

## Declaration of Performance 1020-CPR-010035767

According to the Regulation EU No 305/2011

### ZZE 01 - ZZE 21

Manufacturer: Tecfi S.p.A. - S.S. Appia, km 193 - 81050 Pastorano (CE), Italia



1 - Intended use	
<b>Product-type:</b>	Plastic anchor for fixing of external thermal insulation composite systems with rendering
<b>Anchor type:</b>	Nailed-in plastic anchor
<b>Technical description of the product:</b>	See table 2.a
<b>Intended use according to the applicable EAD:</b>	The anchor is intended to be used for fixing of ETICS in concrete and masonry. Plastic anchors shall not be exposed to direct UV-radiation for more than 6 weeks; during the use they are protected by the rendering after installation. The performances given in Section 4 and 5 are only valid if the anchor is used in compliance with the specifications and conditions given in this DoP.
<b>Base material:</b>	Normal weight concrete – use category A Solid masonry – use category B Perforated masonry – use category C Lightweight concrete – use category D Aerated autoclaved concrete – use category E
<b>Installation:</b>	Concrete: drill a hole in rotary plus hammer mode Perforated masonry: drill a hole using rotary mode only AAC: drill a hole using rotary mode only with a drill bit for metals
<b>Loads:</b>	Static (Wind load)
<b>Durability:</b>	The provisions made in this DoP are based on an assumed intended working life of the anchor of 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.
<b>Service temperature:</b>	0°C ; +40°C
<b>Fire resistance:</b>	NPD
<b>Fire reaction:</b>	NPD
<b>EAD:</b>	EAD330196-01-0604
<b>ETA:</b>	ETA 15/0641
<b>Organization for the Technical Assessment :</b>	ETA-Danmark A/S
<b>AVCP:</b>	EC Certificate No. 1020-CPR-010035767
<b>Notified body:</b>	TZUS
<b>AVCP system:</b>	2+

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### ZZE 01 - ZZE 21

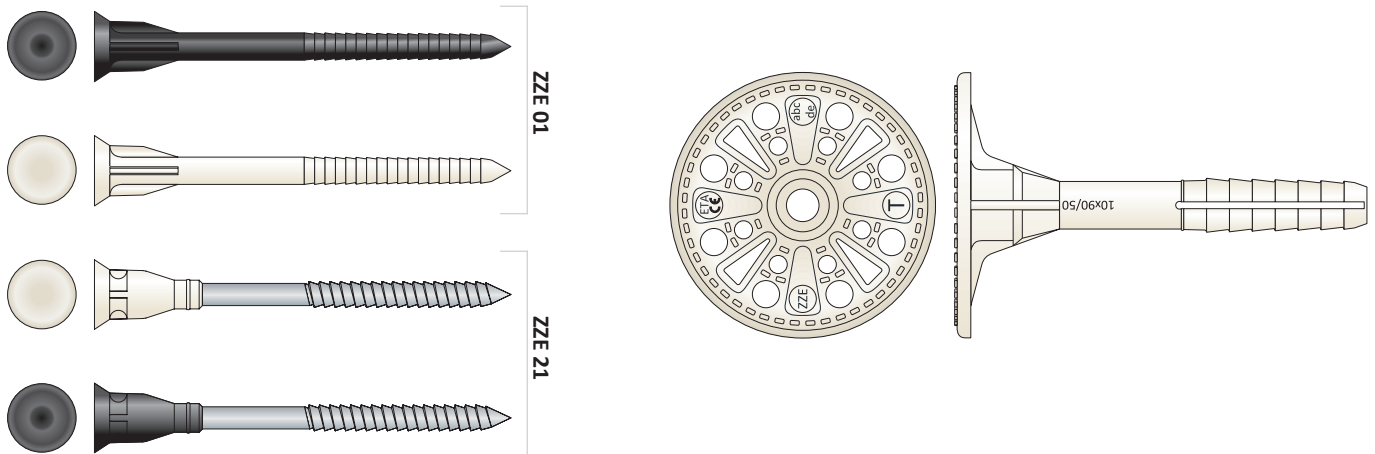
Manufacturer: Tecfi S.p.A. - S.S. Appia, km 193 - 81050 Pastorano (CE), Italia



## 2 - Anchor's components

### 2.a - ZZE components

Component	Description	Colour
Nail	<u>ZZE01</u> fiber glass reinforced nylon <u>ZZE21</u> body made of steel with nylon head reinforced with glass fiber	White, black, others
Plug	HD polyethylene	White



Item code	Size of the Anchor		$t_{fix} + t_{tol}$ [mm]	Plate diameter $\varnothing$ [mm]	Size of the Nail	
	$d_{nom}$ [mm]	$l_t$ [mm]			$d_n$ [mm]	$l_n$ [mm]
ZZE xx 10 070	10	70	30	58	6	75
ZZE xx 10 090		90	50			95
ZZE xx 10 110		110	70			115
ZZE xx 10 130		130	90			135
ZZE xx 10 150		150	110			155
ZZE xx 10 180		180	140			185
ZZE xx 10 210		210	170			215
ZZE xx 10 240		240	200			245

xx: ZZE01 - ZZE21

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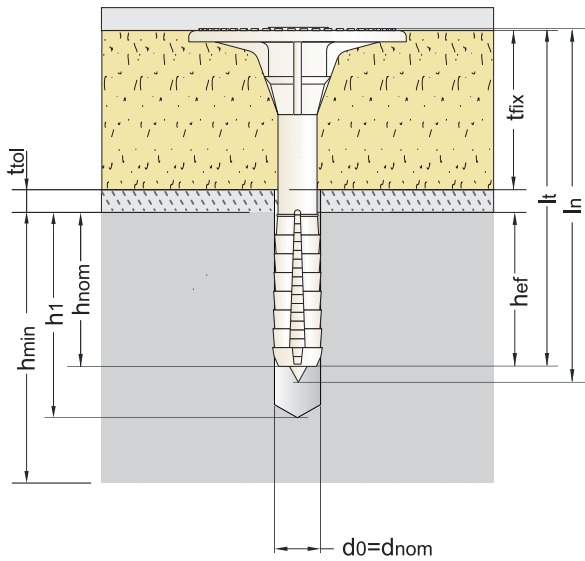
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## 3 - Installation



$d_{nom}$	Outside diameter of the anchor
$t_{fix}$	Thickness of insulation panel
$d_0$	Drill hole diameter
$t_{tol}$	Thickness of the mortar layer
$h_{min}$	Minimum thickness of the member
$h_{nom}$	Installation depth
$h_{ef}$	Effective anchorage depth
$h_1$	Depth of drilled hole to deepest point
$l_t$	Length of anchor
$l_n$	Length of the nail

### 3.1 - Tools for installation

Drill bit		Blowing pump	
	<b>Drill bit item code</b>	DW 01 00 001 – all sizes For drill holes deeper than 70 [mm] a blowing pump extension shall be used (alternatively, for the hole cleaning, vacuum cleaner should be used)	
	EO 01 10 110 10x70 and 10x90		
	EO 01 10 160 10x110 and 10x150		
	EO 01 10 210 10x180		
	EO 01 10 260 10x210 and 10x240		
		Item code: DW 01 00 001	

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### 3.2 - Installation data

Use categories A, B, C, D, E

Anchor		ZZE Ø10
Nominal drill hole diameter	$d_o = [\text{mm}]$	10
Drill bit diameter	$d_{\text{cut}} \leq [\text{mm}]$	10,45
Drill hole depth	$h_1 \geq [\text{mm}]$	50
Overall anchor embedment depth	$h_{\text{nom}} \geq [\text{Nm}]$	40

Additional provision for use category C

Anchor		ZZE Ø10
Nominal drill hole diameter <sup>1)</sup>	$d_o = [\text{mm}]$	10
Drill bit diameter	$d_{\text{cut}} \leq [\text{mm}]$	10,45
Drill hole depth	$h_1 \geq [\text{mm}]$	50
Overall anchor embedment depth	$h_{\text{nom}} \geq [\text{Nm}]$	40

<sup>1)</sup> Rotary mode only

Additional provision for use category E

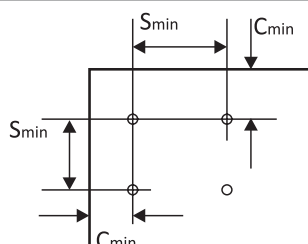
Anchor		ZZE Ø10
Nominal drill hole diameter	$d_o = [\text{mm}]$	10
Drill bit diameter	$d_{\text{cut}} \leq [\text{mm}]$	10,00 <sup>2)</sup>
Drill hole depth	$h_1 \geq [\text{mm}]$	50
Overall anchor embedment depth	$h_{\text{nom}} \geq [\text{Nm}]$	40

<sup>2)</sup> Use drill bit for metals

Edge distance, spacing and member dimensions

Anchor		ZZE Ø10
Minimum thickness of member for wheater resistant skin of external wall panels <sup>3)</sup>	$h_{\text{min}} \geq [\text{mm}]$	50
Minimum thickness of member	$h_{\text{min}} \geq [\text{mm}]$	100
Minimum spacing	$s_{\text{min}} = [\text{mm}]$	100
Minimum edge distance	$c_{\text{min}} = [\text{Nm}]$	100

<sup>3)</sup> Only valid for wheater resistant skin of external wall panels



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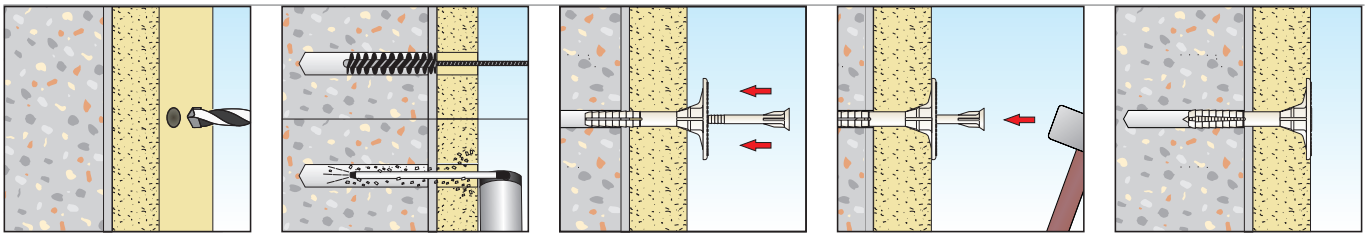
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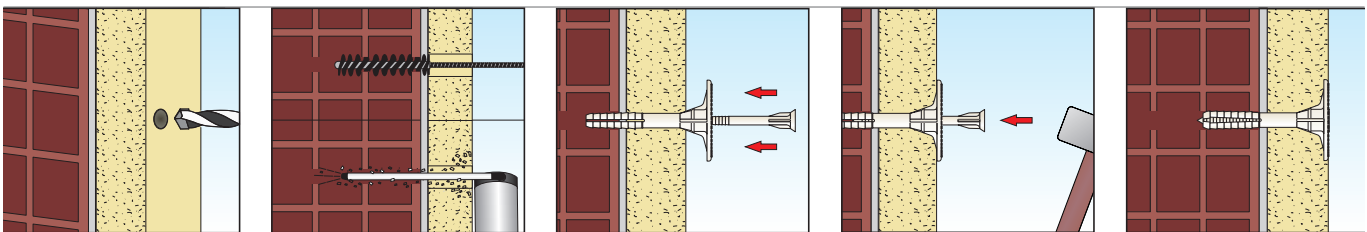
### 3.3 - Installation instructions

#### Installation instructions Use categories A and B



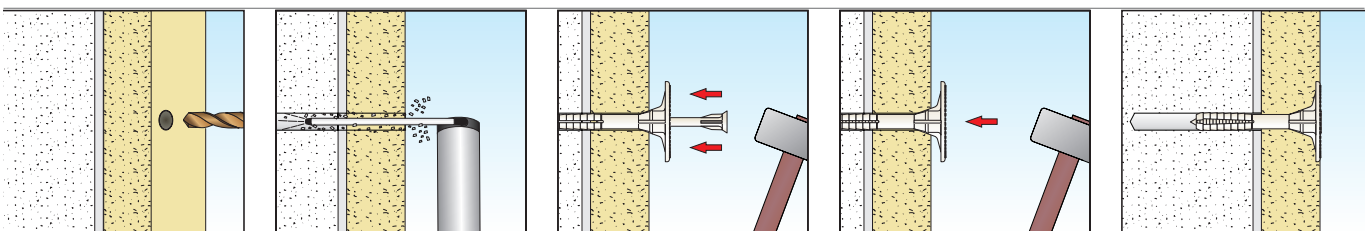
- 1 – Drill a hole in rotary plus hammer mode
- 2 – Clean the hole
- 3 – Hammer the plug in the wall
- 4 – Hammer the nail in the plug

#### Use categories B and C



- 1 – Drill a hole in rotary mode only
- 2 – Clean the hole
- 3 – Hammer the plug in the wall
- 4 – Hammer the nail in the plug

#### Use category E



- 1 – Drill a hole in rotary mode only (use a drill bit for metals)
- 2 – Clean the hole
- 3 – Hammer the plug and the nail together in the hole

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**4 - Additional plates ZZER**

Diameter	Drawing	Marks
Ø 90		T; ZZER; Ø90
Ø 110		T; ZZER; Ø110
Ø 140		T; ZZER; Ø140

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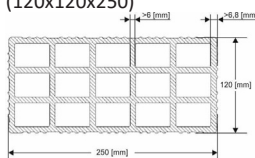
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#### 5 - Declared performances according to EAD330196-01-0604

Use category	Base material	Density $\rho$ [kg/m <sup>3</sup> ]	Compressive strength $f_b$ [N/mm <sup>2</sup> ]	Notes	Drilling <sup>2)</sup> mode	Characteristic resistance $N_{Rk}$ [kN]	
						ZZE 01	ZZE 21
A	Concrete C12/15		-	EN 206-1:2000	R+H	0,75	0,55
	Concrete C16/20 - C50/60					1,1	0,75
B	Solid masonry "IBL U11-M"	1.540	17	EN 771-1:2011	R+H	1,2	
C	Perforated masonry (120x120x250) 	538	6	EN 771-1:2011	R	0,4	
D	Lightweight concrete "Leca CLS 1600"	1.600	8	EN 12390-3, EN 206-1	R	0,2	
			25			0,6	
E	Areated autoclaved concrete	350	2	EN 771-4	R	0,10	
<b>Partial safety factor</b>					$\gamma_M^{1)}$	2	

1) In absence of national regulation

2) H=Hammer drilling

R=Rotary drilling

#### 6 - Declared performances according to EAD330196-01-0604

Anchor	Maximum plate diameter [mm]	Plate resistance [kN]	Plate stiffness [kN/mm]
ZZE Ø10	58	1,63	0,3

Displacements	Tension load $F_{Rd,ZZE01}$ [kN]	Displacement $\Delta\delta_m, ZZE01$ [mm]	Tension load $F_{Rd,ZZE21}$ [kN]	Displacement $\Delta\delta_m, ZZE21$ [mm]
Concrete (use category A)	0,37	0,5	0,25	0,4
Solid masonry (use category B)	0,40	0,6	0,40	0,6
Perforated masonry (use category C)	0,12	0,1	0,12	0,1
Lightweight concrete (use category D)	0,07	0,2	0,07	0,2
Areated autoclaved concrete (Use category E)	0,03	0,1	0,03	0,1

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#### 7 - Point thermal transmittance

Base material	Point thermal transmittance $\chi$ [W/K]	
	For thickness of insulation layer	
	30≤h≤150 mm	150≤h≤200 mm
<b>ZZE01</b>		
Normal weight concrete (Use categories A)	0,002	0,000
Solid masonry (Use categories B)	0,002	0,000
Hollow masonry (Use categories C)	0,001	0,000
Lightweight aggregate concrete (Use categories D)	0,001	0,000
Autoclaved aerate concrete (Use categories E)	0,001	0,000
<b>ZZE21</b>		
Normal weight concrete (Use categories A)	0,004	0,004
Solid masonry (Use categories B)	0,004	0,004
Hollow masonry (Use categories C)	0,003	0,004
Lightweight aggregate concrete (Use categories D)	0,002	0,003
Autoclaved aerate concrete (Use categories E)	0,001	0,003

#### 8 - Item codes

Item code	Size ØxL [mm]	$t_{fix}+t_{tol}$ [mm]
ZZE xx 10 070	10 x 70	30
ZZE xx 10 090	10 x 90	50
ZZE xx 10 110	10 x 110	70
ZZE xx 10 130	10 x 130	90
ZZE xx 10 150	10 x 150	110
ZZE xx 10 180	10 x 180	140
ZZE xx 10 210	10 x 210	170
ZZE xx 10 240	10 x 240	200

xx: 01 or 21



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#### 9 - Label

- 1 Item Code
- 2 Descriptions
- 3 Picture
- 4 Anchor Diameter ( $d_{nom}$ )
- 5 Anchor Length (L)
- 6 Maximum Thickness of fixture ( $t_{fix}+t_{tol}$ )
- 7 Identification number of the Notified Body
- 8 Last two digits of the year in which the marking was first affixed
- 9 European Technical Specification
- 10 Intended use of the product as laid down in the European standard applied, level of performance declared
- 11 DoP Number
- 12 Link to DoP
- 13 Lot Number
- 14 Number of Pieces per Box

The performance of the product identified above is in conformity with the set of declared performances. 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:

Name and function	Place and date of issue	Signature
President Antonio Guarino	Pastorano, 21 <sup>th</sup> December 2021	