

## DICHIARAZIONE DI PRESTAZIONE

### DoP 0324

per fischer termoz SV II ecotwist (Fissaggio plastico per l'utilizzo in calcestruzzo e muratura)

IT

- |  |  |                    |
|--|--|--------------------|
| 1. <u>Codice di identificazione unico del prodotto-tipo:</u>                       | <b>DoP 0324</b>  |                    |
| 2. <u>Usi previsti:</u>  | <b>Fissaggio plastico ad avvitemento per il fissaggio di sistemi compositi per l'isolamento termico esterno (ETICS) con intonaco in calcestruzzo e muratura, vedi appendice, in particolare gli allegati da B1 - B3.</b> |                    |
| 3. <u>Fabbricante:</u>   | <b>fischerwerke GmbH &amp; Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Germany</b>   |                    |
| 4. <u>Mandatario:</u>  | <b>-</b>   |                    |
| 5. <u>Sistemi di VVCP:</u>   | <b>2+</b>  |                    |
| 6. <u>Documento per la valutazione europea:</u>                                    | <b>EAD 330196-01-0604, Edition 10/2017</b>   |                    |
| Valutazione tecnica europea:   | <b>ETA-12/0208; 2022-10-18</b>   |                    |
| Organismo di valutazione tecnica:  | <b>DIBt- Deutsches Institut für Bautechnik</b>   |                    |
| Organismi notificati:  | <b>2873 TU Darmstadt</b>   |                    |
| 7. <u>Prestazioni dichiarate:</u>  |  |                    |
| <b>Sicurezza in uso (BWR 4)</b>  |  |                    |
| <b>Capacità portante caratteristica:</b>   | <b>Resistenza caratteristica sotto carico di trazione:</b>   | <b>Allegato C1</b> |
|  | <b>Distanza dal bordo minima:</b>  | <b>Allegato B2</b> |
|  | <b>Interasse minimo:</b>   | <b>Allegato B2</b> |
| <b>Spostamenti:</b>  | <b>Carico di trazione con fattore parziale:</b>  | <b>Allegato C2</b> |
|  | <b>Spostamenti:</b>  | <b>Allegato C2</b> |
| <b>Rigidezza della piastra:</b>  | <b>Diametro della piastra del fissaggio:</b>   | <b>NPD</b>         |
|  | <b>Resistenza della piastra del fissaggio:</b>   | <b>NPD</b>         |
|  | <b>Rigidezza della piastra:</b>  | <b>NPD</b>         |
| <b>Risparmio energetico e ritenzione del calore (BWR 6)</b>                        |  |                    |
| <b>Trasmittanza termica:</b>   | <b>Trasmittanza termica puntuale di un fissaggio:</b>  | <b>Allegato C2</b> |
|  | <b>Spessore dello strato di isolamento del sistema ETICS:</b>  | <b>Allegato C2</b> |
| 8. <u>Documentazione tecnica appropriata e/o documentazione tecnica specifica:</u> | <b>-</b>   |                    |

La prestazione del prodotto sopra identificato è conforme all'insieme delle prestazioni dichiarate. La presente dichiarazione di prestazione è emessa, in conformità al regolamento (UE) n. 305/2011, sotto la sola responsabilità del fabbricante sopra identificato.

Firmato a nome e per conto del fabbricante da:



Dr.-Ing. Oliver Geibig, Direttore Generale Unità di Business & Engineering  
Tumlingen, 2022-10-31



Jürgen Grün, Direttore Generale Chimica & Qualità

Questa Dichiarazione di Prestazione (DoP) è stata preparata in varie lingue. In caso di contestazioni sull'interpretazione, prevarrà sempre la versione inglese.

L'Appendice include informazioni volontarie e complementari in lingua inglese che superano i requisiti di legge (lingua specificata in modo neutrale).

## 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)

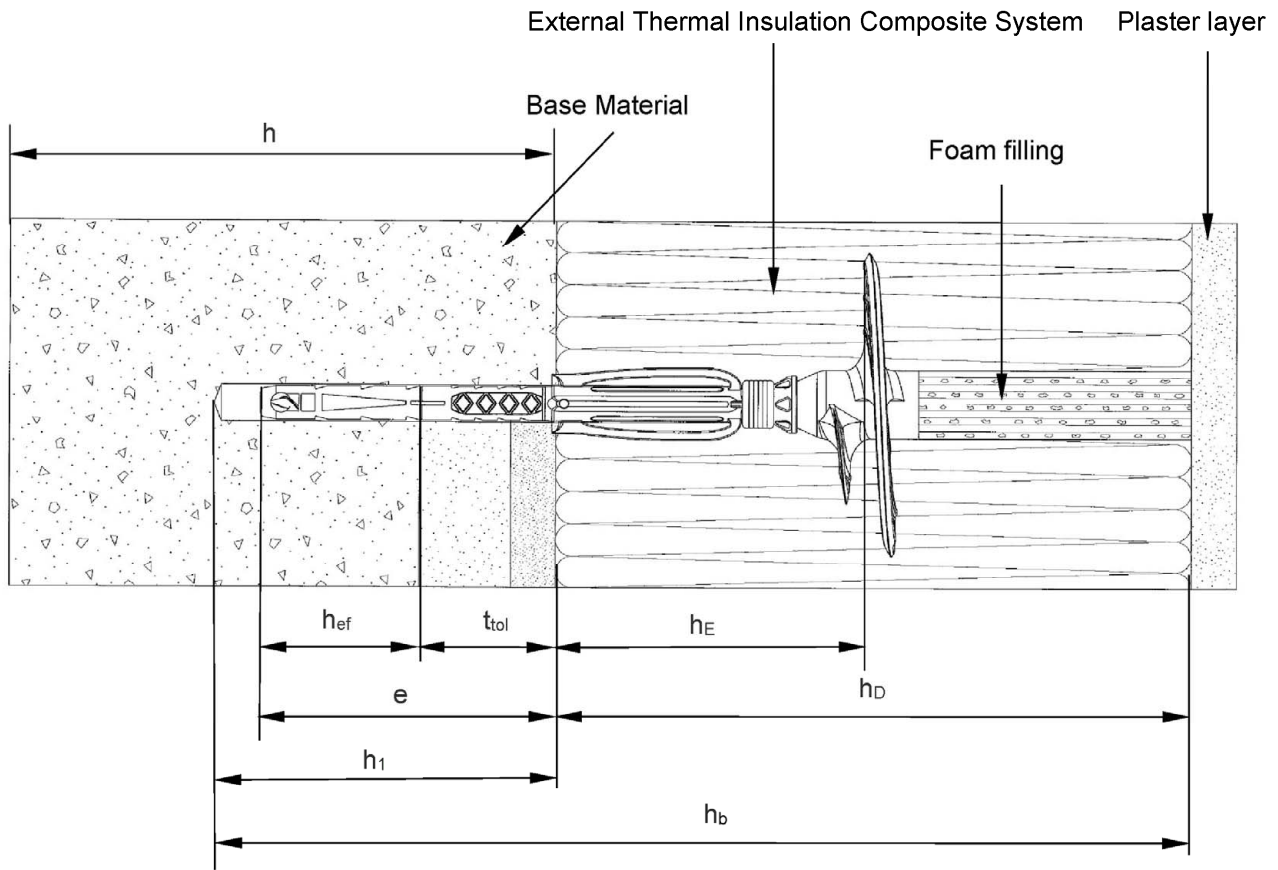
Essential characteristic	Performance
Point thermal transmittance	See Annex C 2

### 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

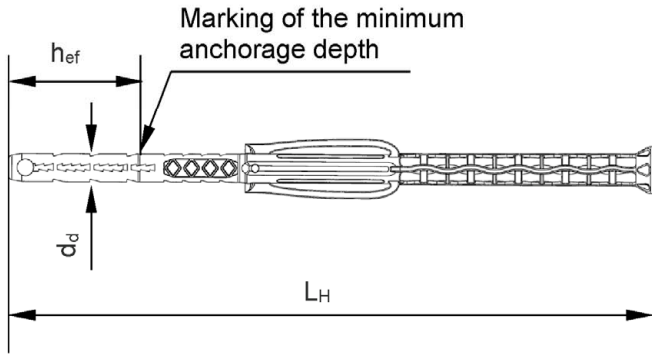
Product description  
Installed anchor

Annex A 1

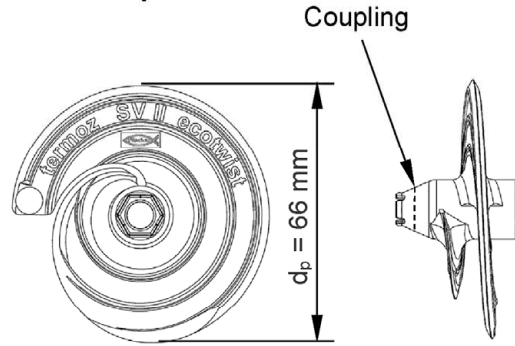
Appendix 2 / 9

# TermoZ SV II Ecotwist

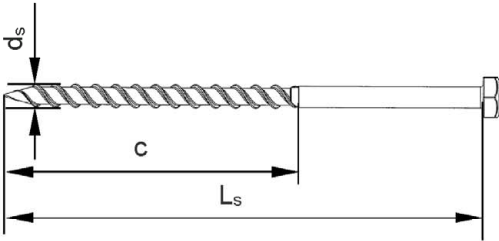
## Anchor sleeve



## Screw plate

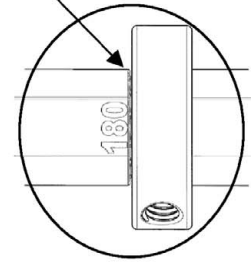
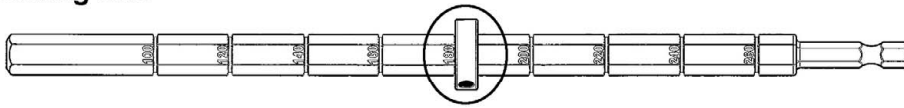


## Special screw

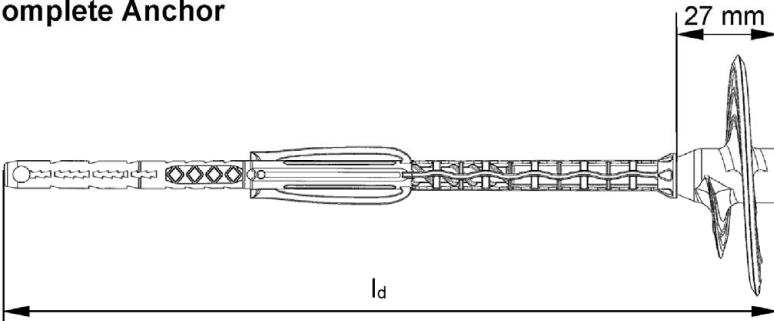


Adjustment of the ring depends on the insulation material thickness, e.g.  $h_D = 180 \text{ mm}$   
→ adjust value 180 at the setting tool

## Setting tool



## Complete Anchor



Figures not to scale

fischer TermoZ SV II Ecotwist

Product description  
Anchor type and single parts

Annex A 2


Appendix 3 / 9

**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**

Appendix 4 / 9

## 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**

Appendix 5 / 9

**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

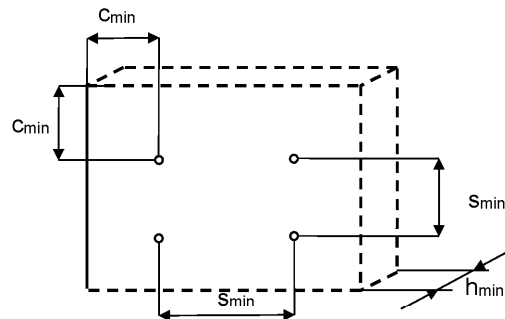


Figure not to scale

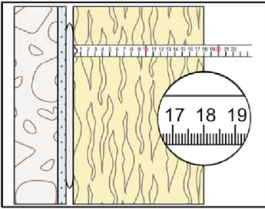
**fischer TermoZ SV II Ecotwist**

**Intended use**  
Installation Parameters  
Minimum thickness of member, edge distances and spacing

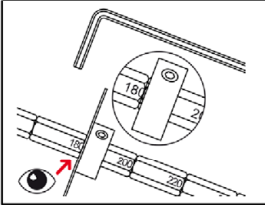
**Annex B 2**

Appendix 6 / 9

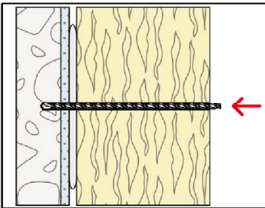
## Installation instructions



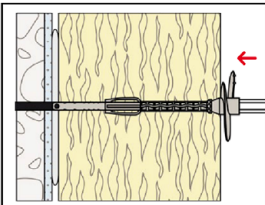
1. Measure insulation thickness  $h_D$  (example: 18 cm = 180 mm).



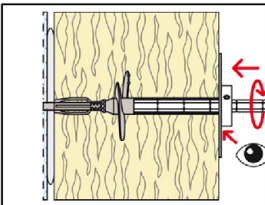
2. Adjust the setting tool ring corresponding to the insulation material thickness  $h_D$  in mm. Number is legible. Additionally to the setting tool ring, a thin plastic plate (maximum 1 mm thickness) can be used as a stop unit for easier mounting.



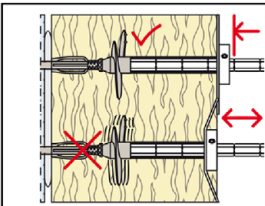
3. Drill bore hole. Total drill hole depth must be at  
 $t_{tol} 0-10 \text{ mm} \rightarrow h_D + 55 \text{ mm}$   
 $t_{tol} 0-30 \text{ mm} \rightarrow h_D + 75 \text{ mm}$   
 $t_{tol} 30-60 \text{ mm} \rightarrow h_D + 105 \text{ mm}.$   
 Note: bore holes in Hlz and autoclaved aerated concrete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



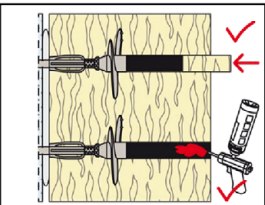
4. Press the anchor with the screw plate tight against the surface of the insulation material, then start screwing-in the anchor. Setting is finished when the surface of the ring is flush with the surface of the insulation material.



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

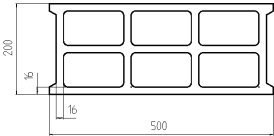
Intended use  
Installation instructions

Annex B 3

Appendix 7 / 9



**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 $\leq$ 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>	$\geq 1,8$	15/12	-	H	<b>1,20</b>
Sand-lime solid bricks, KS as per EN 771-2	B <sup>2)</sup>	$\geq 2,0$	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>	$\geq 2,0$	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>	$\geq 1,4$	10/8	-	H	<b>0,60</b>
Vertically perforated clay bricks, Hz as per EN 771-1	C <sup>3)</sup>	$\geq 1,0$	15/12	Exterior web thickness $\geq 12$ mm.	R	<b>0,75</b>
Vertically perforated sand-lime bricks, KSL as per EN 771-2	C <sup>3)</sup>	$\geq 1,4$	15/12	Exterior web thickness $\geq 23$ 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>	$\geq 1,2$	5/4	Exterior web thickness $\geq 38$ 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>	$\geq 0,9$	5/4	 <p>Web thickness <math>\geq 16</math> mm.</p>	H	<b>0,50</b>
Lightweight aggregate concrete, LAC as per EN 1520	D <sup>3)</sup>	$\geq 0,9$	7,5/6	Minimum thickness of solid brick h = 100 mm or exterior web thickness $\geq 50$ mm.	H	<b>0,75</b>
Autoclaved aerated concrete, AAC as per EN 771-4	E	$\geq 0,5$	5/4	-	R	<b>0,40</b>

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

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

<sup>3)</sup> Vertically perforation  $> 15\%$  and  $\leq 50\%$ , 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**

Appendix 8 / 9

**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**

Appendix 9 / 9