

Declaration of Performance Number B 1109-CPR-0081-3

According to Regulation EU No 305/2011

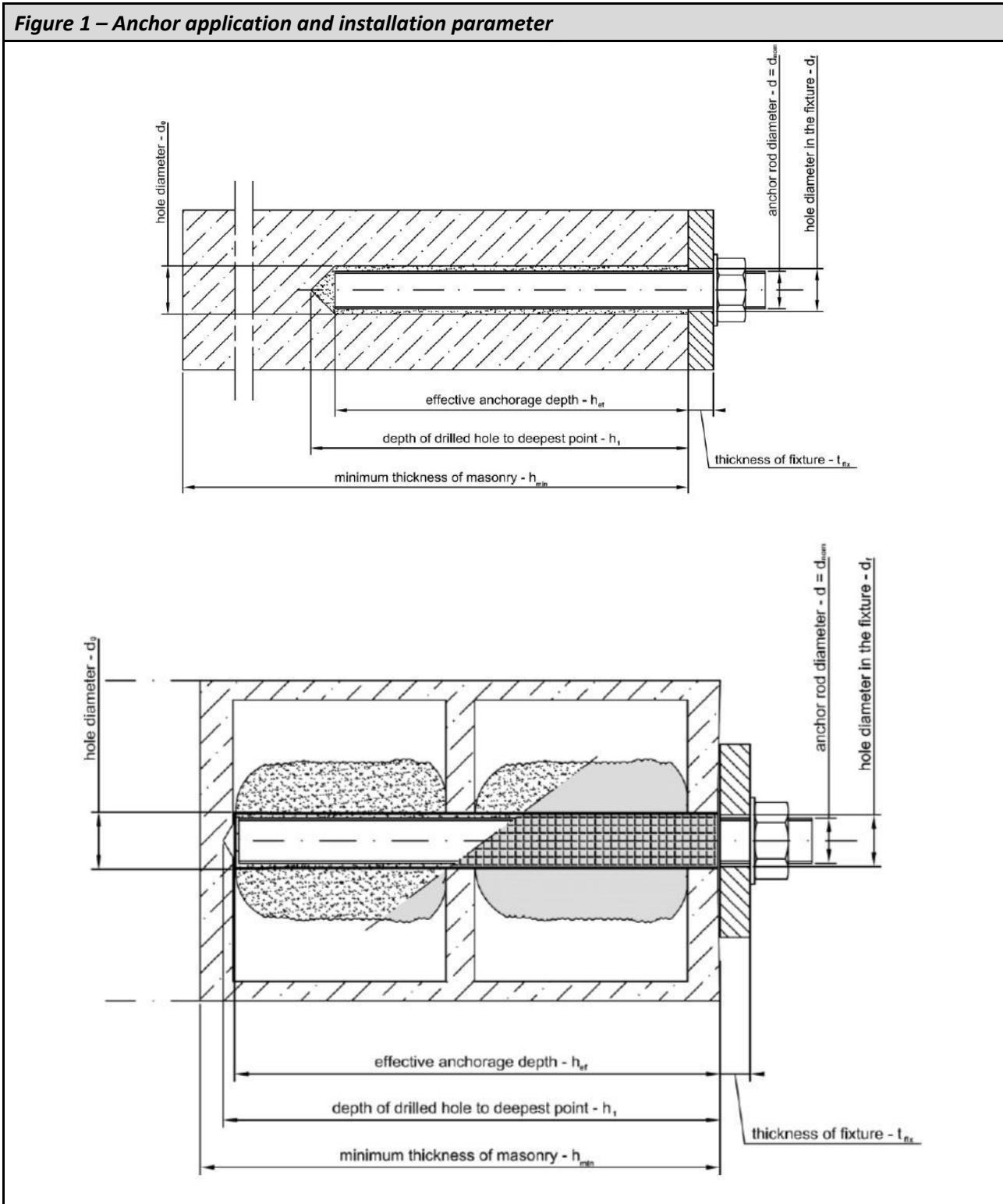
Item code: DGE01

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

Table 1 - Intended use	
Generic type:	Bonded anchor with anchor rod made of galvanized steel or stainless steel of sizes M8, M10 and M12, for use in masonry.
Base material:	Solid masonry (use category b) or hollow or perforated masonry (use category c). The mortar strength class of the masonry has to be M 2,5 according to EN 998-2:2010 at minimum.
Materials:	Threaded rods: a) Galvanized Carbon steel grade 5.8 and 6.8 according to EN ISO 898-1 b) Stainless steel A4-70 according to EN ISO 3506 Nuts and washers: Corresponding to anchor rod material above mentioned for the different environmental exposures.
Durability:	Elements made of galvanized steel or stainless steel may be used in structures subject to dry internal conditions only. Perforation with drilling machine
Loading:	Static and quasi-static
Service temperatures:	a) -40°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C), b) -40°C to +50°C (max. short term temperature +50°C and max. long term temperature +40°C).
Use category:	Category w/d: installation in wet substrate and use in structures subjected to dry, internal conditions.
Fire Resistance	NPD
Fire Reaction	In the final application the thickness of the mortar layer is about 1 to 2 mm and most of the mortar is material classified class A1 according to EC Decision 96/603/EC. Therefore it may be assumed that the bonding material (synthetic mortar or a mixture of synthetic mortar and cementitious mortar) in connection with the metal anchor in the end use application do not make any contribution to fire growth or to the fully developed fire and they have no influence to the smoke hazard.
ETA:	ETA 11/0553, issued by ETA-Denmark
On the basis of:	Etag 029 usde as EAD
Attestation of Conformity:	EC number B 1109-CPR-0081-03, issued by IFBT
Under system:	1

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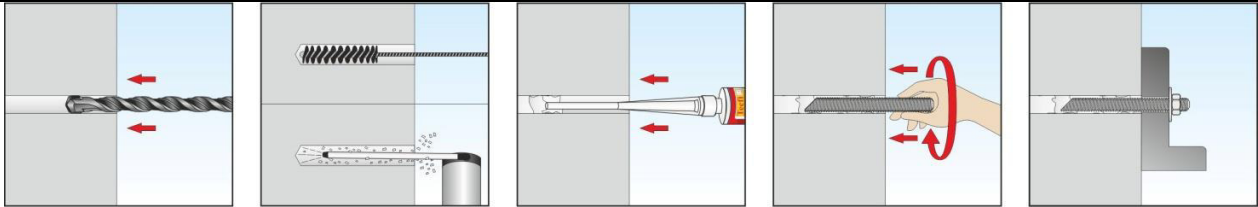
Figure 1 – Anchor application and installation parameter



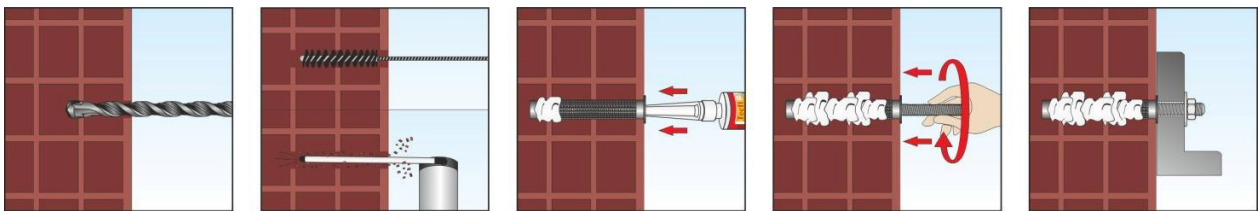
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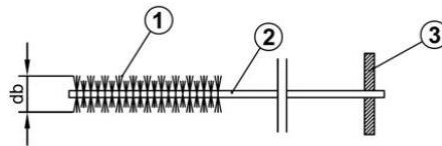
Figure 2 - Installation sequence, brush and resin injection gun






Installation sequence – solid masonry (use category b)



Installation sequence – hollow masonry (use category c)



Cleaning brush

Picture	Size Cartridge	Operating principle
 DH 01 00 400	400 ml	Manual
 DH 01 00 345	300 ml	Manual
	280 ml	
	165 ml	
 DH 01 00 300	300 ml	Manual
	280 ml	
	165 ml	

resin injection gun

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Table 2 – Declared performance according to ETAG 029				
Installation parameters				
Size		M 8	M10	M12
Nominal anchor diameter	d_{nom} [mm]	8	10	12
Nominal drill hole diameter – solid masonry (use category b)	d_o [mm]	10	12	14
Nominal drill hole diameter – hollow masonry (use category c)		12	16	20
Plastic sleeve – hollow masonry (use category c)	-	∅ 12 x 80	∅ 15 x 85	∅ 20 x 85
Diameter of the clearance hole in the fixture	d_f [mm]	9	12	14
Embedment depth – solid masonry (use category b)	h_{ef} [mm]	80	85	95
Embedment depth – hollow masonry with plastic sleeve (use category c)		80	85	85
Depth of the drill hole - solid masonry (use category b)	h_1 [mm]	$h_{ef} + 5$ mm		
Depth of the drill hole - hollow masonry (use category c)				
Required torque moment - solid masonry (use category b)	T_{inst} [Nm]	5	8	10
Required torque moment - hollow masonry (use category c)		3	4	6
Minimum spacing and edges distances- solid masonry (use category b)	s_{min} [mm]	50		
	c_{min} [mm]	50		
Minimum spacing and edges distances - hollow masonry (use category c)	s_{min} [mm]	100	100	120
	c_{min} [mm]			
Brush size - solid masonry (use category b)	d_b [mm]	12	14	16
Brush size - hollow masonry (use category c)	d_b [mm]	12	16	20
Processing and curing time				
Masonry temperature	Processing time	Minimum curing Time for dry and wet conditions		
0°C	25 min	180 min		
5°C	15 min	120 min		
10°C	12 min	90 min		
15°C	8 min	60 min		
20°C	6 min	45 min		
25°C	4 min	30 min		
30°C	3 min	20 min		

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Table 2 (cont.) - Declared performance according to ETAG 029				
Geometry and mechanical Properties – Solid Masonry Type “Brick n°1” (use category “b”)				
Base Material	Drilling method	Density class ρ	Compressive strength f_b	
Description	-	[kg/dm³]	[N/mm²]	
“Brick n°1” - Mattone pieno 2120x240x60	Rotary + Hammer	1,7	73,0	
Characteristic resistance in solid masonry type “Brick n°1” (use category “b”)				
Size		M 8	M 10	M12
Characteristic tensile resistance for single anchor– all temperature ranges	N_{rk} [kN]	1,50	2,50	3,00
Characteristic shear resistance for single anchor- all temperature ranges	V_{rk} [kN]	1,50	2,50	3,00
Edge Distance and spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects	S_{cr,N} [mm]	160	200	240
	C_{cr,N} [mm]	80	100	120
β coefficient for in situ test according to ETAG029 – all temperature ranges	-	0,70		
Displacement for tensile load in solid masonry type “Brick n°1” (use category “b”)				
Size		M 8	M 10	M12
Admissible service load in tensile in solid masonry type “Brick n°1”	F [kN]	0,65	1,03	1,15
Displacement	δ_{N0} [mm]	0,08	0,07	0,06
	$\delta_{N\infty}$ [mm]	0,16	0,16	0,16
Displacement for shear load in solid masonry type “Brick n°1” (use category “b”)				
Size		M 8	M 10	M12
Admissible service load in shear	V [kN]	1,32	2,94	2,62
Displacement	δ_{V0} [mm]	0,23	0,48	0,38
	$\delta_{V\infty}$ [mm]	0,34	0,72	0,57

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Table 2 (cont.) - Declared performance according to ETAG 029				
Geometry and mechanical Properties – Hollow masonry type “Brick n°2” (use category “c”)				
Base Material	Drilling method	Density class ρ	Compressive strength f_b	
Description	-	[kg/dm ³]	[N/mm ²]	
“Brick n°2” - Mattone Doppio UNI 240 x 120 x 120	Rotary only	0,81	18,3	
Characteristic resistance in hollow masonry type “Brick n°2” (use category “c”)				
Size		M 8	M 10	M 12
Characteristic tensile resistance for single anchor– all temperature ranges	N_{rk} [kN]	3,50	4,00	5,00
Characteristic shear resistance for single anchor- all temperature ranges	V_{rk} [kN]	3,50	4,00	5,00
Edge Distance and spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects	S_{cr,N} [mm]	240		
	C_{cr,N} [mm]	120		
β coefficient for in situ test according to ETAG029 – all temperature ranges	-	0,70		
Displacement for tensile load in hollow masonry type “Brick n°2” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in tensile in hollow masonry	F [kN]	1,48	1,81	2,09
Displacement	δ_{N0} [mm]	0,06	0,08	0,10
	$\delta_{N\infty}$ [mm]	0,16	0,16	0,20
Displacement for shear load in hollow masonry type “Brick n°2” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in shear in hollow masonry	V [kN]	1,72	2,03	2,93
Displacement	δ_{V0} [mm]	0,20	0,38	0,34
	$\delta_{V\infty}$ [mm]	0,30	0,57	0,51

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Table 2 (cont.) - Declared performance according to ETAG 029				
Geometry and mechanical Properties – Hollow masonry type “Brick n°3” (use category “c”)				
Base Material	Drilling method	Density class ρ	Compressive strength f_b	
Description	-	[kg/dm ³]	[N/mm ²]	
“Brick n°3” - Forato 120x250x250	Rotary only	0,55	5,3	
Characteristic resistance in hollow masonry type “Brick n°3” (use category “c”)				
Size		M 8	M 10	M 12
Characteristic tensile resistance for single anchor– all temperature ranges	N_{rk} [kN]	0,60	1,50	1,50
Characteristic shear resistance for single anchor- all temperature ranges	V_{rk} [kN]	0,60	1,50	1,50
Edge Distance and spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects	S_{cr,N} [mm]	250		
	C_{cr,N} [mm]	125		
β coefficient for in situ test according to ETAG029 – all temperature ranges	-	0,70		
Displacement for tensile load in hollow masonry type “Brick n°3” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in tensile in hollow masonry	F [kN]	0,29	0,73	0,80
Displacement	δ_{N0} [mm]	0,06	0,08	0,07
	$\delta_{N\infty}$ [mm]	0,16	0,16	0,16
Displacement for shear load in hollow masonry type “Brick n°3” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in shear in hollow masonry	V [kN]	0,93	1,08	0,86
Displacement	δ_{V0} [mm]	0,31	0,23	0,18
	$\delta_{V\infty}$ [mm]	0,46	0,34	0,27

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Table 2 (cont.) - Declared performance according to ETAG 029				
Geometry and mechanical Properties – Hollow masonry type “Brick n°4” (use category “c”)				
Base Material	Drilling method	Density class ρ	Compressive strength f_b	
Description	-	[kg/dm ³]	[N/mm ²]	
“Brick n°4” – Brique creuse RC40 555x195x275	Rotary only	0,60	4,0	
Characteristic resistance in hollow masonry type “Brick n°4” (use category “c”)				
Size		M 8	M 10	M 12
Characteristic tensile resistance for single anchor– all temperature ranges	N_{rk} [kN]	0,90	0,90	0,60
Characteristic shear resistance for single anchor- all temperature ranges	V_{rk} [kN]	0,90	0,90	0,60
Edge Distance and spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects	S_{cr,N} [mm]	555		
	C_{cr,N} [mm]	278		
β coefficient for in situ test according to ETAG029 – all temperature ranges	-	0,70		
Displacement for tensile load in hollow masonry type “Brick n°4” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in tensile in hollow masonry	F [kN]	0,39	0,44	0,26
Displacement	δ_{N0} [mm]	0,06	0,06	0,06
	$\delta_{N\infty}$ [mm]	0,16	0,16	0,16
Displacement for shear load in hollow masonry type “Brick n°4” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in shear in hollow masonry	V [kN]	0,44	0,63	0,44
Displacement	δ_{V0} [mm]	0,10	0,18	0,27
	$\delta_{V\infty}$ [mm]	0,15	0,27	0,40

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Table 2 (cont.) - Declared performance according to ETAG 029				
Geometry and mechanical Properties – Hollow masonry type “Brick n°5” (use category “c”)				
Base Material	Drilling method	Density class ρ	Compressive strength f_b	
Description	-	[kg/dm ³]	[N/mm ²]	
“Brick n°5” – Porotherm 25 P+W 373x238x250	Rotary only	0,80	15	
Characteristic resistance in hollow masonry type “Brick n°5” (use category “c”)				
Size		M 8	M 10	M 12
Characteristic tensile resistance for single anchor– all temperature ranges	N_{rk} [kN]	2,00	2,00	2,50
Characteristic shear resistance for single anchor- all temperature ranges	V_{rk} [kN]	2,00	2,00	2,50
Edge Distance and spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects	S_{cr,N} [mm]	373		
	C_{cr,N} [mm]	187		
β coefficient for in situ test according to ETAG029 – all temperature ranges	-	0,65	0,70	
Displacement for tensile load in hollow masonry type “Brick n°5” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in tensile in hollow masonry	F [kN]	0,92	0,91	1,02
Displacement	δ_{N0} [mm]	0,06	0,06	0,06
	$\delta_{N\infty}$ [mm]	0,16	0,16	0,16
Displacement for shear load in hollow masonry type “Brick n°4” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in shear in hollow masonry	V [kN]	0,78	1,06	1,00
Displacement	δ_{V0} [mm]	0,23	0,19	0,31
	$\delta_{V\infty}$ [mm]	0,34	0,28	0,46

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Table 2 (cont.) - Declared performance according to ETAG 029				
Geometry and mechanical Properties – Hollow masonry type “Brick n°6” (use category “c”)				
Base Material	Drilling method	Density class ρ	Compressive strength f_b	
Description	-	[kg/dm ³]	[N/mm ²]	
“Blocco n°6” – Hlz B – 1.0 1NF 12-1 115x240x71	Rotazione	0,90	12	
Characteristic resistance in hollow masonry type “Brick n°6” (use category “c”)				
Size		M 8	M 10	M 12
Characteristic tensile resistance for single anchor– all temperature ranges	N_{rk} [kN]	3,00	4,00	4,00
Characteristic shear resistance for single anchor- all temperature ranges	V_{rk} [kN]	3,00	4,00	4,00
Edge Distance and spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects	S_{cr,N} [mm]	240		
	C_{cr,N} [mm]	120		
β coefficient for in situ test according to ETAG029 – all temperature ranges	-	0,70		
Displacement for tensile load in hollow masonry type “Brick n°5” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in tensile in hollow masonry	F [kN]	1,19	1,69	1,78
Displacement	δ_{N0} [mm]	0,12	0,07	0,06
	$\delta_{N\infty}$ [mm]	0,24	0,16	0,16
Displacement for shear load in hollow masonry type “Brick n°4” (use category “c”)				
Size		M 8	M 10	M 12
Admissible service load in shear in hollow masonry	V [kN]	1,25	2,23	1,65
Displacement	δ_{V0} [mm]	0,17	0,69	0,13
	$\delta_{V\infty}$ [mm]	0,25	1,03	0,19

Table 3 – Format of DGE01		
Cartridge capacity	Type of cartridge	Item code
300 ml	Coaxial special	DGE 01 00 300
400 ml	Coaxial special	DGE 01 00 400

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Figure 3 – Label example

1 Item Code
2 Descriptions
3 Picture
4 Last two digits of the year in which the marking was first affixed
5 European standard applied

6 Intended use of the product as laid down in the European standard applied, level of performance declared
7 DoP Number
8 Expiring date
9 Lot Number
10 Contents

The performances of the product identified by the above identification code are in conformity with the declared performance. This declaration of performance is issued under the sole responsibility of Tecfi S.p.A.

Signed for and behalf of the manufacturer by:

Name and function	Place and date of issue	Signature
President Antonio Guarino	Pastorano, December 14 th 2016	