



## DECLARATION OF PERFORMANCE



DoP: 0091

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

1. Unique identification code of the product-type: **DoP: 0091**
2. Intended use/es: **For use in external thermal insulation composite systems (ETICS) with rendering for the transmission of wind suction loads, see appendix, especially Annexes B 1 to B 3**
3. Manufacturer: **fischerwerke GmbH & Co. KG, Klaus-Fischer-Straße 1, 72178 Waldachtal, Germany**
4. Authorised representative: --
5. System/s of AVCP: **2+**
6. European Assessment Document: **EAD 330335-00-0604**

European Technical Assessment: **ETA-09/0394; 2017-03-30**

Technical Assessment Body: **DIBt**

Notified body/ies: **1343 – MPA Darmstadt**

7. Declared performance/s:

### **Mechanical resistance and stability (BWR 1)**

- **Characteristic tension resistance: See appendix, especially Annexes C 1 to C 2**
- **Edge distances and spacing: See appendix, especially Annexes B 2**
- **Plate stiffness: See appendix, especially Annex C 4**
- **Displacements: See appendix, especially Annex C 4**

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

- **Point thermal transmittance: See appendix, especially Annex C 3**

8. Appropriate Technical Documentation and/or Specific Technical Documentation: ---

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:

Andreas Bucher, Dipl.-Ing.

Wolfgang Hengesbach, Dipl.-Ing., Dipl.-Wirtsch.-Ing.

Tumlingen, 2017-04-06

- 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 and termoz CNplus 8 consists of an anchor sleeve with an enlarged shaft made of polypropylene, an insulation plate made of glass fibre reinforced polyamide (termoz CN 8 / 250-390) 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 specific nail for the anchor types termoz CN 8 / 250 – 390 and termoz CN 8 R / 250 – 310 is made of galvanized steel which is used together with a separate plastic cylinder made of glass fibre reinforced polyamide.

The serrated expanding part of the anchor sleeve is slotted.

The anchor 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 Mechanical resistance and stability (BWR 1)**

Essential characteristic	Performance
Characteristic tension resistance	See Annex C 1, C 2
Edge distances and spacing	See Annex B 2
Plate stiffness	See Annex C 4
Displacements	See Annex C 4

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

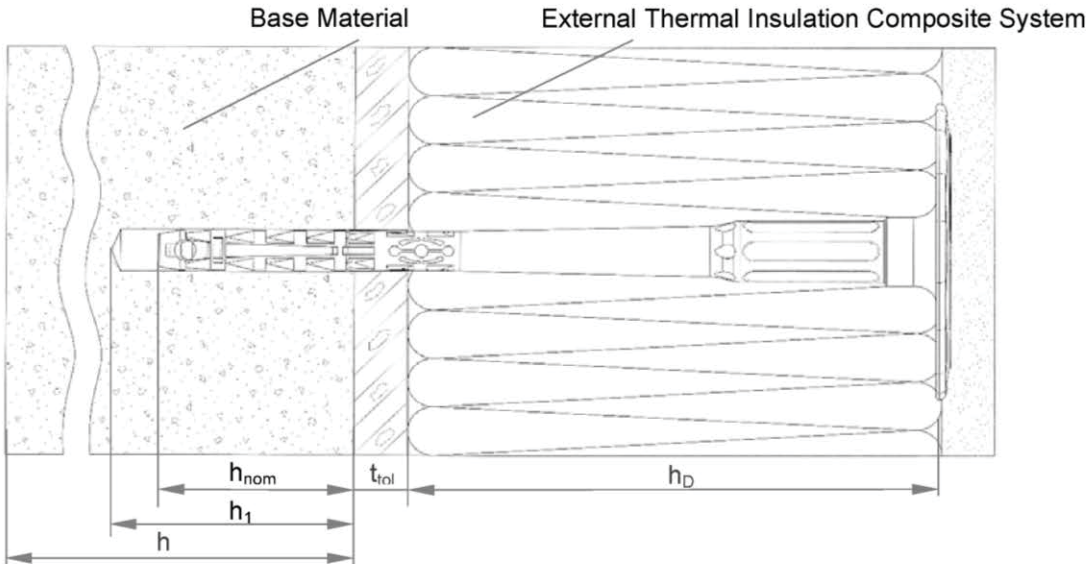
Essential characteristic	Performance
Point thermal transmittance	See Annex C 3

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

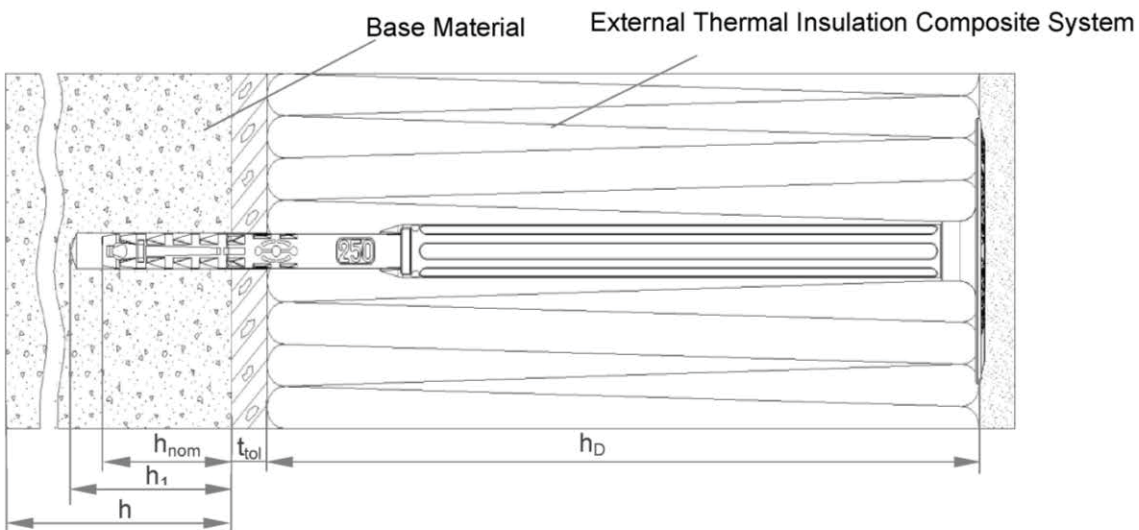
In accordance with EAD No. 330335-00-0604, the applicable European legal act is: [97/463/EC].

The system to be applied is: 2+

**termoz CN 8 / 110 – 230 / termoz CNplus 8 / 110 – 230 – flush mounted**



**termoz CN 8 / 250 – 390 / termoz CN 8 R / 250 – 310 / termoz CNplus 8 / 250-390 – flush mounted**



**Legend**

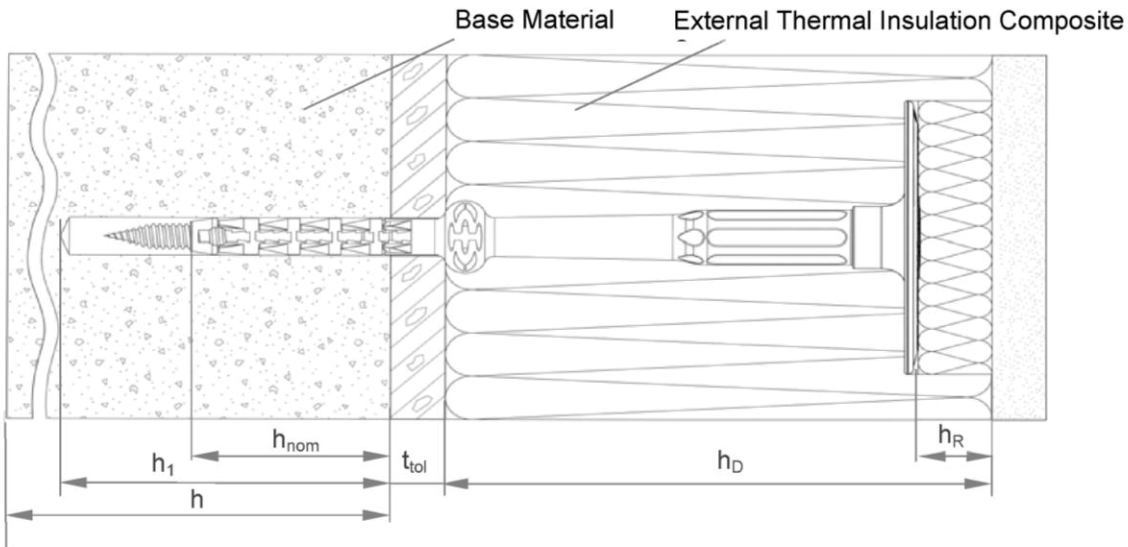
- $h_{nom}$  = Overall plastic anchor embedment depth in the base material
- $h_1$  = Depth of drilled hole to deepest point
- $h$  = Thickness of member (wall)
- $h_D$  = Thickness of insulation material
- $t_{tol}$  = Thickness of equalizing layer or non-load bearing coating

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

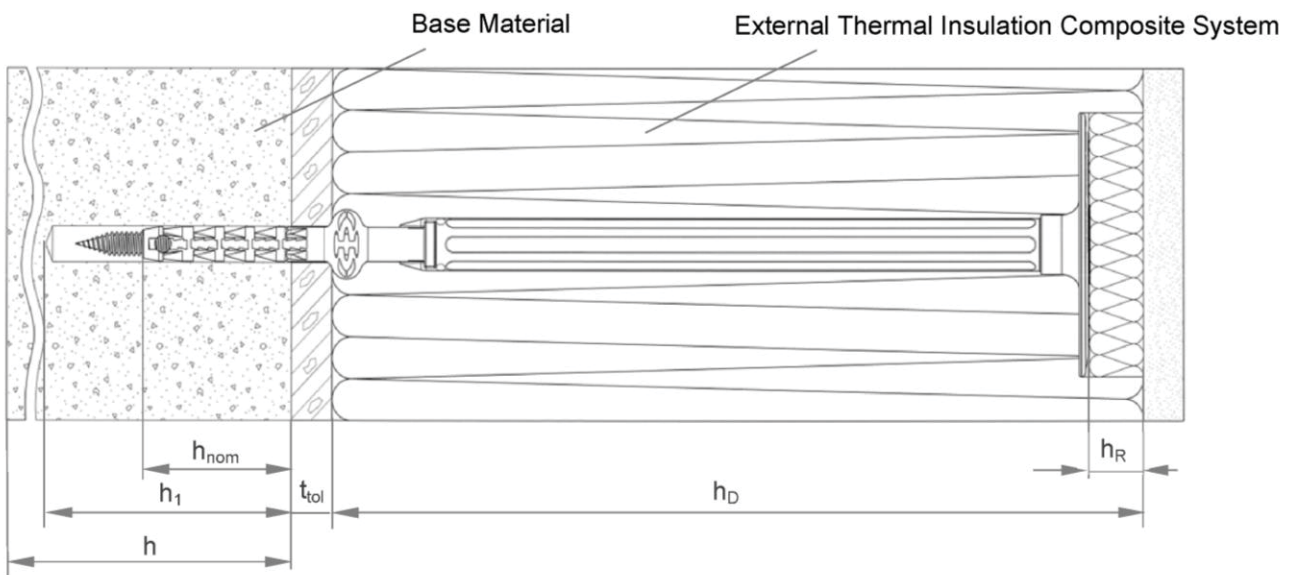
**Product description**  
Installed anchor – flush-mounted

**Annex A1**

**termoz CNplus 8 / 110 – 230 – countersunk mounted**



**termoz CNplus 8 / 250 – 390 – countersunk mounted**



**Legend**

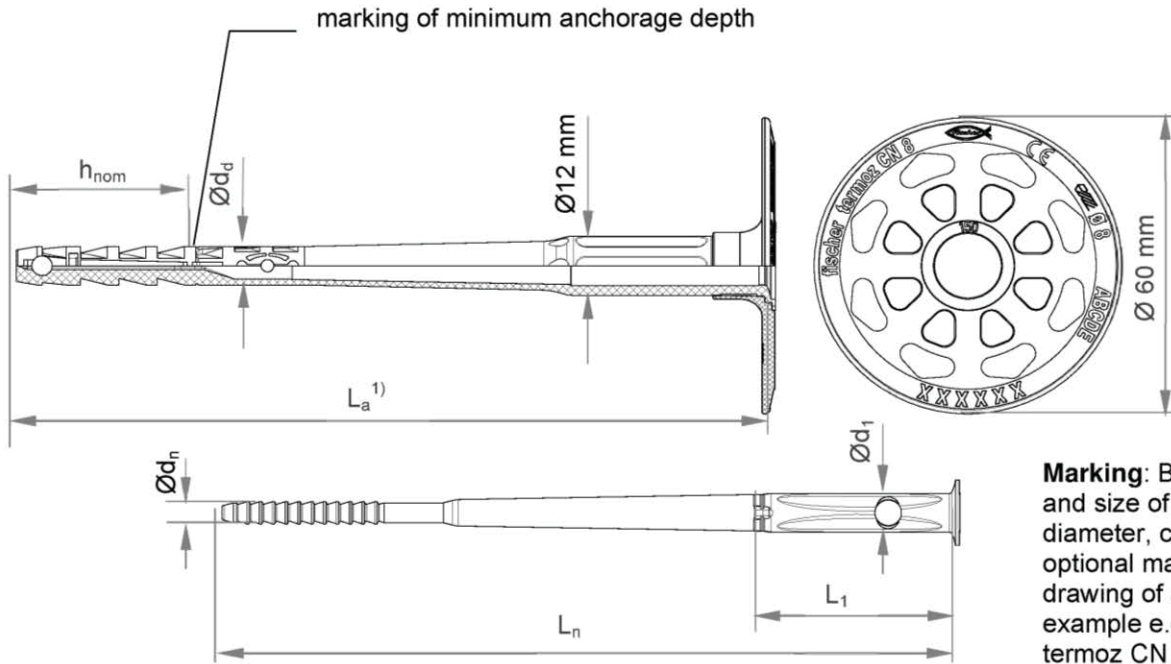
- $h_{nom}$  = Overall plastic anchor embedment depth in the base material
- $h_1$  = Depth of drilled hole to deepest point
- $h$  = Thickness of member (wall)
- $h_D$  = Thickness of insulation material
- $h_R$  = Thickness of insulation cap
- $t_{tol}$  = Thickness of equalizing layer or non-load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


**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Product description**  
Installed anchor – countersunk mounted

**Annex A2**

**termoz CN 8 / 110-230**



**Marking:** Brand, name and size of anchor, diameter, categories, optional markings see drawing of anchor plate, example e.g.  termoz CN 8 ABCDEF

<sup>1)</sup> Various length of the anchors are possible

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

Determination of maximum thickness of insulation:  $h_D = L_a - h_{nom} - t_{tol}$

e.g. for termoz CN 8x150:  $L_a = 148 \text{ mm}, h_{nom} = 35 \text{ mm}, t_{tol} = 10 \text{ mm}$   
 $h_D = 148 - 35 - 10 \approx 100$

**Table A3.1: Dimensions termoz CN 8 / 110-230**

Anchor type	Anchor sleeve		Specific compound nail		
	Ø d <sub>d</sub> [mm]	h <sub>nom</sub> [mm]	Ø d <sub>n</sub> [mm]	L <sub>1</sub> [mm]	Ø d <sub>1</sub> [mm]
termoz CN 8 / 110-230	8	35/55 <sup>2)</sup>	4,5	40	8

<sup>2)</sup> Only for use cat. E

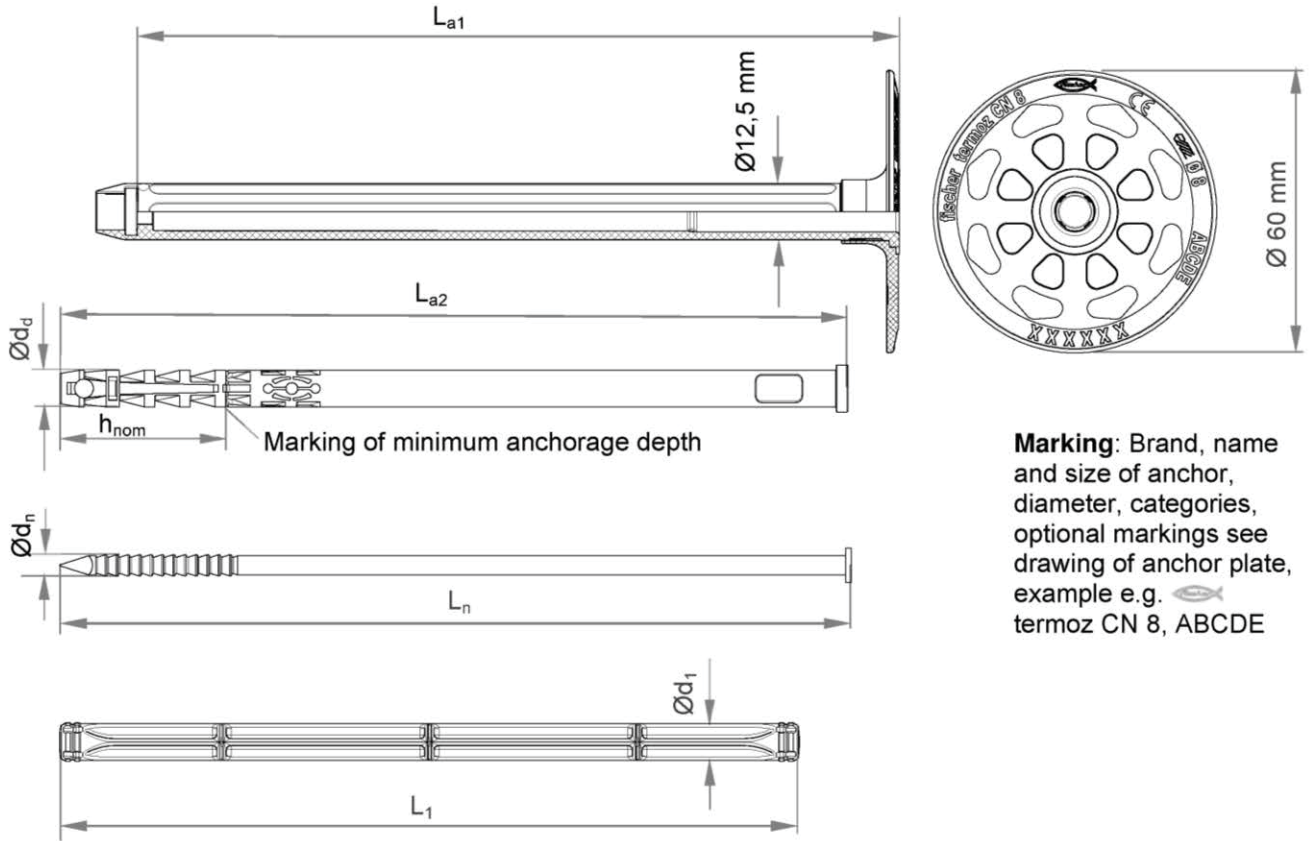
**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**


**Product description**  
 Dimensions termoz CN8 / 110-230

**Annex A3**



**termoz CN 8 / 250 – 390**



**Marking:** Brand, name and size of anchor, diameter, categories, optional markings see drawing of anchor plate, example e.g.  termoz CN 8, ABCDE

Various lengths of the anchors are possible:

e.g. for termoz CN 8 / 250 – 390:  
 $250 \text{ mm} \geq L_{a1} + L_{a2} \leq 390 \text{ mm}$   
 $L_a = L_{a1} + L_{a2} = L_n + 160,5 \text{ mm}$

Determination of maximum thickness of insulation:

$$h_D = L_a - h_{nom} - t_{tol}$$

e.g. for termoz CN 8x330:

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

$$h_D = 328 - 35 - 10 \approx 280 \text{ mm}$$

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

Anchor type	Shaft	Anchor sleeve			Nail	Plastic cylinder		
	$L_{a1}$ [mm]	$\text{Ø } d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$\text{Ø } d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$\text{Ø } d_1$ [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

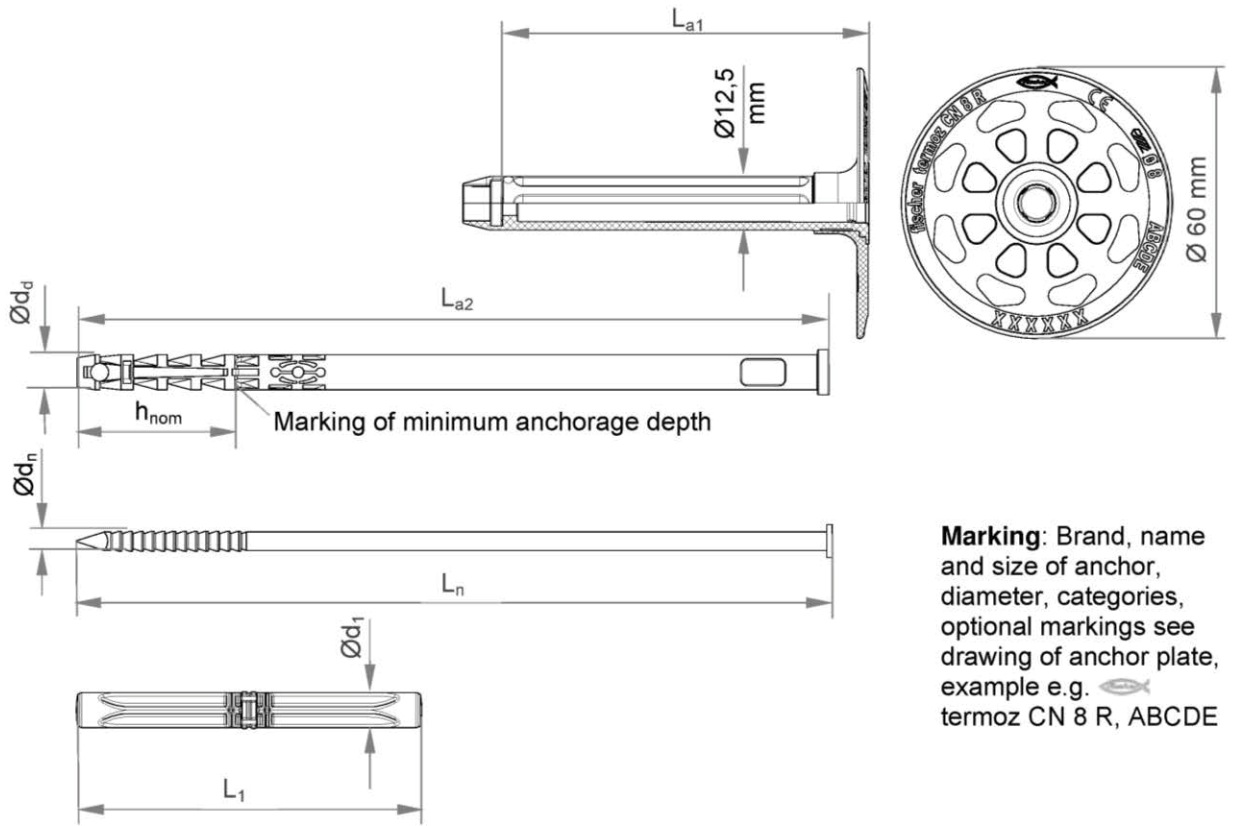
<sup>1)</sup> Only for use cat. E


**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Product description**  
 Dimensions termoz CN8 / 250-390

**Annex A4**

**termoz CN 8 R / 250 – 310**



**Marking:** Brand, name and size of anchor, diameter, categories, optional markings see drawing of anchor plate, example e.g.  termoz CN 8 R, ABCDEF

Various lengths of the anchors are possible:

e.g. for termoz CN 8 R / 250 – 310:  
 $250 \text{ mm} \geq L_{a1} + L_{a2} \leq 310 \text{ mm}$   
 $L_a = L_{a1} + L_{a2} = L_n + 80,5 \text{ mm}$

Determination of maximum thickness of insulation:  $h_D = L_a - h_{nom} - t_{tol}$

e.g. for termoz CN 8x250 R:  $L_a = 248 \text{ mm}, h_{nom} = 35 \text{ mm}, t_{tol} = 10 \text{ mm}$

$$h_D = 248 - 35 - 10 \approx 200 \text{ mm}$$

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

Anchor type	Shaft		Anchor sleeve		Nail		Plastic cylinder	
	$L_{a1}$ [mm]	$\text{Ø } d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$\text{Ø } d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$\text{Ø } d_1$ [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

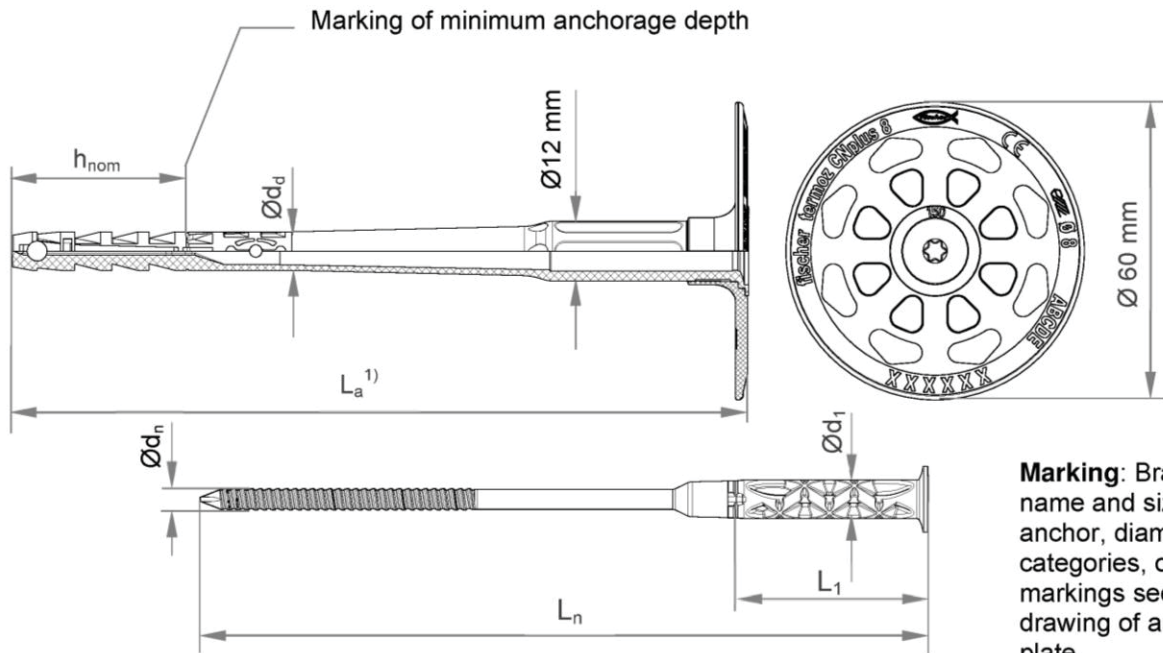
<sup>1)</sup> Only for use cat. E


**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Product description**  
 Dimensions termoz CN8 R / 250-310

**Annex A5**

**termoz CNplus 8 / 110–230**



**Marking:** Brand, name and size of anchor, diameter, categories, optional markings see drawing of anchor plate, example e.g.  termoz CNplus 8

<sup>1)</sup> Various lengths of the anchors are permissible:

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

Determination of maximum thickness of insulation:  $h_D = L_a - h_{nom} - t_{tol}$

e.g. for termoz CNplus 8x150:  $L_a = 148 \text{ mm}, h_{nom} = 35 \text{ mm}, t_{tol} = 10 \text{ mm}$   
 $h_D = 148 - 35 - 10 \approx 100$

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

Anchor type	Anchor sleeve		Specific compound nail			
	Ø d <sub>d</sub> [mm]	h <sub>nom</sub> [mm]	Ø d <sub>n</sub> [mm]	L <sub>n</sub> [mm]	L <sub>1</sub> [mm]	Ø d <sub>1</sub> [mm]
termoz CNplus 8 / 110-230	8	35/55 <sup>1)</sup>	4,3	L <sub>a</sub> – 1,5	40	8

<sup>1)</sup> Only for use cat. D & E

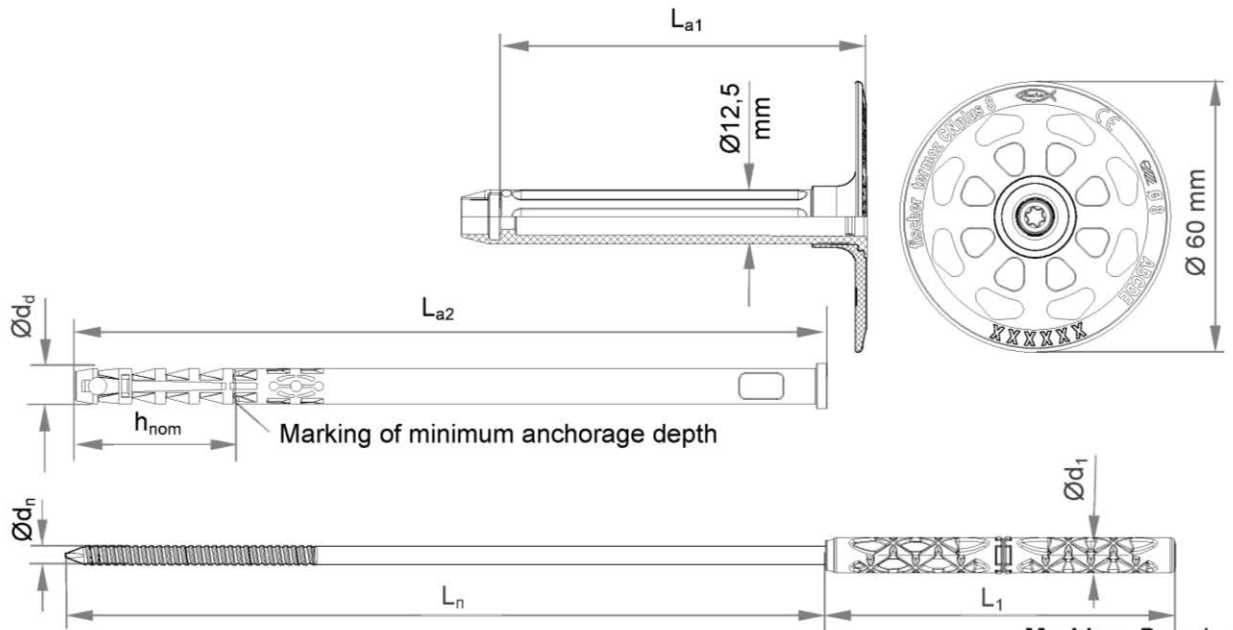
**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**


**Product description**  
 Dimensions termoz CNplus 8 / 110-230

**Annex A6**



**termoz CNplus 8 / 250–310**



**Marking:** Brand, name and size of anchor, diameter, categories, optional markings see drawing of anchor plate, example e.g.  termoz CNplus 8 ABCDE

Various lengths of the anchors are possible:

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

Determination of maximum thickness of insulation:  $h_D = L_a - h_{nom} - t_{tol}$

e.g. for termoz CNplus 8 x 250:  $L_a = 248 \text{ mm}, h_{nom} = 35 \text{ mm}, t_{tol} = 10 \text{ mm}$   
 $h_D = 248 - 35 - 10 \approx 200 \text{ mm}$

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

Anchor type	Shaft		Anchor sleeve			Specific compound nail		
	$L_{a1}$ [mm]	$\text{Ø } d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$\text{Ø } d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$\text{Ø } d_1$ [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

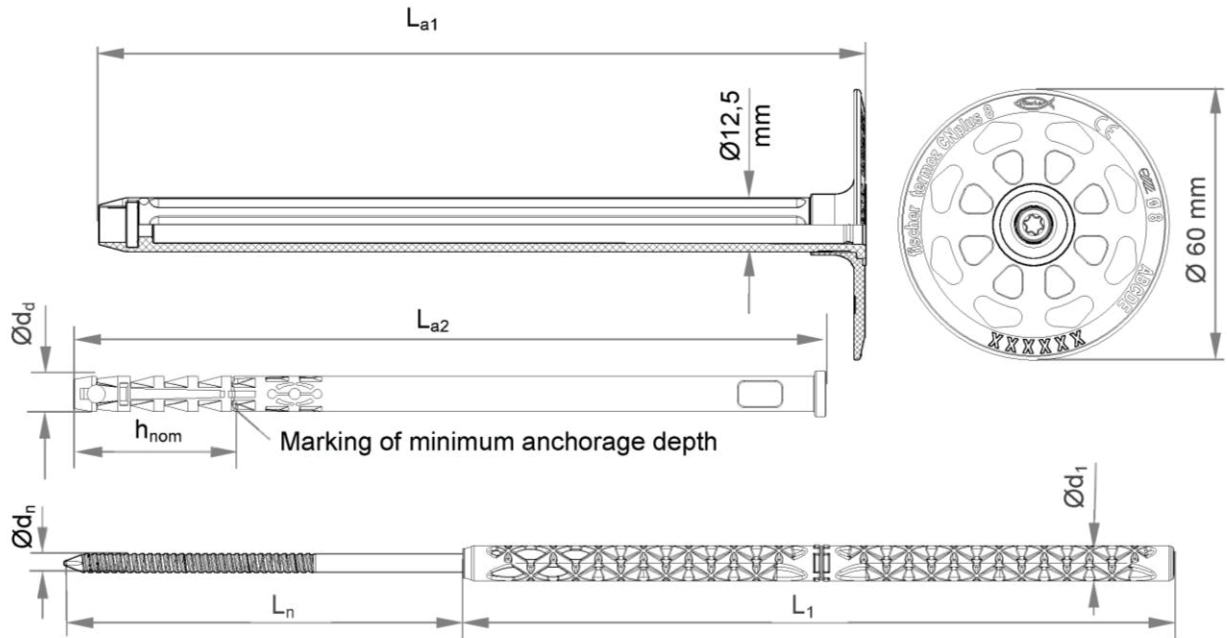
<sup>1)</sup> Only for use cat. D & E

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Product description**  
 Dimensions termoz CNplus 8 / 250-310

**Annex A7**

**termoz CNplus 8 / 330–390**



Various lengths of the anchors are possible:

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


Determination of maximum thickness of insulation:

$$h_D = L_a - h_{nom} - t_{tol}$$

e.g. for termoz CNplus 8 x 330:

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

$$h_D = 328 - 35 - 10 \approx 280 \text{ mm}$$

**Marking:** Brand, name and size of anchor, diameter, categories, optional markings see drawing of anchor plate  
 example e.g.  termoz CNplus 8 ABCDE

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

Anchor type	Shaft	Anchor sleeve			Specific compound nail			
	$L_{a1}$ [mm]	$\varnothing d_d$ [mm]	$h_{nom}$ [mm]	$L_{a2}$ [mm]	$\varnothing d_n$ [mm]	$L_n$ [mm]	$L_1$ [mm]	$\varnothing d_1$ [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 for use cat. D & E

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

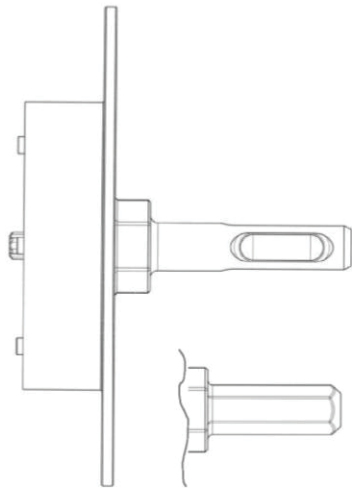
**Product description**  
 Dimensions termoz CNplus 8 / 330-390

**Annex A8**

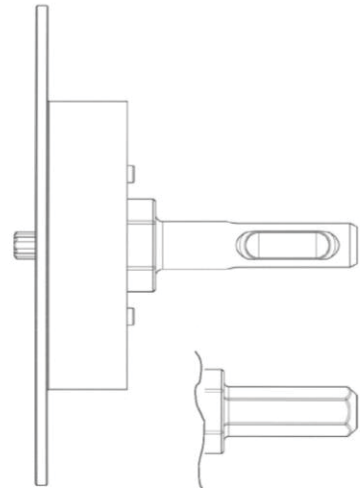
**Setting tool with SDS adapter or hexagonal adapter available**

**fischer termoz CNplus 8**

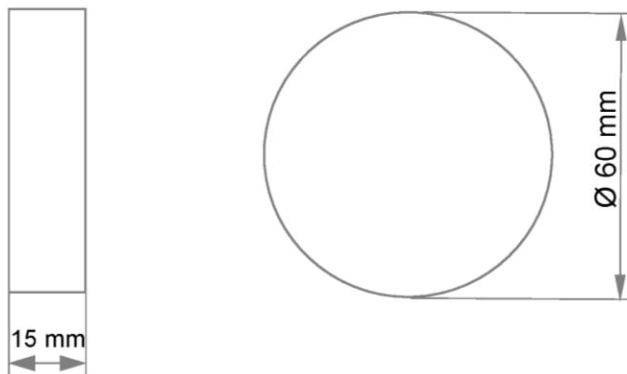
**Countersunk setting**



**optional plain surface setting**



**Polystyrene or mineral wool cap**



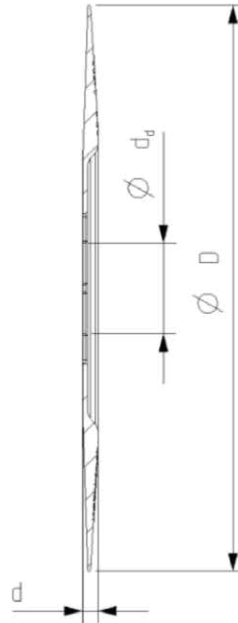
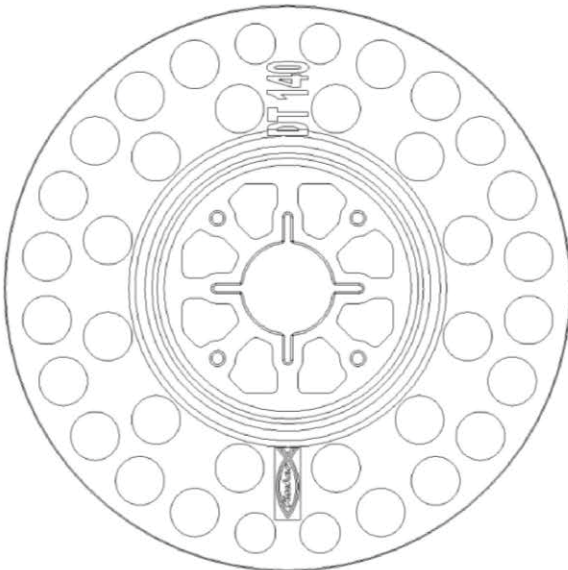
**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Product description**  
Setting tool for fischer termoz CNplus 8

**Annex A9**

**Table A10.1: Material**

Designation	Material
Anchor sleeve	PP, colour: grey
Shaft termoz CN 8 / 250 – 390 or CN 8 R / 250 – 310 or CNplus 8 / 250 - 390	PA6 GF, colour: grey
Plastic cylinder termoz CN 8 / 250 – 390 or CN 8 R / 250 – 310	PA6 GF
Specific nail termoz CN 8 / 250 – 390 or CN 8 R / 250 – 310	Steel gal Zn A2G or A2F according to EN ISO 4042 : 2001
Specific compound nail termoz CN 8 / 110 – 230 or CNplus 8 / 110 – 230 or CNplus 8 / 250 - 390	PA6 GF (plastic part of compound nail) Steel gal Zn A2G or A2F according to EN ISO 4042 : 2001
Anchor plate	PA6 GF colour: grey, orange, red, green, yellow, blue
Slip-on plate	PA6 GF colour: grey, orange, red, green, yellow, blue

**Drawing of the slip-on plates****Table A10.2: Slip-on plate, diameters and material**

Slip-on plate	Ø D [mm]	Ø d <sub>d</sub> [mm]	d [mm]	Material
DT 90 / 110 / 140	90 / 110 / 140	22,5	3,9	PA6 GF

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Product description**

Material

Slip-on plates combined with termoz CN 8 | termoz CN 8 R | termoz CNplus 8

**Annex A10**



### 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:**

- Normal weight concrete (use category A), according to Annex C1 and C2.
- Solid masonry (use category B), according to Annex C1 and C2.
- Hollow or perforated masonry (use category C), according to Annex C1 and C2.
- Lightweight aggregate concrete (use category D), according to Annex C1 and C2.
- Autoclaved aerated concrete (use category E), according to Annex C1 and C2.
- For other base materials of the use categories A, B, C, D and E the characteristic resistance of the anchor may be determined by job site tests acc. to EOTA Technical Report TR 051 Edition December 2016.

#### **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 in accordance with EAD 330335-00-0604 under the responsibility of an engineer experienced in anchorages and masonry work.
- 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 ETICS.

#### **Installation:**

- Hole drilling by the drill modes according to Annex C1 and C2.
- 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 ≤ 6 weeks.

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Intended use**  
Specification

**Annex B1**



**Table B2.1: Installation parameters / flush mounted**

Anchor type			termoz CN 8   CN8 R termoz CNplus 8
Drill hole diameter	$d_0$	= [mm]	8
Cutting diameter of drill bit	$d_{cut}$	≤ [mm]	8,45
Depth of drilled hole to deepest point	$h_1$	≥ [mm]	45/55 <sup>1)</sup> /65 <sup>2)</sup>
Overall plastic anchor embedment depth in the base material	$h_{nom}$	≥ [mm]	35/45 <sup>1)</sup> /55 <sup>2)</sup>

<sup>1)</sup> Only CNplus 8: for weather shell (thin concrete slabs) : 35 mm ≤  $h_{nom}$  ≤ 45 mm

<sup>2)</sup> termoz CN 8 | CN8 R : Only for use cat. "E" | termoz CNplus 8: Only for use cat. "D" & "E"

**Table B2.2: Installation parameters / countersunk mounted**

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

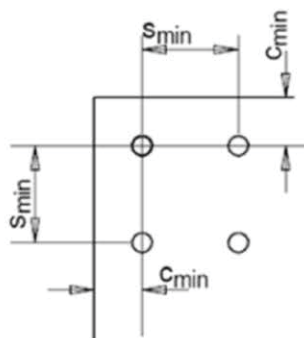
<sup>1)</sup> valid for weather shell (thin concrete slabs): 35 mm ≤  $h_{nom}$  ≤ 45 mm

<sup>2)</sup> Only for use cat. "D" & "E"

**Table B2.3: Minimum distances and spacing**

			termoz CN 8   CN8 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 distance and spacing**



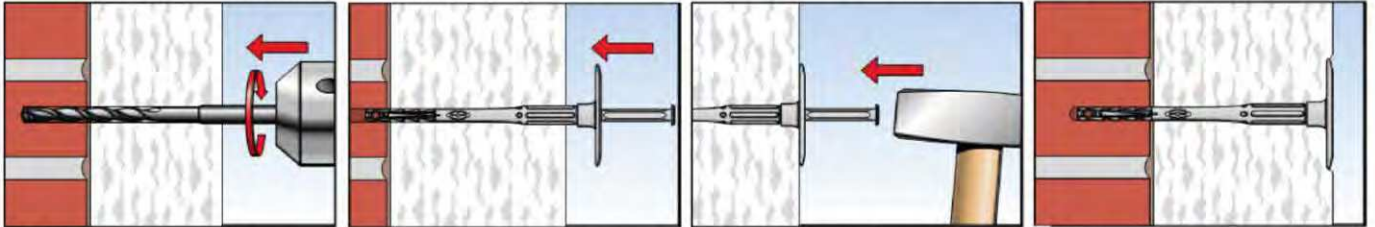
**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Intended use**  
Installation parameters  
Minimum distances and spacing

**Annex B2**

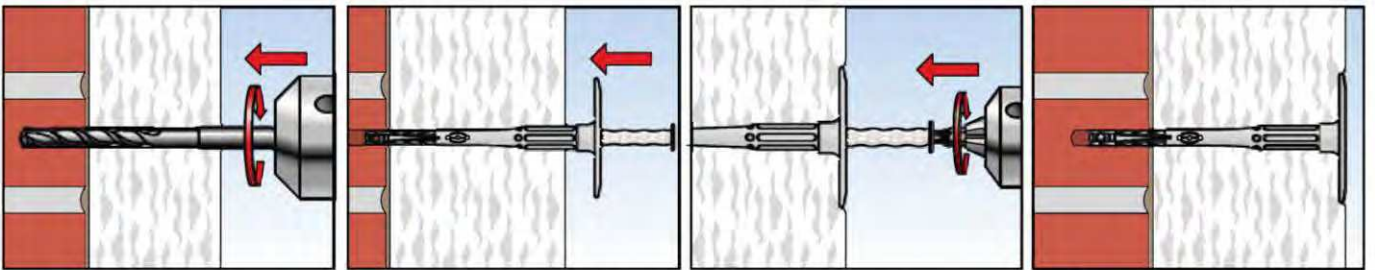
**Installation instructions**

**Setting of anchor (flush mounted) by hammer / fischer termoz CN 8 | termoz CN 8 R | termoz CNplus 8**



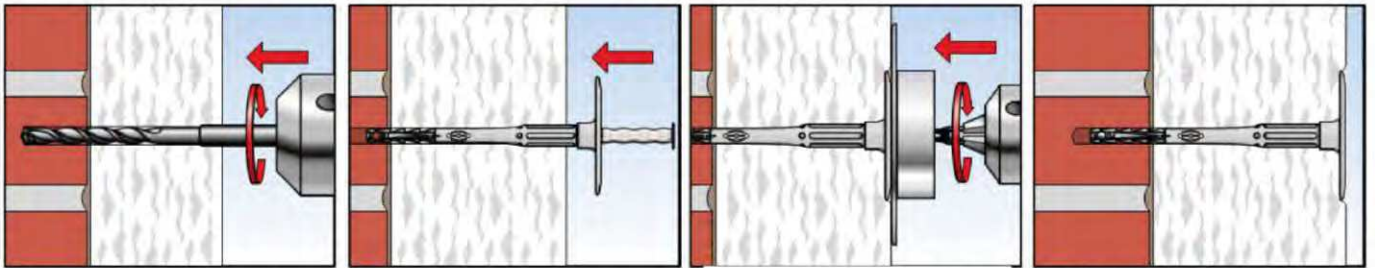
- 1. Drill hole by corresponding drilling method
- 2. Insert anchor manually
- 3. Set anchor by hammerblows
- 4. Correctly installed anchor

**Setting of anchor (flush mounted) by machine / fischer termoz CNplus 8**



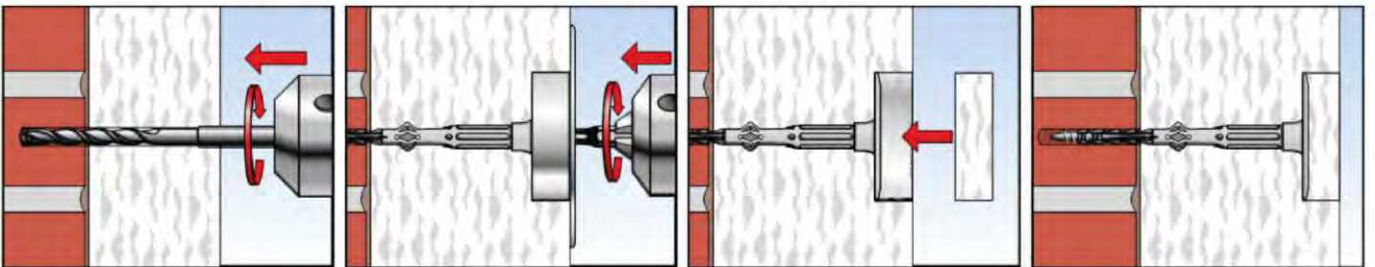
- 1. Drill hole by corresponding drilling method
- 2. Insert anchor manually
- 3. Set anchor by machine.
- 4. Correctly installed anchor

**Setting of anchor (flush mounted) by setting tool \ fischer termoz CNplus 8**



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

**Setting of anchor (countersunk mounted) by setting tool / fischer termoz CNplus 8**



- 1. Drill hole by corresponding drilling method
- 2. Insert anchor and set anchor by setting tool.
- 3. Put on polystyrene or mineral wool cap
- 4. Correctly installed anchor

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Intended use**  
Installation instruction

**Annex B3**

**Table C1.1: Characteristic resistance  $N_{Rk}$  in [kN] to tension loads for single anchor**

Base material	Use cat. <sup>1)</sup>	Min. compressive strength $f_b$ [N/mm <sup>2</sup> ]	Bulk density $\rho$ [kg/dm <sup>3</sup> ]	Remarks	Drill method <sup>2)</sup>	Characteristic resistance $N_{Rk}$ [kN] <b>termoz CN 8 termoz CN 8 R</b>
Concrete $\geq$ C12/15 - C50/60 EN 206-1:2000	A	-	-	-	H	<b>0,9</b>
Solid clay bricks <b>Mz</b> acc. to EN 771-1:2011	B	12	$\geq 2,0$	Cross section reduced up to 15% by perforation vertically to the resting area	H	<b>0,9</b>
Calcium silicate solid bricks <b>KS</b> acc. to EN 771-2:2011	B	12	$\geq 1,8$		H	<b>0,9</b>
Solid concrete blocks <b>Vbn</b> acc. to EN 771-3:2011	B	20	$\geq 2,0$		H	<b>0,75</b>
Lightweight concrete blocks <b>Vbl</b> acc. to EN 771-3:2011	B	8	$\geq 1,4$		H	<b>0,6</b>
Vertically perforated clay bricks <b>Hlz</b> acc. to EN 771-1:2011	C	12	$\geq 1,0$	Cross section reduced between 15% and 50% by perforation vertically to the resting area. Exterior web thickness $\geq 15$ mm	R	<b>0,6</b>
Hollow calcium silicate brick <b>KSL</b> acc. to EN 771-2:2011	C	20	$\geq 1,4$	Cross section reduced between 15% and 50% by perforation vertically to the resting area. Exterior web thickness $\geq 23$ mm	H	<b>0,75</b>
		12				<b>0,5</b>
Lightweight concrete hollow blocks <b>Hbl</b> , acc. to EN 771-3:2011	C	10	$\geq 1,2$	- Cross section reduced between 15% and 50% by perforation vertically to the resting area. Exterior web thickness $\geq 38$ mm	H	<b>0,6</b>
Lightweight aggregate concrete <b>LAC</b> , acc. to EN 1520:2011, EN 771-3:2011	D	6	$\geq 0,8$	-	H	<b>0,6</b>
		4				<b>0,4</b>
Autoclaved aerated concrete blocks, <b>AAC</b> acc. to EN 771-4:2011	E	6	$> 0,6$	-	R	<b>0,3<sup>3)</sup></b>
		4	$> 0,4$			<b>0,3<sup>3)</sup></b>
Partial safety factor					$\gamma_M$ <sup>4)</sup>	<b>2,0</b>

<sup>1)</sup> See Annex B1<sup>2)</sup> R = Rotary drilling | H = Hammer drilling<sup>3)</sup> Only valid for  $h_{nom} \geq 55$  mm<sup>4)</sup> In absence of other national regulations

fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8

**Performance**

Characteristic resistance termoz CN 8, termoz CN 8 R

**Annex C1**



**Table C2.1: Characteristic resistance  $N_{Rk}$  in [kN] to tension loads for single anchor**

Base material	Use cat. <sup>1)</sup>	Min. compressive strength $f_b$ [N/mm <sup>2</sup> ]	Bulk density $\rho$ [kg/dm <sup>3</sup> ]	Remarks	Drill method <sup>2)</sup>	Characteristic resistance $N_{Rk}$ [kN] <b>termoz CNplus 8</b>
Concrete $\geq$ C12/15 - C50/60 EN 206-1:2000	A	-	-	-	H	<b>0,9</b>
Weather resistant concrete shell $\geq$ C20/25 EN 206-1:2000	A	-	-	$h \geq 42$ mm ; $t_{fix} \geq 35$ mm	H	<b>0,9</b>
Solid clay bricks <b>Mz</b> acc. to EN 771-1:2011	B	20	$\geq 1,8$	Cross section reduced up to 15% by perforation vertically to the resting area	H	<b>0,9</b>
Calcium silicate solid bricks <b>KS</b> acc. to EN 771-2:2011	B	20	$\geq 1,8$		H	<b>0,9</b>
Solid concrete blocks <b>Vbn</b> acc. to EN 771-3:2011	B	20	$\geq 2,0$		H	<b>0,9</b>
Lightweight concrete blocks <b>Vbl</b> acc. to EN 771-3:2011	B	10	$\geq 1,6$		H	<b>0,75</b>
Vertically perforated clay bricks <b>Hlz</b> acc. to EN 771-1:2011	C	48	$\geq 1,6$	Cross section reduced between 15% and 50% by perforation vertically to the resting area. Exterior web thickness $\geq 17$ mm	R	<b>0,75</b>
		12	$\geq 1,0$	Cross section reduced between 15% and 50% by perforation vertically to the resting area. Exterior web thickness $\geq 15$ mm		<b>0,5</b>
Hollow calcium silicate brick <b>KSL</b> acc. to EN 771-2:2011	C	16	$\geq 1,4$	Cross section reduced between 15% and 50% by perforation vertically to the resting area. Exterior web thickness $\geq 16$ mm	H	<b>0,5</b>
Lightweight concrete hollow blocks <b>Hbl</b> , acc. to EN 771-3:2011	C	10	$\geq 1,2$	Cross section reduced between 15% and 50% by perforation vertically to the resting area. Exterior web thickness $\geq 38$ mm	H	<b>0,6</b>
Lightweight aggregate concrete <b>LAC</b> , acc. to EN 1520:2011, EN 771-3:2011	D	6	$\geq 0,9$	-	H	<b>0,4<sup>3)</sup></b>
Autoclaved aerated concrete blocks, <b>AAC</b> acc. to EN 771-4:2011	E	4	$> 0,4$	-	R	<b>0,3<sup>3)</sup></b>
Partial safety factor					$\gamma_M$ <sup>4)</sup>	<b>2,0</b>

<sup>1)</sup> See Annex B1

<sup>2)</sup> R = Rotary drilling | H = Hammer drilling

<sup>3)</sup> Only valid for  $h_{nom} \geq 55$  mm

<sup>4)</sup> In absence of other national regulations

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Performance**  
Characteristic resistance termoz CNplus 8

**Annex C2**

**Table C3.1: Point thermal transmittance acc. to EOTA Technical Report TR 025 : 2007 – 06  
fischer termoz CN 8 | fischer 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 acc. to EOTA Technical Report TR 025 : 2007 – 06  
fischer termoz CNplus 8 - flush mounted**

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

**Table C3.3: Point thermal transmittance acc. to EOTA Technical Report TR 025 : 2007 – 06  
fischer termoz CNplus 8 - countersunk mounted**

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

fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8

**Performance**  
Point thermal transmittance

**Annex C3**



**Table C4.1: Plate stiffness acc. to EOTA Technical Report TR 026 : 2007 – 06**

Anchor type	Size of the anchor plate [mm]	Load resistance of the anchor plate [kN]	Plate stiffness [kN/mm]
termoz CN 8   termoz CN 8 R   termoz CNplus 8	60	1,7	0,6

**Table C4.2: Displacements termoz CN 8 | termoz CN 8 R**

Base material	termoz CN 8   termoz CN 8 R		
	Tension load F [kN]	Displacements $\delta$ [mm]	
Concrete $\geq$ C12/15 – C50/60 (EN 206-1:2000)	0,30	< 0,3	
Clay brick (EN 771-1:2011), Mz 12	0,30	< 0,5	
Calcium silicate solid bricks (EN 771-2:2011), KS 12	0,30	< 0,3	
Vertically perforated clay brick (EN 771-1:2011), Hz 12	0,20	< 0,2	
Hollow calcium silicate brick (EN 771-2:2011), KSL 12	0,15	< 0,2	
Hollow calcium silicate brick (EN 771-2:2011), KSL 20	0,25	< 0,3	
Solid concrete blocks (EN 771-3:2011), Vbn 20	0,25	< 0,3	
Hollow brick lightweight concrete (EN 771-3:2011), Hbl 4	0,20	< 0,2	
Lightweight concrete solid blocks (EN 771-3:2011), Vbl 8	0,20	< 0,2	
Lightweight aggregate concrete (EN 1520:2011, EN 771-3:2011)	LAC 4	0,15	< 0,3
	LAC 6	0,20	
Autoclaved aerated concrete blocks EN 771-4:2011	AAC 4	0,10	< 0,2
	AAC 6	0,13	< 0,3

**Table C4.3: Displacements termoz CNplus 8**

Base material	termoz CNplus 8	
	Tension load F [kN]	Displacements $\delta$ [mm]
Concrete $\geq$ C12/15 – C50/60 (EN 206-1:2000)	0,30	< 0,1
Weather resistant concrete shell $\geq$ C20/25 (EN 206-1:2000)	0,30	< 0,1
Clay brick (EN 771-1:2011), Mz 20	0,30	< 0,2
Calcium silicate solid bricks (EN 771-2:2011), KS 20	0,30	< 0,2
Solid concrete blocks (EN 771-3:2011), Vbn 20	0,30	< 0,2
Lightweight concrete solid blocks (EN 771-3:2011), Vbl 10	0,25	< 0,1
Vertically perforated clay brick (EN 771-1:2011), Hz 48	0,25	< 0,2
Vertically perforated clay brick (EN 771-1:2011), Hz 12	0,17	< 0,1
Hollow calcium silicate brick (EN 771-2:2011), KSL 16	0,17	< 0,1
Hollow brick lightweight concrete (EN 771-3:2011), Hbl 10	0,20	< 0,1
Lightweight aggregate concrete (EN 1520:2011, EN 771-3:2011) LAC 6	0,13	< 0,2
Autoclaved aerated concrete blocks (EN 771-4:2011) AAC 4	0,10	< 0,1

**fischer termoz CN 8 | fischer termoz CN 8 R | fischer termoz CNplus 8**

**Performance**  
Plate stiffness  
Displacements

**Annex C4**