

## DECLARATION OF PERFORMANCE

### DoP 0326

for fischer termoz CN 8 / fischer termoz CN 8 R / fischer termoz CNplus 8 (Plastic anchors for use in concrete and masonry)

EN

1. <u>Unique identification code of the product-type:</u>	<b>DoP 0326</b>	
2. <u>Intended use/es:</u>	<b>Nailed-in plastic anchor for fixing of external thermal insulation composite systems (ETICS) with rendering in concrete and masonry, see appendix, especially annexes B1 - B3.</b>	
3. <u>Manufacturer:</u>	<b>fischerwerke GmbH &amp; Co. KG, Klaus-Fischer-Str. 1, 72178 Waldachtal, Germany</b>	
4. <u>Authorised representative:</u>	<b>-</b>	
5. <u>System/s of AVCP:</u>	<b>2+</b>	
6. <u>European Assessment Document:</u>	<b>EAD 330196-01-0604, Edition 10/2017</b>	
<u>European Technical Assessment:</u>	<b>ETA-09/0394; 2022-10-18</b>	
<u>Technical Assessment Body:</u>	<b>DIBt- Deutsches Institut für Bautechnik</b>	
<u>Notified body/ies:</u>	<b>2873 TU Darmstadt</b>	
7. <u>Declared performance/s:</u>		
<b>Safety in use (BWR 4)</b>		
<b>Characteristic load bearing capacity:</b>	<b>Characteristic resistance under tension load:</b>	<b>Annexes C1, C2</b>
	<b>Minimum edge distance:</b>	<b>Annex B2</b>
	<b>Minimum spacing:</b>	<b>Annex B2</b>
<b>Displacements:</b>	<b>Tension load with partial factor:</b>	<b>Annex C5</b>
	<b>Displacements:</b>	<b>Annex C5</b>
<b>Plate stiffness:</b>	<b>Diameter of the anchor plate:</b>	<b>Annex C4</b>
	<b>Load resistance of the anchor plate:</b>	<b>Annex C4</b>
	<b>Plate stiffness:</b>	<b>Annex C4</b>
<b>Energy economy and heat retention (BWR 6)</b>		
<b>Thermal transmittance:</b>	<b>Point thermal transmittance of an anchor:</b>	<b>Annexes C3, C4</b>
	<b>Insulating layer thickness of the ETICS:</b>	<b>Annexes C3, C4</b>
8. <u>Appropriate Technical Documentation and/or Specific Technical Documentation:</u>	<b>-</b>	

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Dr.-Ing. Oliver Geibig, Managing Director Business Units & Engineering  
Tumlingen, 2022-10-31



Jürgen Grün, Managing Director Chemistry & Quality

This DoP has been prepared in different languages. In case there is a dispute on the interpretation the English version shall always prevail.

The Appendix includes voluntary and complementary information in English language exceeding the (language-neutrally specified) legal requirements.

## Specific part

### 1 Technical description of the product

The fischer nailed-in anchor TermoZ CN 8 110-230 and TermoZ CNplus 8 110-230 consists of an anchor sleeve with an enlarged shaft made of polypropylene (virgin material), an insulation plate made of glass fibre reinforced polyamide (virgin material) and a special compound nail consisting of two parts, one made of glass fibre reinforced polyamide for the shaft element and the other part made of galvanised steel.

The fischer nailed-in anchor TermoZ CN 8 250-390 and TermoZ CN 8 R 250-310 consists of an anchor sleeve made of polypropylene (virgin material), a shaft part, whose the serrated expanding part is slotted, such as an insulation plate made of glass fibre reinforced polyamide (virgin material).

The fischer nailed-in anchor TermoZ CN 8 250-390 and TermoZ CN 8 R 250-310 made of galvanised steel and is used together with a plastic cylinder made of glass fiber reinforced polyamide.

The fischer nailed-in anchor TermoZ CNplus 8 250-390 consists of an anchor sleeve made of polypropylene (virgin material), a shaft part made of polyamide (virgin material), whose the serrated expanding part is slotted, an insulation plate made of glass fibre reinforced polyamide (virgin material) and a special compound nail consisting of two parts, one made of glass fibre reinforced polyamide for the shaft element and the other part made of galvanised steel.

All anchors may in addition be combined with the anchor plates DT 90, DT 110 and DT 140.

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 - C 2 See Annex B 2
Displacements	See Annex C 5
Plate stiffness	See Annex C 4

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

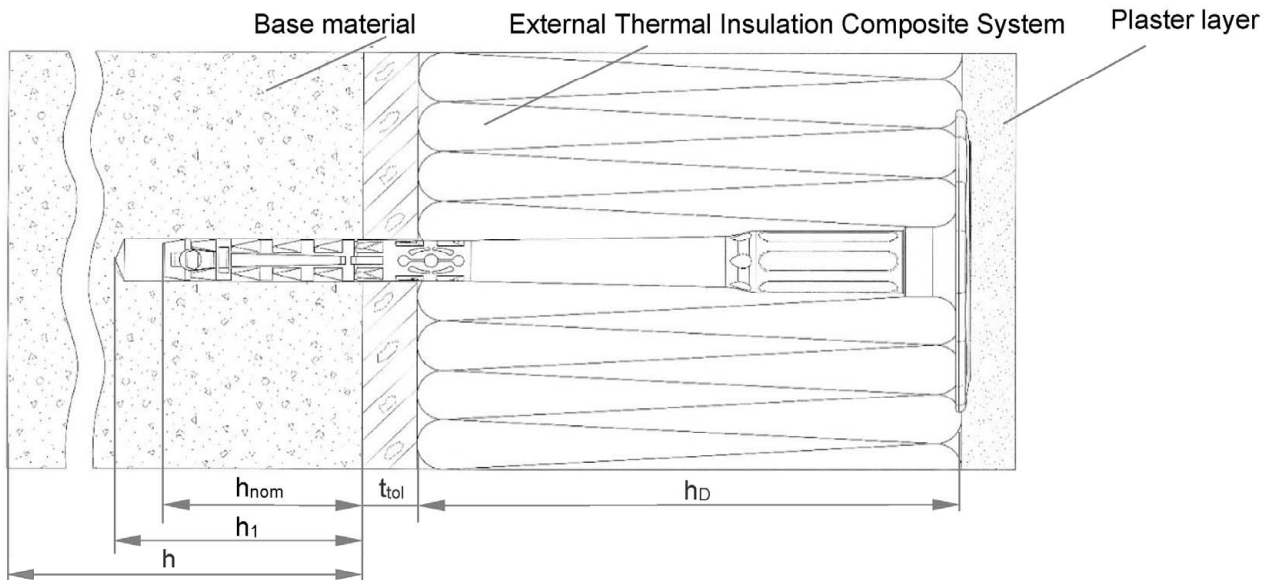
Essential characteristic	Performance
Point thermal transmittance	See Annex C 3 - C 4

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

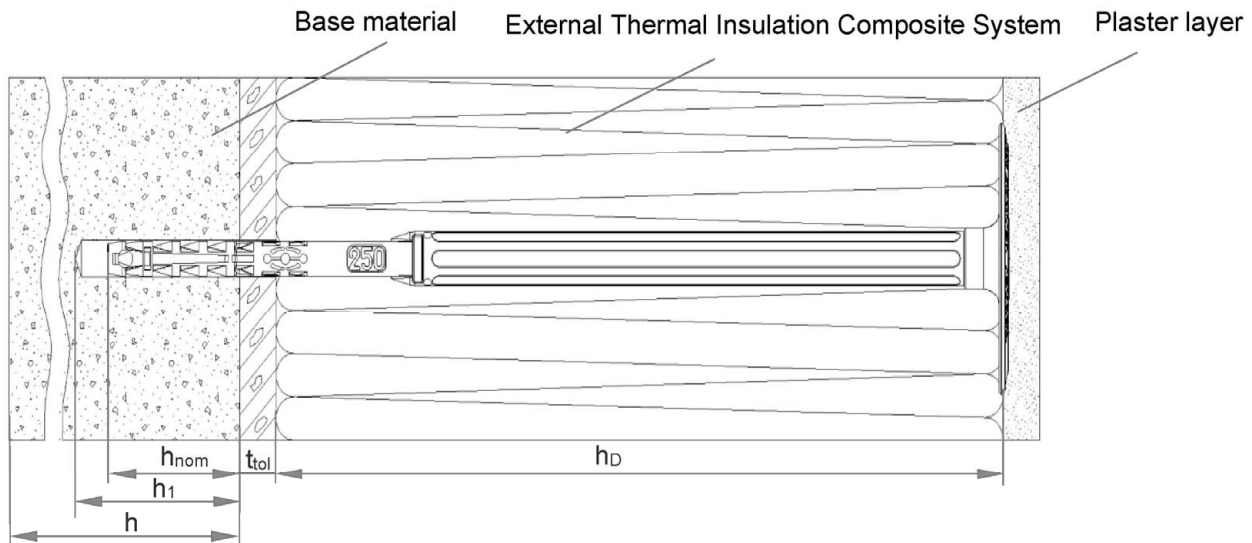
In accordance with EAD No. 330196-01-0604, the applicable European legal act is: [97/463/EC].

The system to be applied is: 2+

**TermoZ CN 8 / 110 – 230 / TermoZ CNplus 8 / 110 – 230 – mounting on the surface**



**TermoZ CN 8 / 250 – 390 / TermoZ CN 8 R / 250 – 310 / TermoZ CNplus 8 / 250 - 390 – mounting on the surface**



**Legend**

- $h_{nom}$  = Overall plastic anchor embedment depth in the base material
- $h_1$  = Depth of drilled hole to deepest point
- $h$  = Thickness of member (wall)
- $h_D$  = Thickness of insulation material
- $t_{tol}$  = Thickness of equalising layer and / or non-load bearing coating

Figures not to scale

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

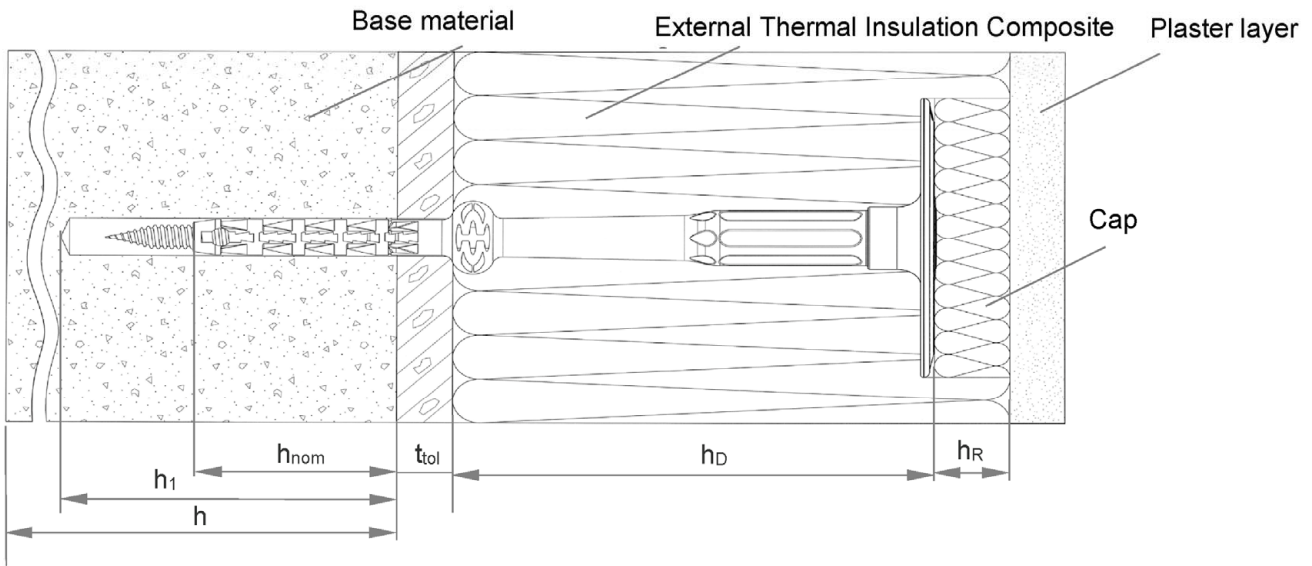
**Product description**

Installed anchor – mounting on the surface

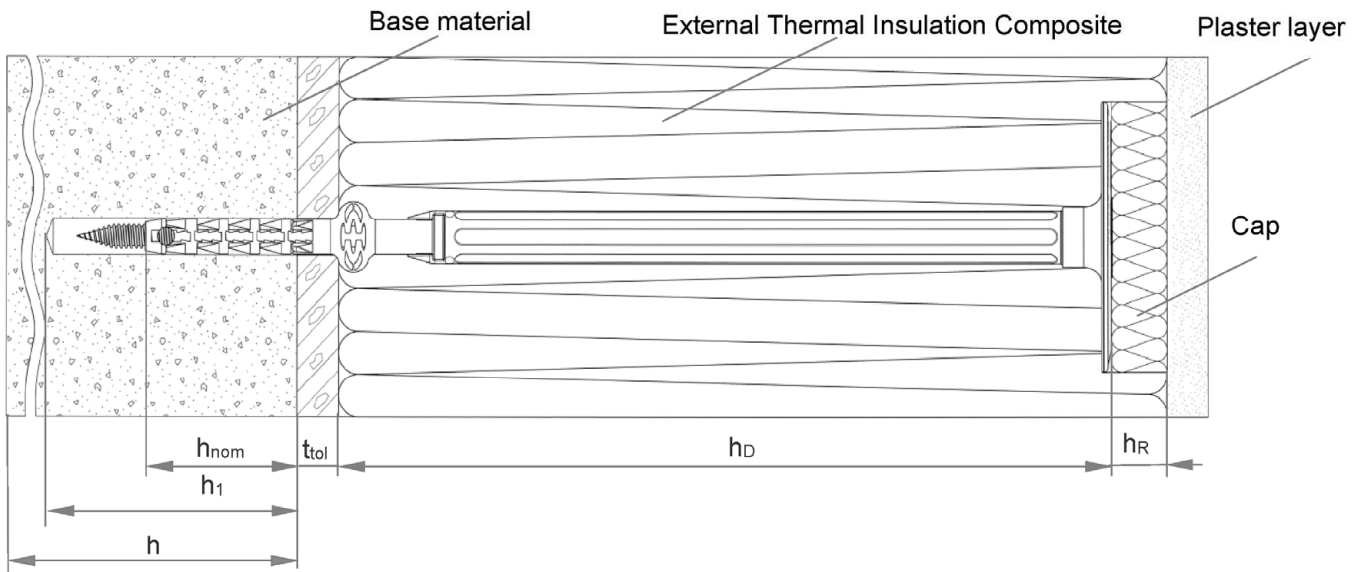
**Annex A 1**

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### TermoZ CNplus 8 / 110 – 230 – countersunk mounting



### TermoZ CNplus 8 / 250 – 390 – countersunk mounting



#### Legend

- $h_{nom}$  = Overall plastic anchor embedment depth in the base material
- $h_1$  = Depth of drilled hole to deepest point
- $h$  = Thickness of member (wall)
- $h_D$  = Thickness of insulation material
- $h_R$  = Thickness of cap
- $t_{toi}$  = Thickness of equalising layer and / or non-load bearing coating

Figures not to scale

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

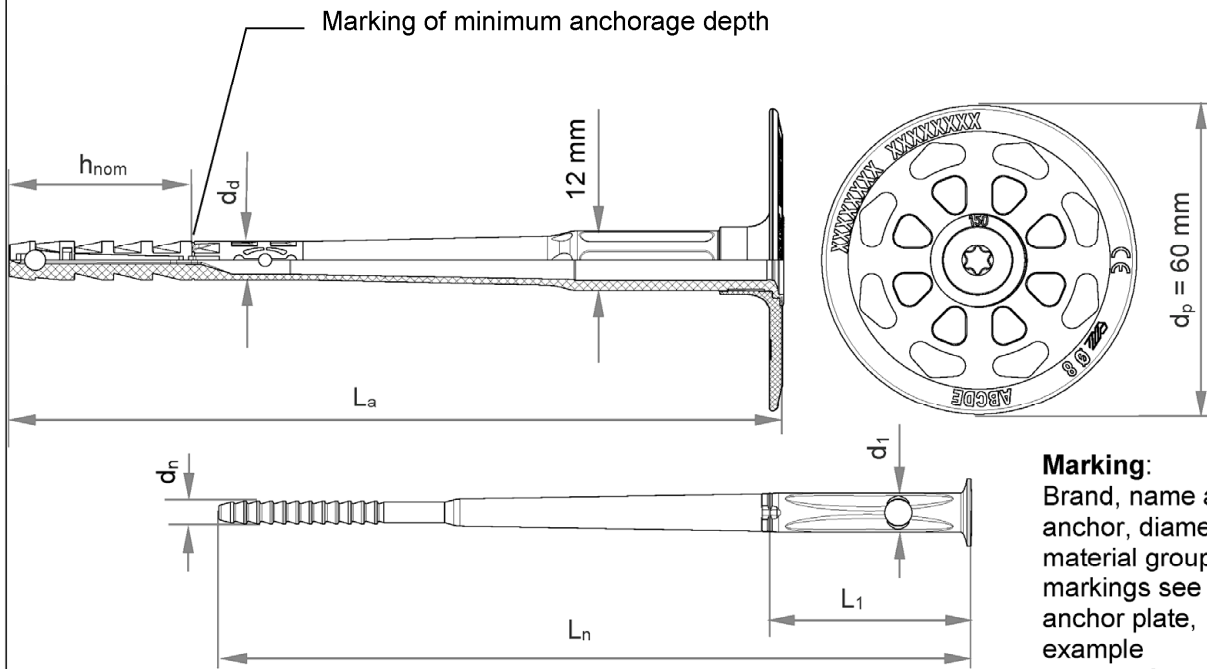
#### Product description

Installed anchor – mounting on the surface

Annex A 2

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# TermoZ CN 8 / 110 – 230



**Marking:**  
 Brand, name and size of anchor, diameter, base material groups, optional markings see drawing of anchor plate, example  
 TermoZ CN 8 ABCDE

Various length of the anchors are possible.

e.g. for TermoZ CN 8 / 110 - 230:  
 $110 \text{ mm} \geq L_a \leq 230 \text{ mm}$   
 $L_a = L_n + 4 \text{ mm}$

**Table A3.1: Dimensions TermoZ CN 8 / 110 – 230**

Anchor type	Anchor sleeve		Specific compound nail		
	$d_d$ [mm]	$h_{nom}$ [mm]	$d_n$ [mm]	$L_1$ [mm]	$d_1$ [mm]
TermoZ CN 8 / 110 - 230	8	35/55 <sup>1)</sup>	4,4	40	8

<sup>1)</sup> Only valid for base material group "E".

Determination of maximum thickness of insulation:

$$\text{maximum } h_D = L_a - h_{nom} - t_{tol}$$

e.g. for TermoZ CN 8x150:

$L_a = 148 \text{ mm}$ ,  $h_{nom} = 35 \text{ mm}$ ,  $t_{tol} = 10 \text{ mm}$

$$\text{maximum } h_D = 148 - 35 - 10 = 103 \text{ mm}$$

→ recommended  $h_D = 100 \text{ mm}$

Figures not to scale

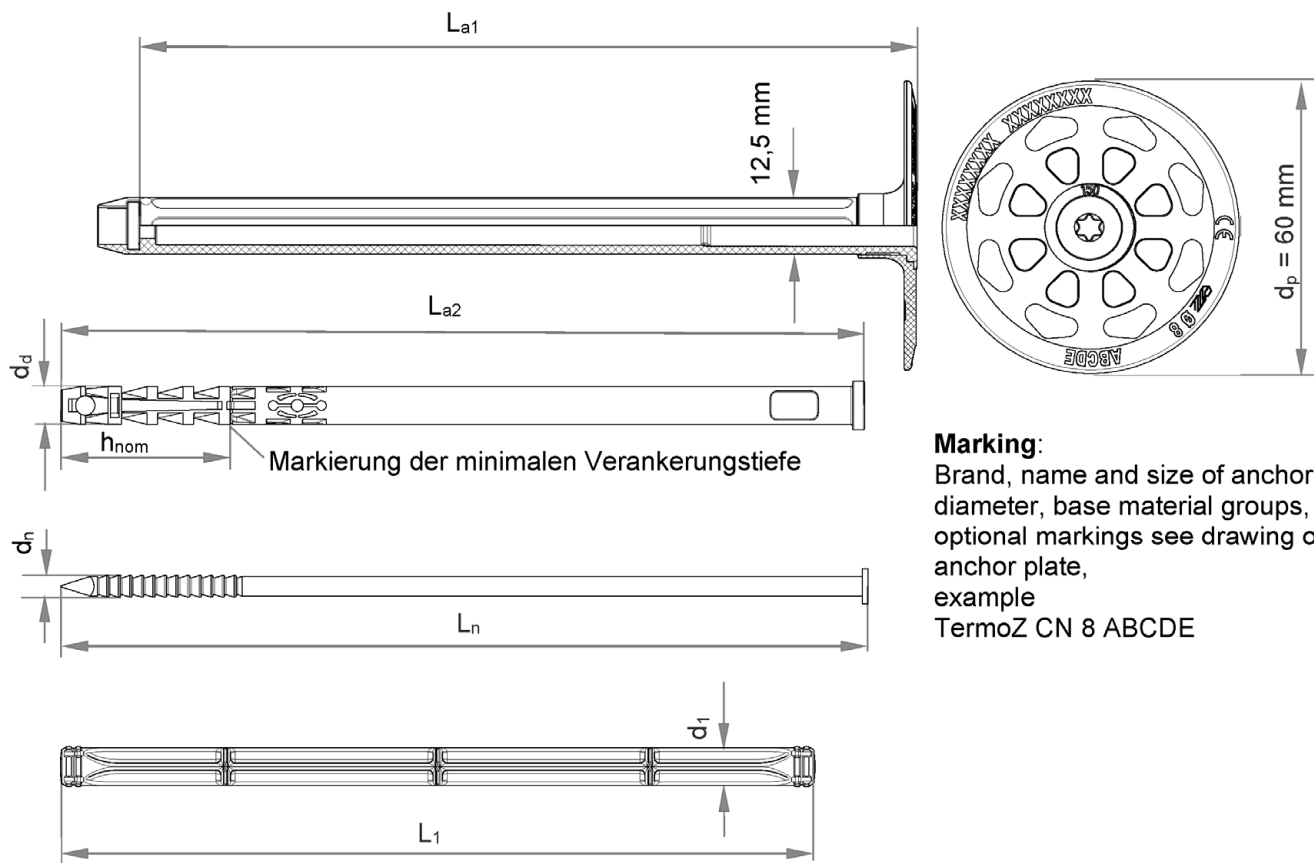
fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Product description**  
 Dimensions TermoZ CN 8 / 110 – 230

**Annex A 3**

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# TermoZ CN 8 / 250 – 390



### Marking:

Brand, name and size of anchor, diameter, base material groups, optional markings see drawing of anchor plate, example TermoZ CN 8 ABCDE

Various length of the anchors are possible.

e.g. for TermoZ CN 8 / 250 – 390:

$$250 \text{ mm} \geq L_{a1} + L_{a2} \leq 390 \text{ mm}$$

$$L_a = L_{a1} + L_{a2} = L_n + 160,5 \text{ mm}$$

**Table A4.1: Dimensions TermoZ CN 8 / 250 – 390**

Anchor type	Shaft		Anchor sleeve			Nail		Plastic cylinder	
	$L_{a1}$ [mm]	$d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$d_1$ [mm]	
TermoZ CN 8 / 250 – 390	161	8	35/55 <sup>1)</sup>	87 - 247	4,5	$(L_{a1}+L_{a2}) - 160,5$	157	8	

<sup>1)</sup> Only valid for base material group "E".

Determination of maximum thickness of insulation:

$$\text{maximum } h_D = L_a - h_{nom} - t_{tol}$$

e.g. for TermoZ CN 8x330:

$$L_a = 328 \text{ mm}, h_{nom} = 35 \text{ mm}, t_{tol} = 10 \text{ mm}$$

$$\text{maximum } h_D = 328 - 35 - 10 = 283 \text{ mm}$$

→ recommended  $h_D = 280 \text{ mm}$

Figures not to scale

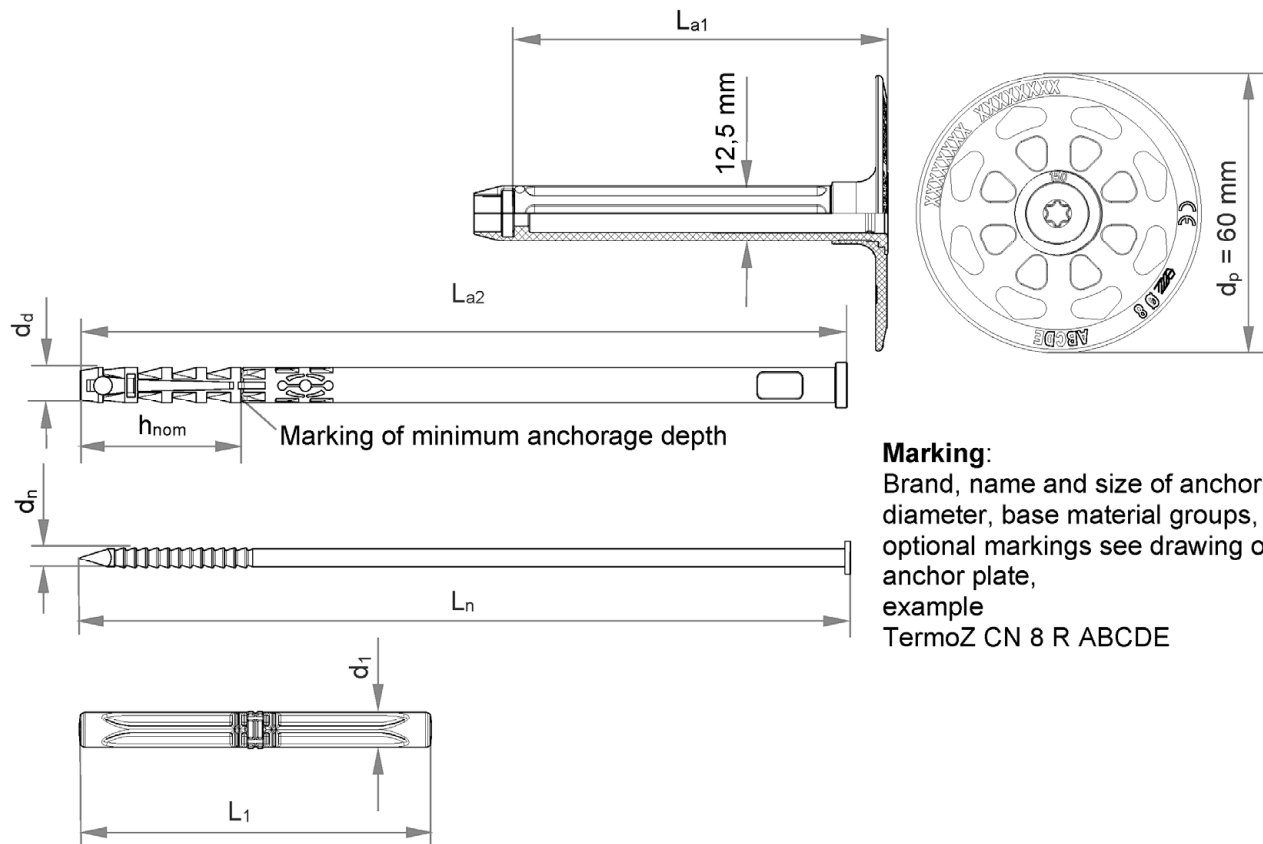
fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Product description**  
Dimensions TermoZ CN 8 / 250 – 390

**Annex A 4**

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# TermoZ CN 8 R / 250 – 310



**Marking:**  
 Brand, name and size of anchor,  
 diameter, base material groups,  
 optional markings see drawing of  
 anchor plate,  
 example  
 TermoZ CN 8 R ABCDE

Various length of the anchors are possible.  
 z. B. für TermoZ CN 8 R / 250 – 310:  
 $250 \text{ mm} \geq L_{a1} + L_{a2} \leq 310 \text{ mm}$   
 $L_a = L_{a1} + L_{a2} = L_n + 80,5 \text{ mm}$

**Table A5.1: Dimensions TermoZ CN 8 R / 250 – 310**

Anchor type	Shaft	Anchor sleeve			Nail		Plastic cylinder	
		$L_{a1}$ [mm]	$d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]
TermoZ CN 8 R / 250 – 310	81	8	35/55 <sup>1)</sup>	167 - 247	4,5	$(L_{a1}+L_{a2}) - 80,5$	77	8

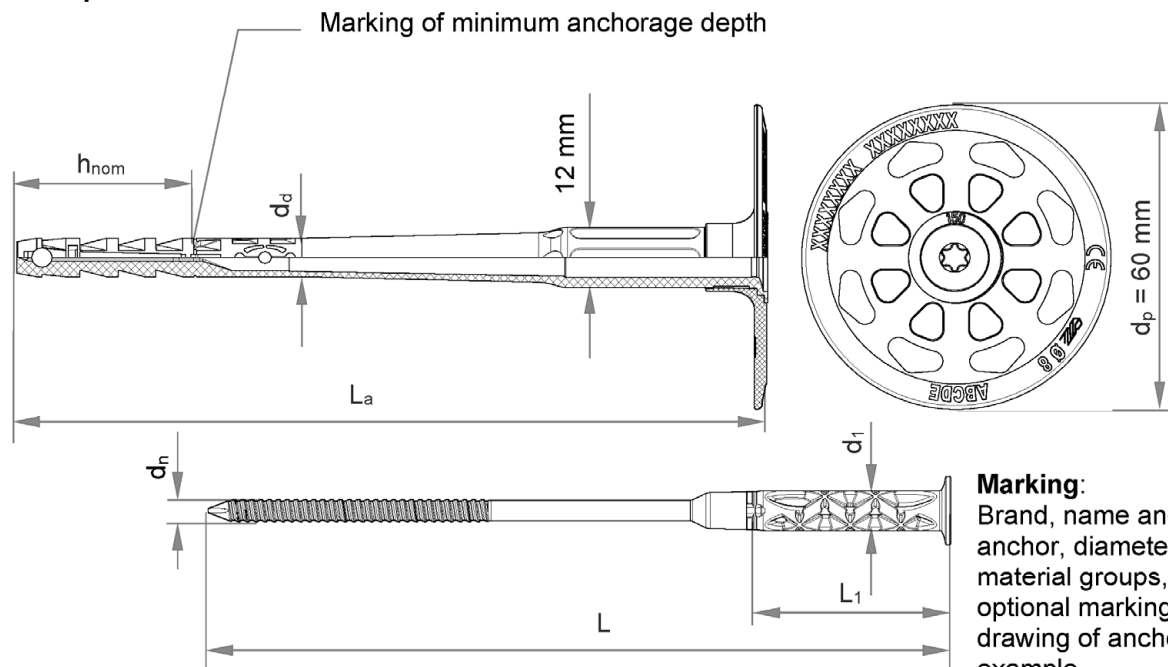
<sup>1)</sup> Only valid for base material group "E".

Determination of maximum thickness of insulation: maximum  $h_D = L_a - h_{nom} - t_{tol}$   
 e.g. for TermoZ CN 8 R 8x250:  
 $L_a = 248 \text{ mm}$ ,  $h_{nom} = 35 \text{ mm}$ ,  $t_{tol} = 10 \text{ mm}$  maximum  $h_D = 248 - 35 - 10 = 203 \text{ mm}$   
 → recommended  $h_D = 200 \text{ mm}$

Figures not to scale



# TermoZ CNplus 8 / 110 – 230



**Marking:**  
 Brand, name and size of anchor, diameter, base material groups, optional markings see drawing of anchor plate, example TermoZ CNplus 8 ABCDE

Various length of the anchors are possible.

e.g. for TermoZ CNplus 8 / 110 – 230:  
 $110 \text{ mm} \geq L_a \leq 230 \text{ mm}$   
 $L_a = L_n + 1,5 \text{ mm}$

**Table A6.1: Dimensions TermoZ CNplus 8 / 110 – 230**

Anchor type	Anchor sleeve		Specific compound nail			
	$d_d$ [mm]	$h_{nom}$ [mm]	$d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$d_1$ [mm]
TermoZ CNplus 8 / 110 - 230	8	35/55 <sup>1)</sup>	4,3	$L_a - 1,5$	40	8

<sup>1)</sup> Only valid for base material group "D" and "E".

Determination of maximum thickness of insulation:

$$\text{maximum } h_D = L_a - h_{nom} - t_{tol}$$

e.g. for TermoZ CNplus 8x150:

$L_a = 148 \text{ mm}$ ,  $h_{nom} = 35 \text{ mm}$ ,  $t_{tol} = 10 \text{ mm}$

$$\text{maximum } h_D = 148 - 35 - 10 = 103 \text{ mm}$$

→ recommended  $h_D = 100 \text{ mm}$

Figures not to scale

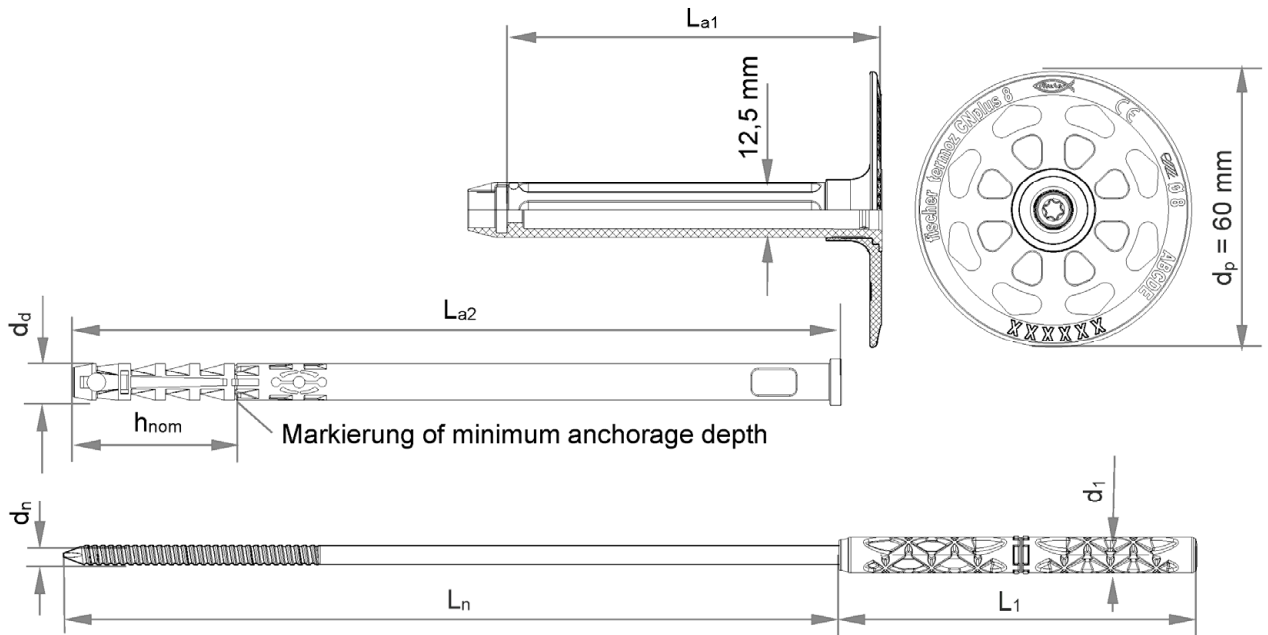
fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Product description**  
 Dimensions TermoZ CNplus 8 / 110 – 230

**Annex A 6**

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# TermoZ CNplus 8 / 250 – 310



Various length of the anchors are possible.

e.g. for TermoZ CNplus 8 / 250 – 310:  
 $250 \text{ mm} \geq L_{a1} + L_{a2} \leq 310 \text{ mm}$   
 $L_a = L_{a1} + L_{a2} = L_n + 79,5 \text{ mm}$

**Marking:**  
 Brand, name and size of anchor, diameter, base material groups, optional markings see drawing of anchor plate, example  
 TermoZ CNplus 8 ABCDE

**Table A7.1: Dimensions TermoZ CNplus 8 / 250 – 310**

Anchor type	Shaft	Anchor sleeve			Specific compound nail			
	$L_{a1}$ [mm]	$d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$d_1$ [mm]
Termoz CNplus 8 / 250 – 310	81	8	35/55 <sup>1)</sup>	167 - 247	4,3	$(L_{a1}+L_{a2}) - 79,5$	77,5	8

<sup>1)</sup> Only valid for base material group "D" and "E".

Determination of maximum thickness of insulation:

$$\text{maximum } h_D = L_a - h_{nom} - t_{tol}$$

e.g. for TermoZ CNplus 8x250:

$$L_a = 248 \text{ mm}, h_{nom} = 35 \text{ mm}, t_{tol} = 10 \text{ mm}$$

$$\text{maximum } h_D = 248 - 35 - 10 = 203 \text{ mm}$$

→ recommended  $h_D = 200 \text{ mm}$

Figures not to scale

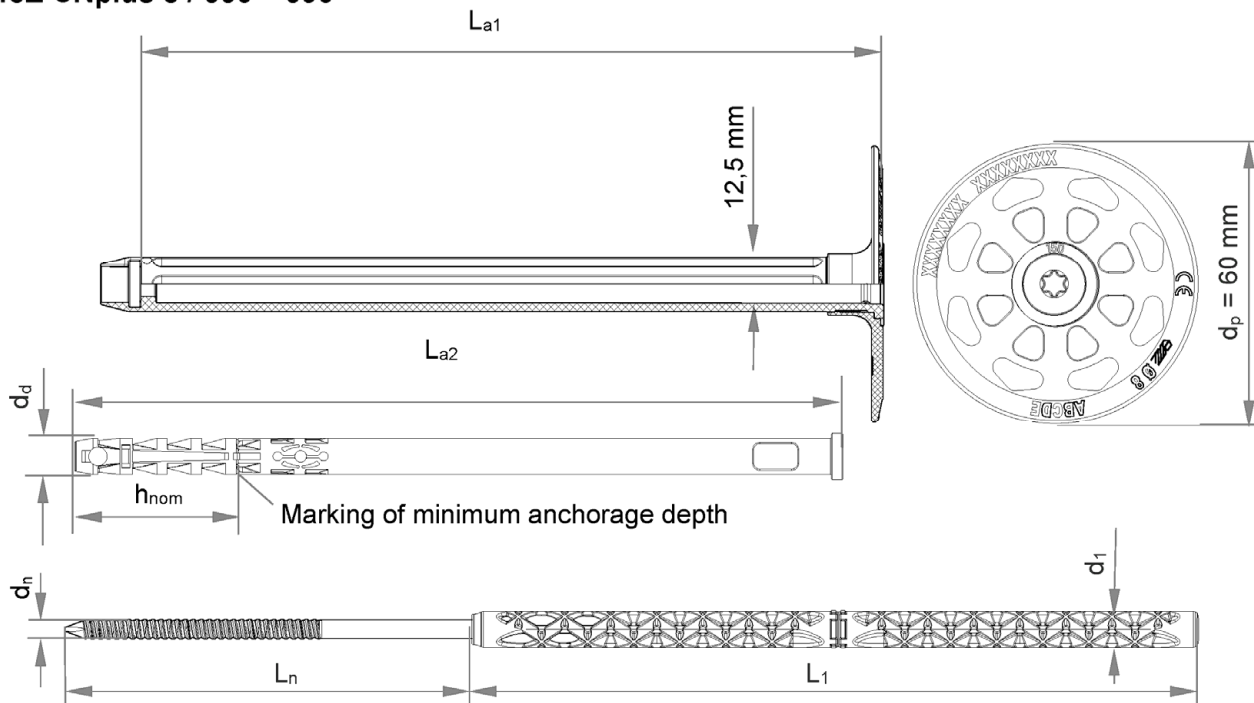
fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Product description**  
 Dimensions TermoZ CNplus 8 / 250 – 310

**Annex A 7**

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# TermoZ CNplus 8 / 330 – 390



Various length of the anchors are possible.

e.g. for TermoZ CNplus 8 / 330 – 390:  
 $330 \text{ mm} \geq L_{a1} + L_{a2} \leq 390 \text{ mm}$   
 $L_a = L_{a1} + L_{a2} = L_n + 159,5 \text{ mm}$

### Marking:

Brand, name and size of anchor, diameter, base material groups, optional markings see drawing of anchor plate, example  
 TermoZ CNplus 8 ABCDE

**Table A8.1: Dimensions TermoZ CNplus 8 / 330 – 390**

Anchor type	Shaft	Anchor sleeve			Specific compound nail			
	$L_{a1}$ [mm]	$d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$d_1$ [mm]
Termoz CNplus 8 / 330 – 390	161	8	35/55 <sup>1)</sup>	167 - 247	4,3	$(L_{a1}+L_{a2}) - 159,5$	157,5	8

<sup>1)</sup> Only valid for base material group "D" and "E".

Determination of maximum thickness of insulation:

$$\text{maximum } h_D = L_a - h_{nom} - t_{tol}$$

e.g. for TermoZ CNplus 8x330:

$L_a = 328 \text{ mm}$ ,  $h_{nom} = 35 \text{ mm}$ ,  $t_{tol} = 10 \text{ mm}$

$$\text{maximum } h_D = 328 - 35 - 10 = 283 \text{ mm}$$

→ recommended  $h_D = 280 \text{ mm}$

Figures not to scale

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

### Product description

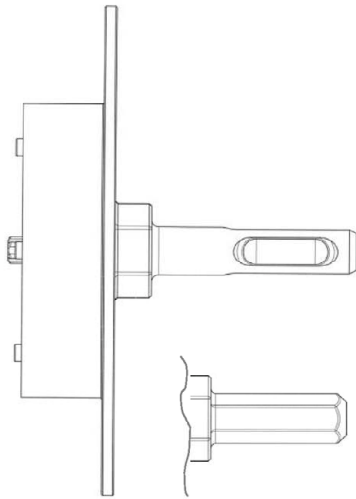
Dimensions TermoZ CNplus 8 / 330 – 390

**Annex A 8**

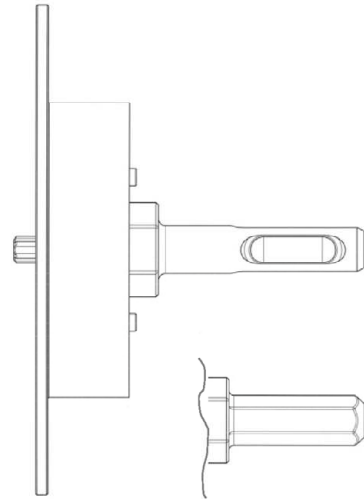
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## Setting tool with SDS adapter or hexagonal adapter for TermoZ CNplus 8

### Countersunk setting<sup>1)</sup>

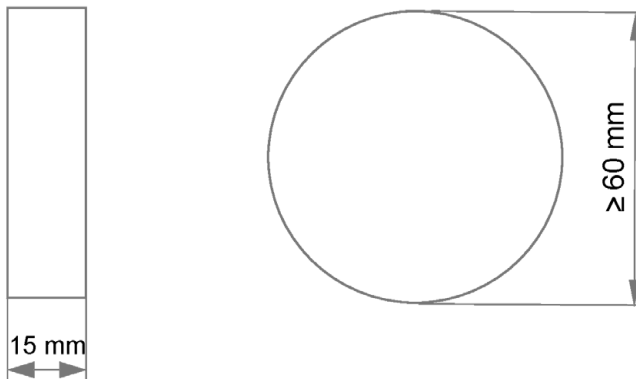


### Optional: plain surface setting



<sup>1)</sup> Alternatively, it is possible to mill the insulation material with a standard, market-available milling tool.

### Cap



Figures not to scale

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

#### Product description

Setting tool and dimensions of cap for fischer TermoZ CNplus 8

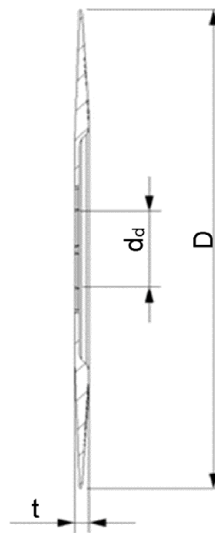
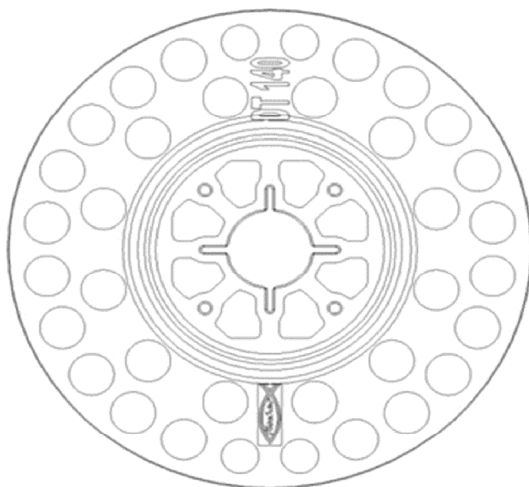
Annex A 9

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**Table A10.1: Materials**

Designation	Material
Anchor sleeve	PP, colour: grey
Shaft TermoZ CN 8 / 250 – 390 or TermoZ CN 8 R / 250 – 310 or TermoZ CNplus 8 / 250 – 390	PA6 GF, colour: grey
Plastic cylinder TermoZ CN 8 / 250 – 390 or TermoZ CN 8 R / 250 – 310	PA6 GF
Specific nail TermoZ CN 8 / 250 – 390 or TermoZ CN 8 R / 250 – 310	Galvanised steel with Zn5/Ag or Zn5/An as per EN ISO 4042
Specific compound nail TermoZ CN 8 / 110 – 230 or TermoZ CNplus 8 / 110 – 230 or TermoZ CNplus 8 / 250 – 390	PA6 GF (plastic part of compound nail) with galvanised steel Zn5/Ag or Zn5/An as per EN ISO 4042
Cap	Polystyrene; mineral wood, soft wood fibre
Anchor plate / slip-on plate	PA6 GF, colour: grey, yellow, red, orange, green, blue, mocca-latte, black

**Drawing of the slip-on plate (e.g. DT 140)**



**Table A10.2: Slip-on plate, dimensions and material**

Slip-on plate	D [mm]	ddt [mm]	t [mm]
DT 90 / 110 / 140	90 / 110 / 140	22,5	3,9

Figures not to scale

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Product description**

Material, Slip-on plate dimensions and material combined with fischer TermoZ CN 8, TermoZ CN 8 R and TermoZ CNplus 8

**Annex A 10**

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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 (ETICS).

### Base materials:

- Compacted normal weight concrete without fibres, strength classes  $\geq$  C12/15 (base material group "A"), in accordance with EN 206, see Annex C 1 and C 2.
- Solid brick masonry (base material group "B") as per EN 771-1, EN 771-2 or EN 771-3, see Annex C 1 and C 2.
- Hollow brick masonry (base material group "C"), as per EN 771-1, EN 771-2 or EN 771-3, see Annex C 1 and C 2.
- Prefabricated reinforced components of lightweight aggregate concrete with open structure (base material group "D") as per EN 1520, see Annex C 1 and C 2..
- Unreinforced autoclaved aerated concrete (base material group "E") as per EN 771-4, see Annex C 1 and C 2.
- For other comparable base materials of the base material group "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 system.

### Installation:

- Drilling method according to Annex C 1 and C 2.
- 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 CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

Intended Use  
Specification

Annex B 1

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**Table B2.1: Installation parameters for base material groups “A” concrete, “B” solid bricks, “C” hollow or perforated bricks, “D” lightweight aggregate concrete and “E” autoclaved aerated concrete – flush mounting**

Anchor type		TermoZ CN 8 TermoZ CN 8 R TermoZ CNplus 8
Nominal drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8,45
Depth of drilled hole to deepest point	$h_1 \geq$ [mm]	45/55 <sup>1)</sup> /65 <sup>2)</sup>
Overall plastic anchor embedment depth in the base material	$h_{nom} \geq$ [mm]	35/45 <sup>1)</sup> /55 <sup>2)</sup>

<sup>1)</sup> Only TermoZ CNplus valid for weather shells (thin concrete slabs) :  $35 \text{ mm} \leq h_{nom} \leq 45 \text{ mm}$ .

<sup>2)</sup> TermoZ CN 8 | TermoZ CN 8 R : Only valid for base material group “E”.

TermoZ CNplus 8: Only valid for base material group “D” and “E”.

**Table B2.2: Installation parameters for base material groups “A” concrete, “B” solid bricks, “C” hollow or perforated bricks, “D” lightweight aggregate concrete and “E” autoclaved aerated concrete – countersunk mounting**

Anchor type		TermoZ CNplus 8
Nominal drill hole diameter	$d_0 =$ [mm]	8
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8,45
Depth of drilled hole to deepest point	$h_1 \geq$ [mm]	60/70 <sup>1)</sup> /80 <sup>2)</sup>
Overall plastic anchor embedment depth in the base material	$h_{nom} \geq$ [mm]	35/45 <sup>1)</sup> /55 <sup>2)</sup>

<sup>1)</sup> Valid for weather shell (thin concrete slabs):  $35 \text{ mm} \leq h_{nom} \leq 45 \text{ mm}$ .

<sup>2)</sup> Only valid for base material group “D” and “E”.

**Table B2.3: Minimum thickness of member, edge distances and spacing in all regulated base material groups**

Anchor type		TermoZ CN 8 TermoZ CN 8 R TermoZ CNplus 8
Minimum thickness of member	$h_{min} =$ [mm]	100
Minimum spacing	$s_{min} =$ [mm]	100
Minimum edge distance	$c_{min} =$ [mm]	100

**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

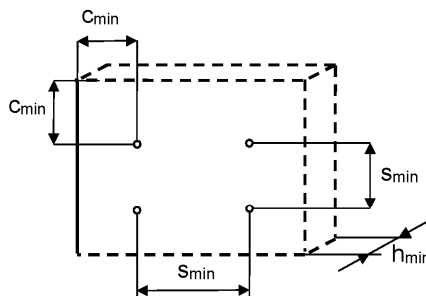


Figure not to scale

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Intended Use**

Installation parameters

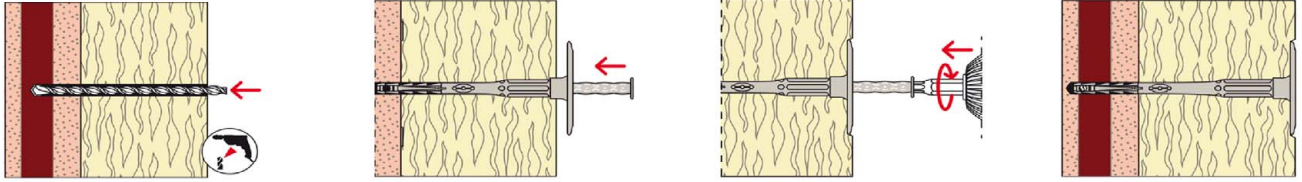
Minimum thickness of member, edge distances and spacing

**Annex B 2**

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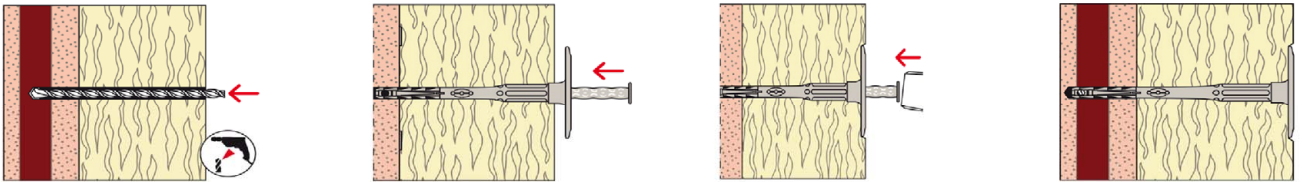
## Installation instruction

### Setting of anchor (plain surface setting) by machine / TermoZ CNplus 8



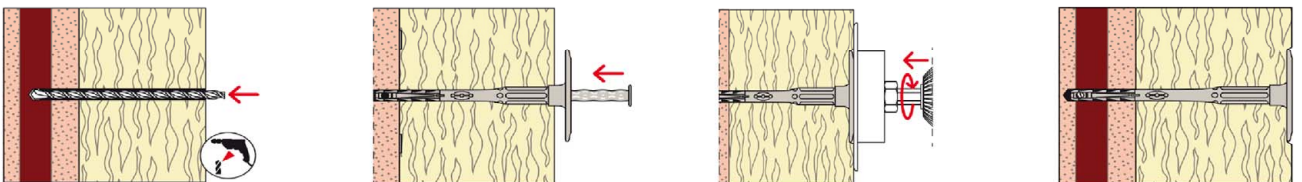
1. Drill hole by corresponding drilling method
2. Insert anchor manually
3. Set anchor by machine
4. Correctly installed anchor

### Setting of anchor (plain surface setting) by hammer / TermoZ CN 8 | TermoZ CN 8 R | TermoZ CNplus 8



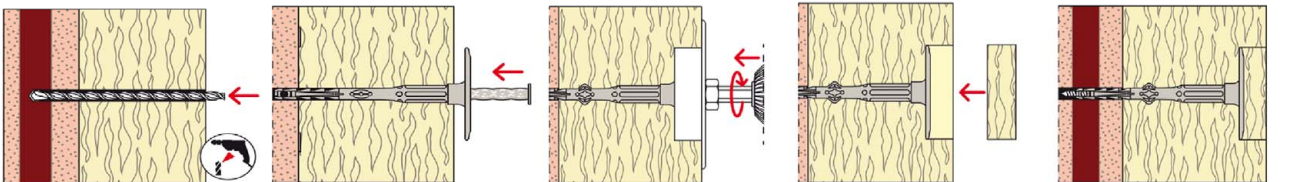
1. Drill hole by corresponding drilling method
2. Insert anchor manually
3. Set anchor by hammer blows
4. Correctly installed anchor

### Setting of anchor (plain surface setting) by setting tool / TermoZ CNplus 8



1. Drill hole by corresponding drilling method
2. Insert anchor manually
3. Set anchor by setting tool with the machine
4. Correctly installed anchor

### Setting of anchor (countersunk mounting) by setting tool / TermoZ CNplus 8



1. Drill hole by corresponding drilling method
2. Insert anchor manually
3. Set anchor by setting tool with the machine
4. Put on cap
5. Correctly installed anchor

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

Intended Use  
Installation instruction

Annex B 3  
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**Table C1.1: Characteristic resistance  $N_{Rk}$  to tension loads for single anchor  
TermoZ CN 8 and TermoZ CN 8 R**

Base material	Group	Bulk density $\rho$ [kg/dm <sup>3</sup> ]	Mean compressive strength / minimum compressive strength single brick as per EN 771 <sup>5)</sup> [N/mm <sup>2</sup> ]	Remarks	Drilling method <sup>1)</sup>	Characteristic resistance to tension loads  $N_{Rk}$ [kN]
Concrete, C12/15 - C50/60 as per EN 206	A	-	-	-	H	<b>0,90</b>
Solid Clay bricks, Mz as per EN 771-1	B <sup>2)</sup>	≥ 2,0	15/12	-	H	<b>0,90</b>
Calcium silicate solid bricks, KS as per EN 771-2	B <sup>2)</sup>	≥ 1,8	15/12	-	H	<b>0,90</b>
Solid concrete blocks, Vbn as per EN 771-3	B <sup>2)</sup>	≥ 2,0	25/20	-	H	<b>0,75</b>
Lightweight concrete blocks, Vbl as per EN 771-3	B <sup>2)</sup>	≥ 1,4	10/8	-	H	<b>0,60</b>
Vertically perforated clay bricks, HLz as per EN 771-1	C <sup>3)</sup>	≥ 1,0	15/12	Exterior web thickness ≥ 15 mm.	R	<b>0,60</b>
Hollow calcium silicate brick, KSL as per EN 771-2	C <sup>3)</sup>	≥ 1,4	15/12	Exterior web thickness ≥ 23 mm.	H	<b>0,50</b>
			25/20			<b>0,75</b>
Lightweight concrete hollow blocks, Hbl as per EN 771-3	C <sup>3)</sup>	≥ 1,2	12,5/10	Exterior web thickness ≥ 38 mm.	H	<b>0,60</b>
Lightweight aggregate concrete, LAC as per EN 1520 / EN 771-3	D <sup>3)</sup>	≥ 0,8	7,5/6	Min. thickness of brick h = 100 mm or min. exterior web thickness t = 50 mm.	H	<b>0,40</b>
			5/4			<b>0,60</b>
Unreinforced autoclaved aerated concrete members, AAC as per EN 771-4	E	> 0,4	7,5/6	-	R	<b>0,30<sup>4)</sup></b>
		> 0,6	5/4	-		<b>0,30<sup>4)</sup></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> Only valid for  $h_{nom} \geq 55$  mm.

<sup>5)</sup> The compressive strength of the single brick must not be less than 80% of the mean compressive strength.

**fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8**

**Performances**

Characteristic resistance to tension load TermoZ CN 8 and TermoZ CN 8 R

**Annex C 1**

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**Table C2.1: Characteristic resistance  $N_{Rk}$  to tension loads for single anchor TermoZ CNplus 8**

Base material	Group	Bulk density $\rho$ [kg/dm <sup>3</sup> ]	Mean compressive strength / minimum compressive strength single brick as per EN 771 <sup>5)</sup> [N/mm <sup>2</sup> ]	Remarks	Drilling method <sup>1)</sup>	Characteristic resistance to tension loads  $N_{Rk}$ [kN]
Concrete, C12/15 - C50/60 as per EN 206	A	-	-	-	H	<b>0,90</b>
Weather resistant concrete shell $\geq$ C20/25 as per EN 206	A	-	-	$h \geq 42$ mm; $t_{fix} \geq 35$ mm.	H	<b>0,90</b>
Solid clay bricks, Mz as per EN 771-1	B <sup>2)</sup>	$\geq 1,8$	25/20	-	H	<b>0,90</b>
Calcium silicate solid bricks, KS as per EN 771-2	B <sup>2)</sup>	$\geq 1,8$	25/20	-	H	<b>0,90</b>
Solid concrete blocks, Vbn as per EN 771-3	B <sup>2)</sup>	$\geq 2,0$	25/20	-	H	<b>0,90</b>
Lightweight concrete blocks, Vbl as per EN 771-3	B <sup>2)</sup>	$\geq 1,6$	12,5/10	-	H	<b>0,75</b>
Vertically perforated clay bricks, Hlz as per EN 771-1	C <sup>3)</sup>	$\geq 1,6$	15/12	-	R	<b>0, 50</b>
		$\geq 1,0$	60/48	-		<b>0,75</b>
Hollow calcium silicate brick, KSL as per EN 771-2	C <sup>3)</sup>	$\geq 1,4$	20/16	Exterior web thickness $\geq 16$ mm.	H	<b>0,50</b>
Lightweight concrete hollow blocks, Hbl as per EN 771-2	C <sup>3)</sup>	$\geq 1,2$	12,5/10	Exterior web thickness $\geq 38$ mm.	H	<b>0,60</b>
Lightweight aggregate concrete, LAC as per EN 1520 / EN 771-3	D <sup>3)</sup>	$\geq 0,9$	7,5/6	Minimum thickness of brick $h = 100$ mm or Minimum exterior web thickness $t = 50$ mm.	H	<b>0,40<sup>4)</sup></b>
Unreinforced autoclaved aerated concrete members, AAC as per EN 771-4	E	$> 0,4$	5/4	-	R	<b>0,30<sup>4)</sup></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> Only valid for  $h_{nom} \geq 55$  mm.

<sup>5)</sup> The compressive strength of the single brick must not be less than 80% of the mean compressive strength.

**fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8**

**Performances**

Characteristic resistance to tension load TermoZ CNplus 8

**Annex C 2**

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**Table C3.1: Point thermal transmittance according to EOTA Technical Report TR 025  
TermoZ CN 8 and TermoZ CN 8 R**

Anchor type	Thickness of insulation material $h_D$ [mm]	Point thermal transmittance $\chi$ [W/K]
TermoZ CN 8 / 110 - 230	60 - 80	0,001
	> 80 - 180	0,000
TermoZ CN 8 / 250-350	200 - 300	0,000
TermoZ CN 8 / 370-390	> 300 - 340	0,001
TermoZ CN 8 R / 250 - 310	200 - 260	0,001

**Table C3.2: Point thermal transmittance according to EOTA Technical Report TR 025  
TermoZ CNplus 8 – countersunk setting**

Thickness of insulation material $h_D$ [mm]	Point thermal transmittance $\chi$ [W/K] Base material group				
	A	B	C	D	E
60	0,001	0,001	0,001	0,001	0
80					0,001
100					
120					
140					
160					
180					
200	0,002	0,002	0,001	0	0,001
220					
240					
260					
280	0,001	0,001	0,001	0	0
300					
320					
340					
				1)	1)

1) No performance assessed

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Performances**  
Point thermal transmittance

**Annex C 3**  
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**Table C4.1: Point thermal transmittance according to EOTA Technical Report TR 025  
TermoZ CNplus 8– countersunk setting**

Thickness of insulation material $h_D$ [mm]	Point thermal transmittance $\chi$ [W/K]				
	Base material group				
	A	B	C	D	E
80	0,001	0	0	0	0
100		0,001	0,001	0,001	
120					
140					
160	0,002	0,002	0,001	0,001	0,001
180	0,001	0,001			
200					
220					
240	0	0	0	0	
260					
280	0,001	0,001	0	0	0
300					
320					
340			0,001	1)	1)

1) No performance assessed

**Table C4.2: Plate stiffness according to EOTA Technical Report TR 026**

Anchor type	Max. size of the anchor plate $d_p$ [mm]	Load resistance of the anchor plate [kN]	Plate stiffness $c$ [kN/mm]
TermoZ CN 8   TermoZ CN 8 R TermoZ CNplus 8	60	1,7	0,6

fischer TermoZ CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8

**Performances**

Point thermal transmittance  
Plate stiffness

**Annex C 4**

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**Table C5.1: Displacements of TermoZ CN 8 and TermoZ CN 8 R**

Base material	Mean compressive strength / minimum compressive strength single brick as per EN 771 <sup>1)</sup> [N/mm <sup>2</sup> ]	Tension load	Displacements
		N [kN]	$\Delta\delta_N$ [mm]
Concrete, C12/15 - C50/60 as per EN 206	-	0,30	< 0,30
Solid Clay bricks, Mz as per EN 771-1	15/12	0,30	< 0,50
Calcium silicate solid bricks, KS as per EN 771-2	15/12	0,30	< 0,30
Solid concrete blocks, Vbn as per EN 771-3	25/20	0,25	< 0,30
Lightweight concrete blocks, Vbl as per EN 771-3	10/8	0,20	< 0,20
Vertically perforated clay, HLz bricks as per EN 771-1	15/12	0,20	< 0,20
Hollow calcium silicate brick, KSL as per EN 771-2	15/12	0,25	< 0,30
	25/20	0,15	< 0,20
Lightweight concrete hollow blocks, Hbl as per EN 771	12,5/10	0,20	< 0,20
Lightweight aggregate concrete, LAC as per EN 1520 / EN 771-3	5/4	0,13	< 0,30
	7,5/6	0,20	< 0,30
Autoclaved aerated concrete members, AAC as per EN 771-4	5/4	0,10	< 0,30
	7,5/6	0,13	< 0,20

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

**Table C5.2: Displacements of TermoZ CNplus 8**

Base material	Mean compressive strength / minimum compressive strength single brick as per EN 771 <sup>1)</sup> [N/mm <sup>2</sup> ]	Tension load	Displacements
		N [kN]	$\Delta\delta_N$ [mm]
Concrete, C12/15 - C50/60 as per EN 206	-	0,30	< 0,10
Weather resistant concrete shell $\geq$ C20/25 as per EN 206	-	0,30	< 0,10
Solid Clay bricks, Mz as per EN 771-1	25/20	0,30	< 0,20
Calcium silicate solid bricks, KS as per EN 771-2	25/20	0,30	< 0,20
Solid concrete blocks, Vbn as per EN 771-3	25/20	0,30	< 0,20
Lightweight concrete blocks, Vbl as per EN 771-3	12,5/10	0,25	< 0,10
Vertically perforated clay, HLz bricks as per EN 771-1	15/12	0,17	< 0,10
Hollow calcium silicate brick, KSL as per EN 771-2	60/48	0,25	< 0,20
Hollow calcium silicate bricks, KSL as per EN 771-2	20/16	0,17	< 0,10
Lightweight concrete hollow blocks, Hbl as per EN 771	12,5/10	0,20	< 0,10
Lightweight aggregate concrete, LAC as per EN 1520 / EN 771-3	7,5/6	0,13	< 0,20
Autoclaved aerated concrete members, AAC as per EN 771-4	5/4	0,10	< 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 CN 8 | fischer TermoZ CN 8 R | fischer TermoZ CNplus 8**

**Performances**  
Displacements

**Annex C 5**

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