

SM00T001

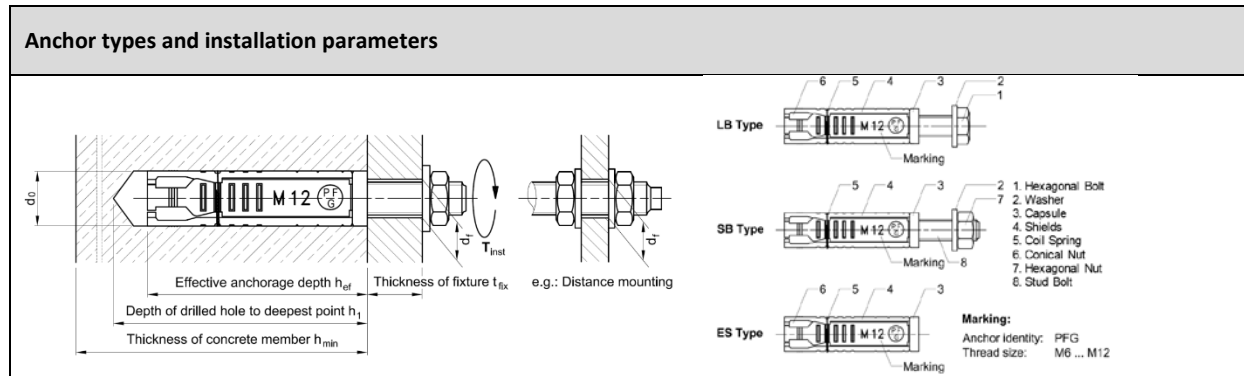


- *Code d'identification unique du type de produit:*
SMART TYPE T
- *Type, lot ou numéro de série ou tout autre élément permettant l'identification du produit de construction comme requis en application de l'article 11(4):*
Numéro de lot: voir l'emballage du produit
- *Usage(s) prévu(s) du produit de construction selon la spécification technique harmonisée applicable comme envisagée par le fabricant:*

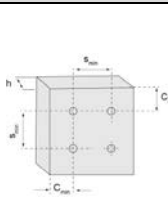
Usage prévu ou usage du produit de construction selon l'ETAG 001 parts 1 - 2	
Generic type	Torque controlled expansion anchor with screw
Base material	Un-cracked concrete C20/25 to C50/60 acc. to EN 206-1:2003
Material:	Galvanized steel, zinc plated ISO 4042 A2K $\geq 5\mu\text{m}$
Durability	internal dry conditions
Loading	static or quasi-static loads
Fire Resistance	R120
Assumed working life	50 years

- *Nom, nom commercial enregistré ou marque commerciale enregistrée et adresse de contact du fabricant comme requis en application de l'article 11 (5):*
pgb-Polska sp. z o.o. – Ul. Jondy 5 – 44-100 Gliwice – Polska
- *Système ou systèmes d'évaluation et vérification de la consistance des performances du produit de construction comme stipulé à l'annexe V:*
System 1
- *Cas d'une déclaration des performances concernant un produit de construction pour lequel une Evaluation Technique Européenne a été émise:*

ETA - 14/0239 issued by	CSTB
Body nr	NB 0679
On the basis of	ETAG 001, part 1 and 2 option 8
Under System	1
And issued	Certificate CE 0679-CPR-1032



- *Performances déclarées*

Installation parameters (ETAG001 part 1 and 2)				M6	M8	M10	M12
	d_o	Nominal diameter of drill bit	[mm]	10	14	16	20
	h_{ef}	Effective standard embedment depth	[mm]	40	50	60	80
	d_f	Fixture clearance hole diameter	[mm]	7	9	11	13
	T_{inst}	Nominal installation torque	[Nm]	10	25	50	85
	h_1	Depth of drilled hole	[mm]	45	55	65	85
	$T_{fix,min...max}$	Fixture thickness	[mm]	0...100	0...120	0...140	0...160
	h_{min}	Min. thickness of concrete member	[mm]	100	100	120	160
	s_{min}	Minimum spacing	[mm]	60	75	90	120
c_{min}	Minimum edge distance	[mm]	60	75	90	120	
Characteristic values for tension loads							
Steel failure							
	$N_{Rk,s}$	Tension steel characteristic resistance	[kN]	16	29	46	67
	γ_{Ms}^1	Partial safety factor	[-]	1,50			
Pull-out failure							
	$N_{Rk,p}$	Tension characteristic resistance in concrete C20/25	[kN]	5	9	12	16
	γ_{Mp}^1	Partial safety factor ¹	[-]	1,50 ²			
Concrete cone failure							
	h_{ef}	Effective standard embedment depth	[mm]	40	50	60	80
	$s_{cr,N}$	Critical spacing	[mm]	120	150	180	240
	$c_{cr,N}$	Critical edge distance	[mm]	60	75	90	120
	γ_{Mc}^1	Partial safety factor	[-]	1,50 ²			
Concrete splitting failure							
	$s_{cr,sp}$	Critical spacing (splitting)	[mm]	240	300	360	480
	$c_{cr,sp}$	Critical edge distance (splitting)	[mm]	120	150	180	240
	γ_{Msp}^1	Partial safety factor ¹	[-]	1,50 ²			

¹ In absence of other national regulations

² The installation safety factor of $\gamma_2=1,0$ is included.

DECLARATION OF PERFORMANCE



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Displacements under tension loads							
	N	Tension service load	[kN]	2,0	3,6	4,8	6,3
	$\bar{\delta}_{N0}$	Displacements under short term tension loads	[mm]	0,1	0,1	0,1	0,1
	$\bar{\delta}_{N\infty}$	Displacements under long term tension loads	[mm]	0,3	0,3	0,3	0,3
Characteristic values for shear loads							
Steel failure							
	$V_{Rk,s}$	Shear steel characteristic resistance	[kN]	8	14	23	33
	$M^0_{Rk,s}$	Characteristic bending moment (steel failure with lever arm)	[Nm]	12	30	60	105
	γ_{Ms} ³	Partial safety factor	[-]	1,25			
Concrete pryout failure							
	K	K factor (in equation (5.6) of ETAG Annex C, § 5.2.3.3)	[-]	1	2		
	γ_{Mcp} ³	Partial safety factor	[-]	1,5 ⁴			
Concrete edge failure							
	l_f	Effective anchorage depth under shear loads	[mm]	26	33	40	53
	d_{nom}	Outside anchor diameter	[mm]	10	14	16	20
	γ_{Mc} ³	Partial safety factor	[-]	1,5 ⁴			
Displacements under shear loads C20/25 – C50/60							
	V	Service shear load	[kN]	4,6	8,3	13,2	19,2
	$\bar{\delta}_{V0}$	Short term displacement under shear loads	[mm]	1,5 (+0,7)	1,9 (+1,2)	2,4 (+1,2)	3,3 (+1,2)
	$\bar{\delta}_{V\infty}$	Long term displacement under shear loads	[mm]	2,3 (+0,7)	2,9 (+1,2)	3,6 (+1,2)	4,9 (+1,2)
Characteristic tension resistance in non-cracked C20/25 to C50/60 under fire exposure							
R30 min	$N_{Rk,s,fi,30}$	Tension load - fire duration = 30 min - steel failure	[kN]	0,2	0,4	0,9	1,7
	$N_{Rk,p,fi,30}$	Tension load - fire duration = 30 min - pull-out failure	[kN]	1,3	2,3	3,0	4,0
	$N^0_{Rk,c,fi,30}$	Tension load - fire duration = 30 min - concrete cone failure ⁵	[kN]	1,8	3,2	5,0	10,3
R60 min	$N_{Rk,s,fi,60}$	Tension load - fire duration = 60 min - steel failure	[kN]	0,2	0,3	0,8	1,3
	$N_{Rk,p,fi,60}$	Tension load - fire duration = 60 min - pull-out failure	[kN]	1,3	2,3	3,0	4,0
	$N^0_{Rk,c,fi,60}$	Tension load - fire duration = 60 min - concrete cone failure ⁵	[kN]	1,8	3,2	5,0	10,3
R90 min	$N_{Rk,s,fi,90}$	Tension load - fire duration = 90 min - steel failure	[kN]	0,1	0,3	0,6	1,1
	$N_{Rk,p,fi,90}$	Tension load - fire duration = 90 min - pull-out failure	[kN]	1,3	2,3	3,0	4,0
	$N^0_{Rk,c,fi,90}$	Tension load - fire duration = 90 min - concrete cone failure ⁵	[kN]	1,8	3,2	5,0	10,3
R120 min	$N_{Rk,s,fi,120}$	Tension load - fire duration = 120 min - steel failure	[kN]	0,1	0,2	0,5	0,8
	$N_{Rk,p,fi,120}$	Tension load - fire duration = 120 min - pull-out failure	[kN]	1,0	1,8	2,4	3,2
	$N^0_{Rk,c,fi,120}$	Tension load - fire duration = 120 min - concrete cone failure ⁵	[kN]	1,5	2,5	4,0	8,2
In absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi}$ = 1,0 is recommended.							

³ In absence of other national regulations

⁴ The installation safety factor of $\gamma_2 = 1,0$ is included.

⁵ Spacing $S_{cr,N} = 4xh_{ef}$ and S_{min} = see table. Edge distance $C_{cr,N} = 2xh_{ef}$. If fire attack from one side= $C_{min}=2xh_{ef}$. If fire attack from more than one side $C_{min} \geq 300$ mm



Characteristic shear resistance in non-cracked C20/25 to C50/60 under fire exposure							
R30 min	$V_{rk,s,fi,30}$	Shear load without lever arm- fire duration = 30 min	[kN]	0,2	0,4	0,9	1,7
	$M^0_{rk,s,fi,30}$	Shear load with lever arm- fire duration = 30 min	[kN]	0,2	0,4	1,1	2,6
R60 min	$V_{rk,s,fi,60}$	Shear load without lever arm -fire duration = 60 min	[kN]	0,2	0,3	0,8	1,3
	$M^0_{rk,s,fi,60}$	Shear load with lever arm - fire duration = 60 min	[kN]	0,1	0,3	1,0	2,0
R90 min	$V_{rk,s,fi,90}$	Shear load without lever arm- fire duration = 90 min	[kN]	0,1	0,3	0,6	1,1
	$M^0_{rk,s,fi,90}$	Shear load with lever arm -fire duration = 90 min	[kN]	0,1	0,3	0,7	1,7
R120 min	$V_{rk,s,fi,120}$	Shear load without lever arm- fire duration = 120 min	[kN]	0,1	0,2	0,5	0,8
	$M^0_{rk,s,fi,120}$	Shear load with lever arm -fire duration = 120 min	[kN]	0,1	0,2	0,6	1,3
Concrete pryout failure							
	k	Factor in equation (5.6) of ETAG 001 Annex C, 5.2.3.3	[-]	1,0	2,0	2,0	2,0
R30 min	$V^0_{RK,cp,fi}$	Characteristic resistance	[kN]	1,8	6,4	10,0	20,6
R60 min				1,8	6,4	10,0	20,6
R90 min				1,8	6,4	10,0	20,6
R120 min				1,5	5,1	8,0	16,5
Concrete edge failure							
The initial value $V^0_{RK,c,fi}$ of the characteristic resistance in concrete C20/25 to C50/60 under fire exposure may be determined by: $V^0_{RK,c,fi} = 0,25 \times V^0_{RK,c}$ ($\leq R90$) $V^0_{RK,c,fi} = 0,20 \times V^0_{RK,c}$ (R120) with $V^0_{RK,c}$ initial value of the characteristic resistance in cracked concrete C20/25 under normal temperature.							
In absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi} = 1,0$ is recommended.							

Les performances du produit identifié aux points 1 et 2 sont conformes aux performances déclarées. Cette déclaration des performances est émise sous la seule responsabilité de pgb-Europe nv. Signé pour et au nom du fabricant par:

Date et lieu de délivrance	Signature
Melle, 18/08/2014	nv pgb-Europe sa Gontrode Heirweg 170 9090 MELLE BE 0425 888 396 

Annex 1 : Product overview




4 shield expansion anchor "PFG"




4 shield expansion anchor "PFG"



CARTON BOX PACKING

size	pgb code	EAN13		
M 6x80	SM00T308050 Z	5902134717739	50	
M 6x80	SM00T308070 Z	5902134717746	50	
M 8x83	SM00T308070 Z	5902134717753	50	
M 8x93	SM00T308080 Z	5902134717760	50	
M 8x103	SM00T308090 Z	5902134717777	50	
M 10x86	SM00T310070 Z	5902134717784	25	
M 10x106	SM00T310090 Z	5902134717791	25	
M 10x126	SM00T310110 Z	5902134717807	25	
M 10x156	SM00T310140 Z	5902134717814	25	
M 12x115	SM00T312090 Z	5902134717821	25	
M 12x145	SM00T312120 Z	5902134717838	25	
M 12x165	SM00T312140 Z	5902134717845	10	

WINDOW BOX PACKING

size	pgb code	EAN13		
M 6x80	SM00TE08050 Z	5902134719320	25	
M 6x80	SM00TE08070 Z	5902134719337	25	
M 8x83	SM00TE08070 Z	5902134719344	25	
M 8x93	SM00TE08080 Z	5902134719351	25	
M 8x103	SM00TE08090 Z	5902134719368	25	
M 10x86	SM00TE10070 Z	5902134719375	15	
M 10x106	SM00TE10090 Z	5902134719382	15	
M 10x126	SM00TE10110 Z	5902134719399	15	
M 10x156	SM00TE10140 Z	5902134719405	15	
M 12x115	SM00TE12090 Z	5902134719412	10	
M 12x145	SM00TE12120 Z	5902134719429	10	
M 12x165	SM00TE12140 Z	5902134719436	5	