plate tight against the surface of the insulation material, then start screwing-in the anchor. Setting is finished when the surface of the ring is flush with the surface of the insulation material.



5. After reaching the setting depth, press the adjustment tool tight against the installed anchor. If there is no axial movement of the anchor, remove the setting tool. The setting process is finished.



6. In case of axial movement, a new anchor has to be set in a new drill hole.



7. The hole in the insulation material must be filled with a suitable foam (illustrated in Annex A 1) or must be closed with an appropriate insulation plug.

fischer TermoZ SV II Ecotwist

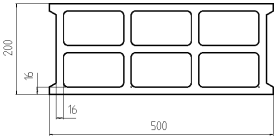
Intended use  
Installation instructions

Annex B 3

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**Table C1.1: Characteristic resistance to tension load  $N_{Rk}$  for a single anchor TermoZ SV II Ecotwist**

Base material	Group	Bulk density $\rho$ [kg/dm <sup>3</sup> ]	Mean compressive strength / minimum compressive strength single brick as per EN 771 <sup>4)</sup> [N/mm <sup>2</sup> ]	Remarks	Drilling method <sup>1)</sup>	Characteristic resistance to tension load $N_{Rk}$ [kN]
Weather resistant skin of external wall panels, concrete C20/25 - C50/60 as per EN 206	A	-	-	Thickness of concrete panels 40 mm ≤ h < 100 mm.	H	<b>0,90</b>
					R	<b>1,50</b>
Concrete C12/15 - C50/60 as per EN 206	A	-	-	-	H	<b>1,50</b>
Solid clay bricks, Mz as per EN 771-1	B <sup>2)</sup>	≥ 1,8	15/12	-	H	<b>1,20</b>
Sand-lime solid bricks, KS as per EN 771-2	B <sup>2)</sup>	≥ 2,0	15/12	-	H	<b>1,20</b>
			25/20			<b>1,50</b>
Solid concrete block, Vbn as per EN 771-3	B <sup>2)</sup>	≥ 2,0	15/12	-	H	<b>1,20</b>
			25/20			<b>1,50</b>
Lightweight concrete solid blocks, Vbl as per EN 771-3	B <sup>2)</sup>	≥ 1,4	10/8	-	H	<b>0,60</b>
Vertically perforated clay bricks, Hz as per EN 771-1	C <sup>3)</sup>	≥ 1,0	15/12	Exterior web thickness ≥ 12 mm.	R	<b>0,75</b>
Vertically perforated sand-lime bricks, KSL as per EN 771-2	C <sup>3)</sup>	≥ 1,4	15/12	Exterior web thickness ≥ 23 mm.	H	<b>0,75</b>
			25/20			<b>1,20</b>
Lightweight concrete hollow blocks, Hbl as per EN 771-3	C <sup>3)</sup>	≥ 1,2	5/4	Exterior web thickness ≥ 38 mm.	H	<b>0,60</b>
			7,5/6			<b>0,75</b>
			10/8			<b>0,90</b>
			12,5/10			<b>1,20</b>
French lightweight concrete hollow block, Hbl as per EN 771-3 "Sepa Parpaing" 500 x 200 x 190 mm	C <sup>3)</sup>	≥ 0,9	5/4	 <p>Web thickness ≥ 16 mm.</p>	H	<b>0,50</b>
Lightweight aggregate concrete, LAC as per EN 1520	D <sup>3)</sup>	≥ 0,9	7,5/6	Minimum thickness of solid brick h = 100 mm or exterior web thickness ≥ 50 mm.	H	<b>0,75</b>
Autoclaved aerated concrete, AAC as per EN 771-4	E	≥ 0,5	5/4	-	R	<b>0,40</b>

<sup>1)</sup> H = Hammer drilling, R = Rotary drilling.

<sup>2)</sup> Vertically perforation ≤ 15%; cross section reduced by perforation vertically to the resting area.

<sup>3)</sup> Vertically perforation > 15 % and ≤ 50 %, cross section reduced by perforation vertically to the resting area.

<sup>4)</sup> The compressive strength of the single brick must not be less than 80% of the mean compressive strength.

**fischer TermoZ SV II Ecotwist**

**Performances**

Characteristic resistance to tension load for single anchor

**Annex C 1**

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**Table C2.1: Point thermal transmittance according to EOTA Technical Report TR 025**

Anchor type	Thickness of insulation material $h_D$ [mm]	Point thermal transmittance $\chi$ [W/K]
TermoZ SV II Ecotwist EPS-plug and air void $t_{tol} = 0-10$ mm	100 - 240	0,001
	> 240	0
TermoZ SV II Ecotwist PU-foam filled hole $t_{tol} = 0-10$ mm	100 - 150	0,001
	> 150	0
TermoZ SV II Ecotwist EPS-plug and air void $t_{tol} = 0-30$ mm	100 - 240	0,001
	> 240	0
TermoZ SV II Ecotwist PU-foam filled hole $t_{tol} = 0-30$ mm	100 - 150	0,001
	> 150	0
TermoZ SV II Ecotwist EPS-plug and air void $t_{tol} = 30-60$ mm	100	0,002
	120 - 240	0,001
	> 240	0
TermoZ SV II Ecotwist PU-foam filled hole $t_{tol} = 30-60$ mm	100	0,002
	120 - 150	0,001
	> 150	0

**Table C2.2: Displacements for TermoZ SV II Ecotwist**

Base material		Mean compressive strength / minimum compressive strength single brick as per EN 771 <sup>1)</sup> [N/mm <sup>2</sup> ]	Tension load  N [kN]	Displacements  $\Delta\delta_N$ [mm]
Concrete, thin members C20/25 - C50/60 as per EN 206	Hammer drilling	-	0,30	< 0,30
	Rotary drilling	-	0,50	< 0,30
Concrete, C16/20 - C50/60 as per EN 206		-	0,50	< 0,30
Clay bricks, Mz as per EN 771-1		15/12	0,40	< 0,30
Sand-lime solid bricks, KS as per EN 771-2		15/12	0,40	< 0,30
		25/20	0,50	
Solid concrete block, Vbn as per EN 771-3		15/12	0,40	< 0,30
		25/20	0,50	
Lightweight concrete solid blocks, Vbl as per EN 771-3		10/8	0,20	< 0,20
Vertically perforated clay bricks, Hlz as per EN 771-1		15/12	0,25	< 0,30
Vertically perforated sand-lime bricks, KSL as per EN 771-2		15/12	0,25	< 0,20
		25/20	0,40	
Lightweight concrete hollow blocks, Hbl as per EN 771-3		5/4	0,20	< 0,30
		7,5/6	0,25	
		10/8	0,30	
		12/10	0,40	
Lightweight concrete hollow blocks, Hbl as per EN 771-3		5/4	0,15	< 0,40
Lightweight aggregate concrete, LAC as per EN 1520		7,5/6	0,25	< 0,20
Autoclaved aerated concrete blocks, AAC as per EN 771-4		5/4	0,15	< 0,10

<sup>1)</sup> The compressive strength of the single brick must not be less than 80% of the mean compressive strength.

**fischer TermoZ SV II Ecotwist**

**Performances**

Point thermal transmittance

Displacements

**Annex C 2**

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