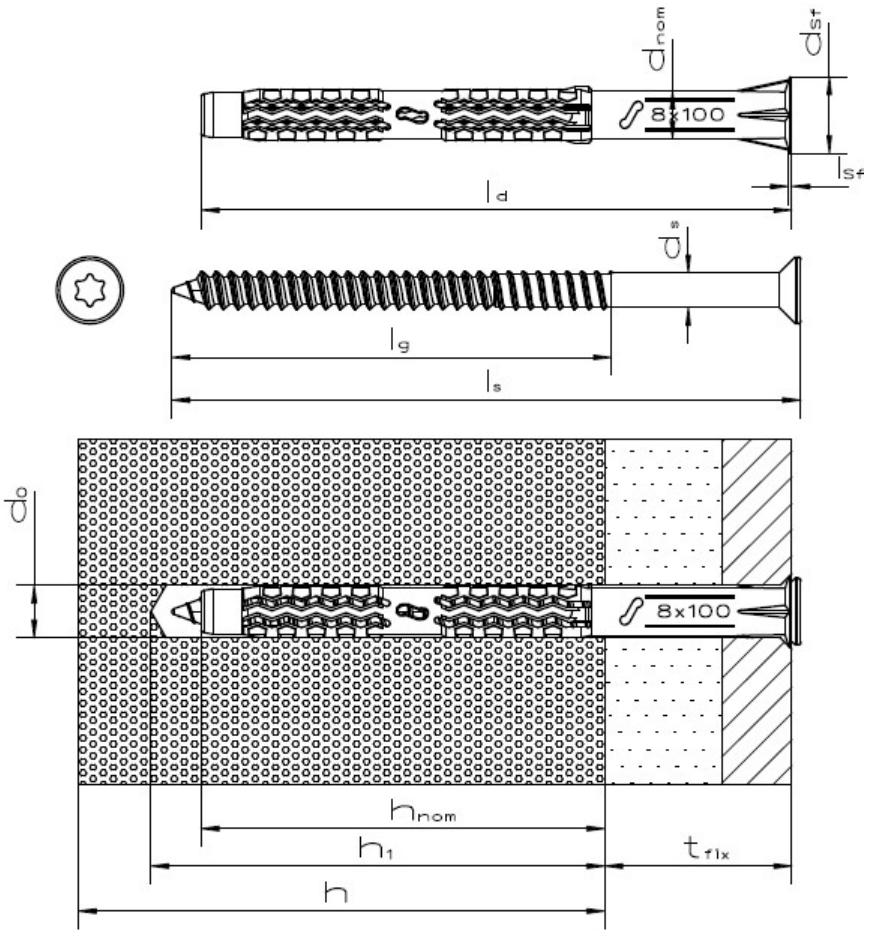
	D.o.P. FZGXLWT - ETA25/1269 - English	Bartolucci s.r.l.
	Plastic anchors for redundant non-structural systems in concrete and masonry	Via Del Commercio 1 – 60021 Camerano (AN) Italy

Intended use or uses of the construction product according to EAD 330284-00-0604 on 28/01/2026	
Generic type	Plastic anchors for redundant non-structural systems in concrete and masonry.
Base Material	Reinforced or unreinforced normal weight concrete C 20/25 to C 50/60. Solid masonry. Hollow mansonry.
Material	Anchor sleeve : PA6 Metal screw : Galvanized carbon steel
Durability	Pag. 3,4,5
Loading	Static
ETA 25/1269	Issued by ETA-Danmark A/S on 28/01/2026
On the basis of	EAD 330284-00-0604, Plastic anchors for redundant non-structural systems in concrete and masonry
Cerificate of Conformity	Issued by ITeC Institut de Tecnologia de la Construcciò de Catalunya; Notified Body Number 1220.
Under System	2+
BARTOLUCCI SRL Via del Commercio, 1 60021 CAMERANO (AN) Cod. Fisc. e P.IVA 02614850424 Tel. 071 7819048 www.bartolucci.eu - info@bartolucci.eu	Mrs. Catia Piastrellini , CEO Camerano, 2/03/2026

Product description

FZGXLWT8X…

FZGXLWT10X…



Legend

h_{nom} = Overall plastic anchor embedment depth in the base material
h_1 = Depth of drill hole to deepest point
d_0 = Nominal drill hole diameter
d_{nom} = Nominal fixing diameter
l_d = Nominal fixing lenght
h = Thickness of member (base material)
t_{fix} = Thickness of fixture and / or non load bearing layer
d_{sf} = Plastic head diameter
l_{sf} = Plastic head thickness
d_s = Nominal diameter of the screw
l_s = Total lenght of the screw
l_g = Total lenght of the thread

Figures not to scale

Product description

Dimensions and Materials

Table A3.1: Dimensions

Anchor type	Plastic sleeve								Special screw				
	Head type	Color	h_{nom}	d_{nom}	t_{fix}	l_d	l_{sf}	d_k	Head type	Bit type	d_s	l_G	l_s
			mm	mm	mm	mm	mm	mm			mm	mm	mm
FZGXLWT8X80	A	Grey	70	8	10	80	1	13	Countersunk	Torx T30	6	75	85
FZGXLWT8X100	A	Grey	70	8	30	100	1	13	Countersunk	Torx T30	6	75	105
FZGXLWT8X120	A	Grey	70	8	50	120	1	13	Countersunk	Torx T30	6	75	125
FZGXLWT8X140	A	Grey	70	8	70	140	1	13	Countersunk	Torx T30	6	75	145
FZGXLWT8X160	A	Grey	70	8	90	160	1	13	Countersunk	Torx T30	6	75	165
FZGXLWT10X80	A	Grey	70	10	10	80	1,5	15	Countersunk	Torx T40	7	75	85
FZGXLWT10X100	A	Grey	70	10	30	100	1,5	15	Countersunk	Torx T40	7	75	105
FZGXLWT10X120	A	Grey	70	10	50	120	1,5	15	Countersunk	Torx T40	7	75	125
FZGXLWT10X140	A	Grey	70	10	70	140	1,5	15	Countersunk	Torx T40	7	75	145
FZGXLWT10X160	A	Grey	70	10	90	160	1,5	15	Countersunk	Torx T40	7	75	165
FZGXLWT10X200	A	Grey	70	10	130	200	1,5	15	Countersunk	Torx T40	7	75	205
FZGXLWT10X240	A	Grey	70	10	170	240	1,5	15	Countersunk	Torx T40	7	75	245
FZGXLWT10X260	A	Grey	70	10	190	260	1,5	15	Countersunk	Torx T40	7	75	265

(1) The initial description together with the value of the length l_d completely identifies the type of anchor. for example FZGXLWT10X200
The lengths l_d expected for the plastic anchor of 8 are: 80-100-120-140-160.
The lengths l_d expected for the plastic anchor of 10 are: 80-100-120-140-160-180-200-240-260.

(2) The screw lenght l_s is 5mm larger than the length of the plastic sleeve l_d , so the screw penetrates the appropriate plastic sleeve correctly.

Table A3.2: Materials

Name	Material
Plastic sleeve	Polyamide PA6 (grey)
Special screw	Galvanized carbon steel, strength fuk ≥ 500 MPa, fyk ≥ 300 MPa.

Specifications of intended use

Anchorages subject to:

- Static and quasi-static loads
- Multiple fixing of non-structural applications

Table B1.1: Application categories in terms of base material and temperature range

Application categories		See annex	Anchor type	
			FZGXL…8X…	FZGXL…10X…
Base material				
a	Reinforced or unreinforced normal concrete[3] with strength classes ≥ C12/15	C1 , C2	v	v
b	Solid brick masonry [1) 2) 3)]	C3	v	v
c	Hollow brick masonry	C4	v	v
Temperature range				
Ta	Min T = 5°C to +40°C (maximum short term temperature + 40°C and maximum long term temperature +24°C)			

Note :

1) The characteristic resistance is also valid for larger brick sizes and higher compressive strength.
2) Clay bricks and mortar strength class ≥ M2,5 acc. to EN 998-2:2010.
3) For the other base materials of the use categories a, b or c the characteristic resistance of the anchor may be determined by job site tests according to EOTA TR 051.

Use conditions (envariomental conditions):

- Structures subject to dry internal conditions.
- The specific screw made of galvanised steel may also be used in structures subject to external atmospheric exposure, if the area of the head of the screw is protected against moisture and driving rain after mounting of the fixing unit in this way, that intrusion of moisture into the anchor shaft is prevented. Therefore, there shall be an external cladding or a ventilated rainscreen mounted in front of the head of the screw and the head of the screw itself shall be coated with a soft plastic, permanently elastic bitumen-oil-combination coating (e.g. undercoating or body cavity protection for cars).

Design:

- The anchorages are to be designed in accordance with EOTA TR 064, under the responsibility of an engineer experienced in anchorages and masonry work.
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored, the nature and strength of the base materials and the dimensions of the anchorage members as well as of the relevant tolerances. The position of the anchor is indicated on the design drawings.
- Fasteners are only to be used for multiple use for non-structural applications according to EAD 330284-00-0604.

Installation:

- Hole drilling by the drill modes according to Annex C1 – C4.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Installation temperature from 5 °C to +40 °C.
- Exposure to UV due to solar radiation of the anchor not protected ≤ 6 weeks.

Table B2.1: Installation parameters

Anchor type			FZGXL…8X…	FZGXL…10X…
Base material			Concrete Solid brick Hollow brick	Concrete Solid brick Hollow brick
Overall anchor embedment depth in the base material [1) 2)]	h_{nom}	[mm]	≥ 70	≥ 70
Nominal drill hole diameter	d_{nom}	[mm]	8	10
Cutting diameter of drill bit	d_{cut}	[mm]	≤ 8, 45	≤ 10, 45
Depth of drill hole to deepest point [1)]	h_1	[mm]	80	80
Diameter of clearance hole in fixture	d_f	[mm]	8.5	10,5

1) See annex A1.
2) In masonry made of hollow or perforaded bricks the influence of H_{nom} >70 mm has to be be determined by job site tests according to EOTA TR 051.

Table B2.2: Minimum thickness of member, edge distance and spacing in concrete

Anchor type	Embedment depth	Strength cat-egory	Minimum thickness of member	Characteristic adge distance	Characteristic spacing	Minimum edge distance	Minimum spacing
	h_{nom}		h_{min}	c_{cr}	s_{cr}	c_{min}	s_{min}
	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]
FZGXL…8X…	≥70	C12/15	100	140	115	140	115
		≥C16/20	100	100	80	100	80
FZGXL…10X…	≥70	C12/15	100	170	140	170	140
		≥C16/20	100	120	100	120	100

Scheme of spacing and edge distances in concrete

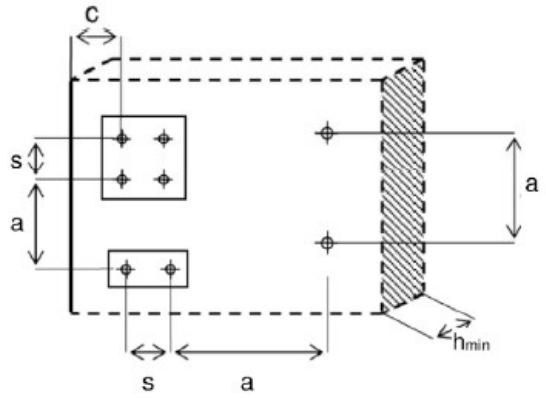
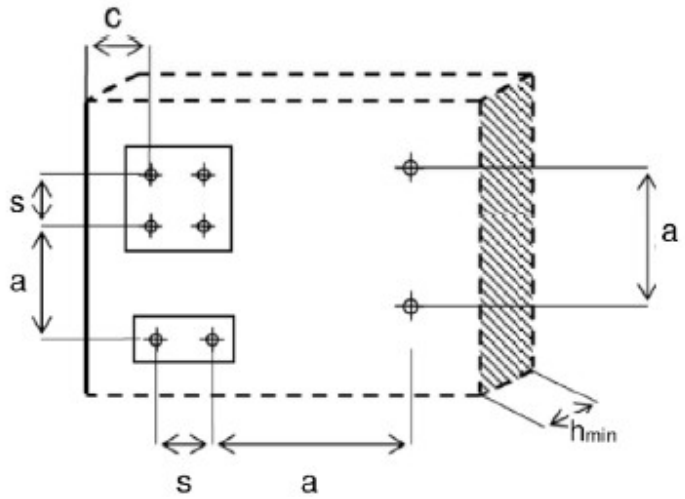


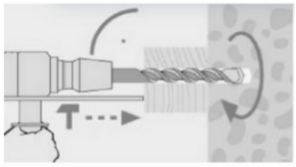
Table B3.1: Minimum component thickness, edge distance and center distance in masonry

Base material	See annex	Size	Minimum member thickness	Minimum edge distance	Characteristic spacing	Minimum spacing	
						Perpendicular to edge	Parallel to edge
			h_{min}	c_{min}	a_{min}	$s_{1,min}$	$s_{2,min}$
			[mm]	[mm]	[mm]	[mm]	[mm]
Solid masonry UNI 12.6.25 f_b= 36 MPa / f_b =18 MPa ρ = 2.26 kg/dm³	C3	D8 / D10	120	100	Max (250mm, $s_{1,min}$, $s_{2,min}$)	200	400
Hollow masonry Porotherm BIO MOD 30-25/19 (45%). $f_b \geq 6$ MPa ρ = 0.89 kg/dm³	C4	D8	250	130		260	520
		D10		150		300	600

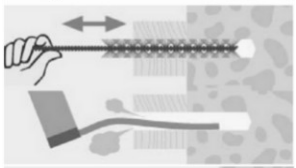
Scheme of spacing and edge distances in masonry



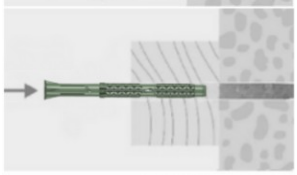
Installation instructions in concrete and solid brick:



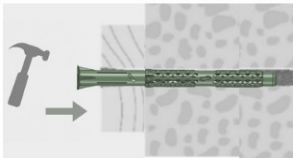
Chose drill diameter and drill hole depth according to Table B2.1. Drill the hole by hammer drilling. Temperature of base material ≥ 5°C.



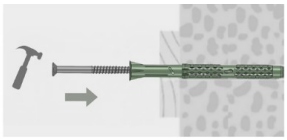
Pre-cleaning the drill hole with a brush, then hole-blowing with a pump.



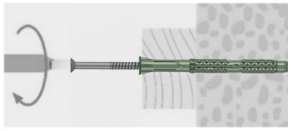
Setting the plastic dowel through the part to be fixed.



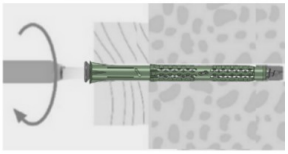
Tap the plastic plug with a hammer until the active part of the plug is fully inserted.



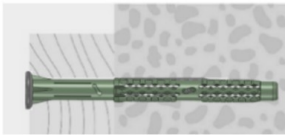
Insert the screw into the plug and continue to hammer through the head of the screw until the plug is finally positioned with the head of the plastic part flush with the surface of the element to be fixed.



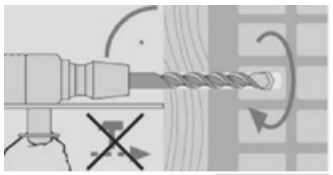
Use the correct screwdriver bit and proceed to screw in.



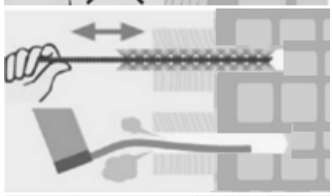
Tightening the fastener until sleeve collar contact.



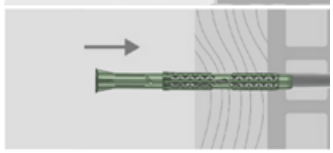
Installation instructions in hollow brick:



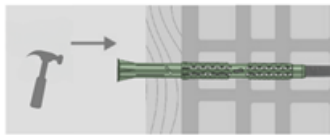
Chose drill diameter and drill hole depth according to Table B2.1. Drill the hole by **rotary drilling**. Chose drill hole diameter and drill hole depth according to Table B2.1. Temperature of base material ≥ 5°C.



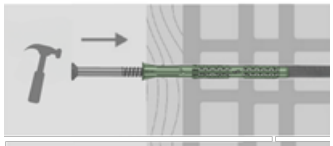
Pre-cleaning the drill hole with a brush, then hole-blowing with a pump.



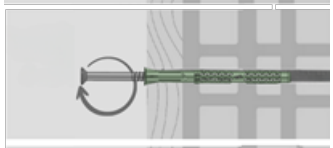
Setting the plastic dowel through the part to be fixed.



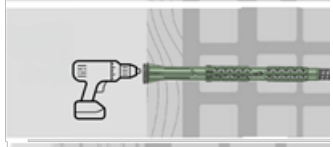
Tap the plastic plug with a hammer until the active part of the plug is fully inserted.



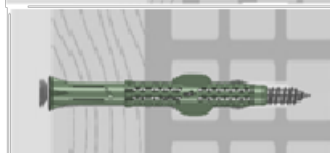
Insert the screw into the plug and continue to hammer through the head of the screw until the plug is finally positioned with the head of the plastic part flush with the surface of the element to be fixed.



Use the correct screwdriver bit and proceed to screw in.



Tightening the fastener until sleeve collar contact.



Performances

Characteristic resistance and characteristic bending resistance of the screw

Characteristic resistance for use in concrete

Table C1.1: Characteristic bending resistance of the screw.

Anchor type			**FZGXL…8X…**	**FZGXL…10X…**
Characteristic bending moment	$M_{Rk,s}$	[Nm]	10,3	16,9
Partial safety factor	γ_{Ms} [1)]	[-]	1,67	1,67

1) In absence of other national regulations.

Table C1.2 : Characteristic resistance of the screw

Anchor type			**FZGXL…8X…**	**FZGXL…10X…**
Characteristic tension resistance	$N_{Rk,s}$	[kN]	9,0	12,3
Partial safety factor for $N_{Rk,s}$	γ_{Ms} [1)]	[-]	2,0	2,0
Characteristic shear resistance	$V_{Rk,s}$	[kN]	6,2	8,6
Partial safety factor for $V_{Rk,s}$	γ_{Ms} [1)]	[-]	1,67	1,67

1) In absence of other national regulations.

Table C1.3: Characteristic resistance in concrete (use category a)

Anchor type			**FZGXL…8X…**	**FZGXL…10X…**
Drilling method			Hammer drilling	Hammer drilling
Pullout failure (plastic sleeve)				
Concrete C12/15				
Characteristic resistance 24°C [2)] / 40°C [3)]	$N_{Rk,p}$	[kN]	1,0	2,5
Concrete ≥ C16/20				
Characteristic shear resistance 24°C [2)] / 40° C [3)]	$N_{Rk,p}$	[kN]	1,5	3,5

2) Maximum long term temperature

3) Maximum short term temperature

Performances

Characteristic resistance and characteristic bending resistance of the screw

Characteristic resistance for use in concrete

Table C2.1: Displacements[1] under tension load in concrete ≥ C16/20

Anchor type	F [2]	Tension Load		Shear Load	
		δ_{N0}	$\delta_{N\infty}$	δ_{V0}	$\delta_{V\infty}$
	[kN]	[mm]	[mm]	[mm]	[mm]
FZGXL…8X…	0,43	0,01	0,55	0,23[3]	0,34[3]
FZGXL…10X…	1,00	0,06	0,33	0,27[3]	0,41[3]

Table C2.2: Displacements[1] under tension load in concrete C12/25

Anchor type	F [2]	Tension Load		Shear Load	
		δ_{N0}	$\delta_{N\infty}$	δ_{V0}	$\delta_{V\infty}$
	[kN]	[mm]	[mm]	[mm]	[mm]
FZGXL…8X…	0,29	0,01	0,55	0,15[3]	0,23[3]
FZGXL…10X…	0,71	0,04	0,33	0,19[3]	0,29[3]

1) Valid for all temperature ranges.
2) Intermediate values by linear interpolation
3) The displacements under shear load may increase in case of an annular gap in the fixture.

Table C2.3: Value under fire exposure in concrete C 20/25 to C 50/60 in any load direction, no permanent centric load and without lever arm.

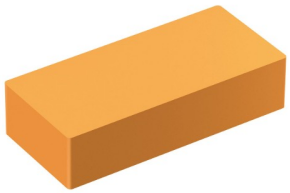
Anchor type	Fire resistance class	F[1]
FZGXL…10X…	R 90	≤ 0,8 kN

1) $F = F_{Rk} / (\gamma_M \cdot \gamma_F)$

Performances

Characteristic resistance in solid masonry

Table C3.1: Characteristic resistance for Bartolucci Universal Frame Plug in solid masonry (use category b)

Base material	Geometry (format/ length/width/height) [cm]	Min. compressive strenght f_b [N/mm²] - bulk density ≥ p [kg/dm³]	Drilling method 1)	Characteristic resistance F_{Rk} [kN]	
				FZGXL…8X…	FZGXL…10X…
Solid Brick					
Solid Brick UNI12.6.25	250x120x60 	36 - 2.26	H	3.0	3.0
		18 - 2.26	H	1.5	1.5

1) H = hammer drilling; R = Rotary drilling

Table C3.2: Displacements[1)] under tension load in solid masonry – solid brick UNI 12.6.25 – *f_b = 36 MPa*

Anchor type	F [2)]	Tension Load		Shear Load	
		δ_{N0}	$\delta_{N\infty}$	δ_{V0}	$\delta_{V\infty}$
	[kN]	[mm]	[mm]	[mm]	[mm]
FZGXL…8X…	0,86	0,92	1,85	0,71[3)]	1,07[3)]
FZGXL…10X…	0,86	0,95	1,90	0,71[3)]	1,07[3)]

Table C3.3: Displacements[1)] under tension load in solid masonry – solid brick UNI 12.6.25 – *f_b = 18 MPa*

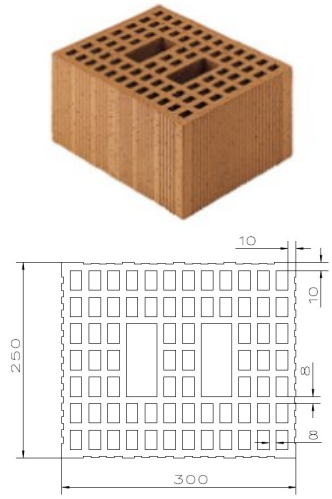
Anchor type	F [2)]	Tension Load		Shear Load	
		δ_{N0}	$\delta_{N\infty}$	δ_{V0}	$\delta_{V\infty}$
	[kN]	[mm]	[mm]	[mm]	[mm]
FZGXL…8X…	0,43	0,46	0,92	0,36[3)]	0,54[3)]
FZGXL…10X…	0,43	0,48	0,95	0,36[3)]	0,54[3)]

1) Valid for all temperature ranges.
2) Intermediate values by linear interpolation
3) The displacements under shear load may increase in case of a annular gap in the fixture.

Performances

Characteristic resistance in hollow masonry

Table C4.1 : characteristic resistance for Bartolucci Universal Frame Plug in hollow mansonry (use category c)

Base material	Geometry (format/ length/ width/ height)	Min. compressive strenght f_b [N/mm²] - bulk density ≥ p [kg/dm³]	Drilling method 1)	Characteristic resistance F_{RK} [kN]	
				FZGXL…8X…	FZGXL…10X…
Hollow Brick					
Porotherm BIO MOD 30-25/19	300x250x190 	6 / 0,89	R	0,6 2)	0,75 2)

1) H = hammer drilling; R = rotary drilling
2) Shear load with lever arm is not allowed.

Table C4.2 : Displacements[1)] under tension load in hollow masonry – Porotherm BIO MOD 30-25/19 (45%) – *f_b = 6 MPa*

Anchor type	F 2)	Tension Load		Shear Load	
		δ_{N0}	$\delta_{N\infty}$	δ_{V0}	$\delta_{V\infty}$
	[kN]	[mm]	[mm]	[mm]	[mm]
FZGXL…8X…	0,17	0,41	0,83	0,14 3)	0,21 3)
FZGXL…10X…	0,21	0,27	0,53	0,18 3)	0,27 3)

1) Valid for all temperature ranges.
2) Intermediate values by linear interpolation
3) The displacements under shear load may increase in case of a annular gap in the fixture.