

Declaration of Performance No 1109-BPR-0078

According to the Regulation EU No 305/2011

DXE00 - DXE01 - DXE03 - DXE04

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

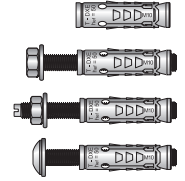
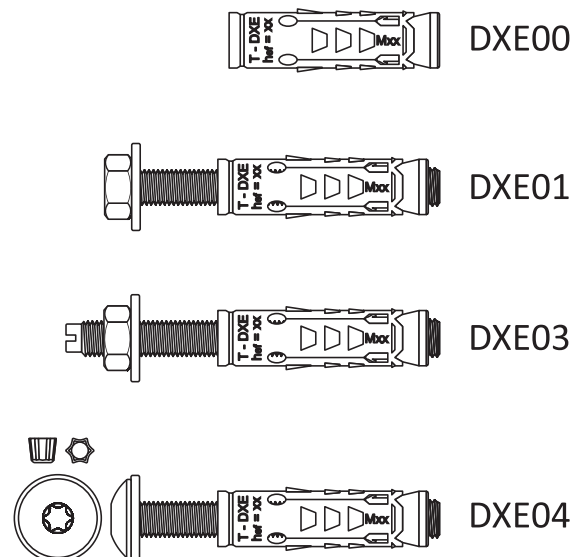
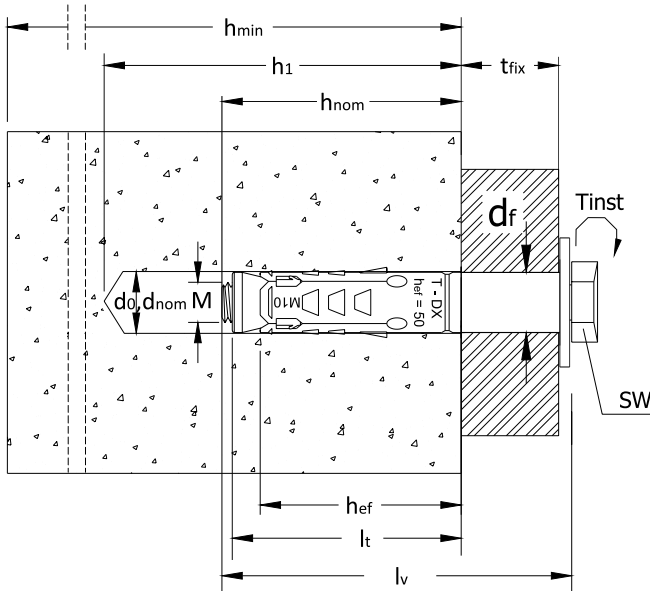


Table 1 - Intended use

Generic type:	Metal anchor for use in concrete, torque controlled expansion anchor
Base material:	Non-cracked concrete C20/25 to C50/60 acc. to EN 206-1:2003
Material:	Galvanised steel
Durability:	Internal dry conditions
Loading:	Static and quasi-static
Fire resistance:	N/A
Fire reaction:	A1 according to EN 13501-1
ETA:	ETA 08/0058, issued by ETA-DANMARK
On the basis of:	Etag 001 part 1 and 2
Attestation of Conformity:	EC number 1109-BPR-0037, issued by IFBT
Under system:	2+

2 - Installation parameters

Item	Description	Finishing
DXE00	Sleeve anchor with nut	zinc plated
DXE01	Sleeve anchor with nut, with hex head screw 8.8 grade and washer	
DXE03	Sleeve anchor with nut, with stud 8.8 grade, hex nut and washer	
DXE04	Sleeve anchor with nut, with mushroom head screw 8.8 grade (anti-theft with special cap to be hammered)	

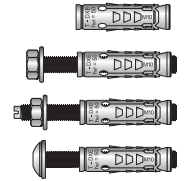


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3 - Installation sequence

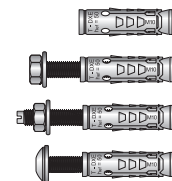
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4 - Declared Performances according to ETAG 001 part 1 and part 2

Installation parameters					
Size		Ø10 - M6	Ø12 - M8	Ø15 - M10	Ø18 - M12
Diameter of the drill hole	$d_o = [mm]$	10	12	15	18
Diameter of clearance in the fixture	$d_f = [mm]$	7	9	12	14
Wrench size (for DXE01 and DXE03 only)	SW = [mm]	10	13	17	19
Hexagonal socket size (only for DXE 04)	T = [-]	-	40	40	-
Effective anchorage depth	$h_{ef} = [mm]$	40	45	50	65
Overall anchor embedment depth	$h_{nom} = [mm]$	45	50	60	75
Minimum thickness of concrete member	$h_{min} = [mm]$	100	100	100	130
Depth of drill hole	$h_1 = [mm]$	60	65	70	95
Installation torque moment	$T_{inst} = [Nm]$	8	20	35	60
Minimum allowable spacing	$s_{min} = [mm]$	70	110	130	160
Minimum allowable edge distance	$C_{min} = [mm]$	50	80	100	130
Steel failure to tension load					
Characteristic resistance to tension load	$N_{rk,s} = [kN]$	16	29	46	67
Partial safety factor	$\gamma_{Ms} = [-]$	1,5 ¹⁾			
Pull-out failure to tension load					
Characteristic resistance to tension load	$N_{rk,p} = [kN]$	6	9	12	16
Partial safety factor	$\gamma_2 = [-]$	1	1	1,2	1
Increasing factor for concrete C30/37	$\psi_c C30/37 = [-]$	1,18	1,04	1,22	1,22
Increasing factor for concrete C40/50	$\psi_c C40/50 = [-]$	1,36	1,21	1,41	1,41
Increasing factor for concrete C50/60	$\psi_c C50/60 = [-]$	1,50	1,33	1,55	1,55
Concrete cone failure					
Effective anchorage depth	$h_{ef} = [mm]$	40	45	50	65
Critical spacing	$S_{cr,N} = [mm]$	120	135	150	195
Critical edge distance	$C_{cr,N} = [mm]$	60	67,5	75	97,5
Installation safety factor	$\gamma_2 = [-]$	1	1	1,2	1
Concrete Splitting failure					
Critical spacing (splitting)	$S_{cr,sp} = [mm]$	384	446	620	684
Critical edge distance (splitting)	$C_{cr,sp} = [mm]$	192	223	310	342

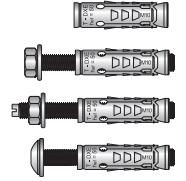
¹⁾ In absence of national regulation

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4.1 - Declared Performances according to ETAG 001 part 1 and part 2

Displacements under tension loads					
Size		Ø10 - M6	Ø12 - M8	Ø15 - M10	Ø18 - M12
Service tension load in non-cracked concrete C20/25	$N_{ucr} = [kN]$	2,90	4,30	4,80	7,60
Short term displacement under tension load in non-cracked concrete C20/25	$\delta_{N0,ucr} = [mm]$	0,29	0,04	0,07	0,16
Long term displacement under tension load in non-cracked concrete C20/25	$\delta_{N\infty,ucr} = [mm]$	-	-	0,48	-
Steel failure to shear load					
Steel failure without lever arm	$V_{rk,s} = [kn]$	8	15	23	33
Steel failure with lever arm	$M_{rk,s} = [Nm]$	12,2	30,0	59,8	104,8
Safety factor	$\gamma_{Ms} = [-]$	1,5 ¹⁾			
Concrete pryout failure					
Factor in equation 5.6 of the guideline's Annex C	$k = [-]$	1			2
Partial safety factor	$\gamma_2 = [-]$	1	1	1,2	1
Concrete edge failure					
Effective external diameter of the anchor	$d_{nom} = [mm]$	10	12	15	18
Effective anchorage length	$l_{ef} = [mm]$	40	45	50	65
Installation safety factor	$\gamma_2 = [-]$	1	1	1,2	1
Displacements under shear loads					
Service tension load in non-cracked concrete C20/25	$V = [kn]$	4,30	7,60	11,90	14,30
Short term displacement under shear load in non-cracked concrete C20/25	$\delta_{V0,cr} = [mm]$	1,12	1,40	2,19	2,05
Long term displacement under shear load in non-cracked concrete C20/25	$\delta_{V\infty,cr} = [mm]$	1,68	2,11	3,29	3,07

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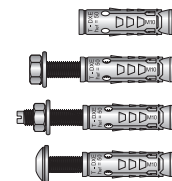


Table 5 - DXE00 ranges

Items code	Ø/M	d ₀ [mm]	l [mm]	t _{fix} [mm]
DXE 00 10 045	6	10	45	-
DXE00 12 050	8	12	50	-
DXE00 15 060	10	15	60	-
DXE00 18 075	12	18	75	-

Table 5 - DXE01 ranges

DXE 01 10 050	6	10	45	5
DXE 01 12 060	8	12	50	10
DXE 01 15 080	10	15	60	20
DXE 01 18 100	12	18	75	20

Table 5 - ranges DXE03

DXE 03 10 060	6	10	45	5
DXE 03 12 075	8	12	50	10
DXE 01 15 095	10	15	60	20
DXE 01 18 120	12	18	75	20

Table 5 - ranges DSE07

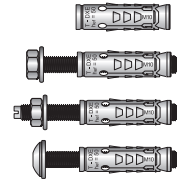
DXE 04 12 060	8	12	50	10
DXE 04 12 080				30
DXE 04 12 100				50
DXE 04 12 120				70
DXE 04 15 080	10	15	60	20
DXE 04 15 100				40
DXE 04 15 120				60

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5 - Label

- | | |
|---|---|
| 1 Codice articolo / Item Code | 10 Uso del prodotto previsto dallo standard Europeo applicato, livello di prestazione dichiarato / Intended use of the product as laid down in the European standard applied, level of performance declared |
| 2 Descrizioni / Descriptions | 11 Numero di DoP / DoP Number |
| 3 Immagine / Picture | 12 Link al DoP / Link to DoP |
| 4 Diametro ancorante (d_{nom}) / Anchor Diameter (d_{nom}) | 13 Lotto / Lot Number |
| 5 Lunghezza ancorante (l_t) / Anchor Length (l_t) | 14 Numero di pezzi per scatola / Number of Pieces per Box |
| 6 Spessore massimo fissabile (t_{fix}) / Maximum Thickness of fixture (t_{fix}) | 15 Dimensione chiave / impronta a 6 lobi |
| 7 Numero identificativo dell'organismo notificato / Identification number of the Notified Body | 16 Numero ETA / ETA Number |
| 8 Le ultime due cifre dell'anno in cui il marchio è stato affisso per la prima volta / Last two digits of the year in which the marking was first affixed | |
| 9 Specifica tecnica armonizzata / European Technical Specification | |

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, 18 th March 2016	