

## Declaration of Performance

No. **DPGEB1004** v.2

1. Unique identification code of the product-type: **SITA Acciaio CE7 GBK**

2. Intended uses:

Intended use of the construction product according to ETA-17/0237	
Anchorage subject to:	Static and quasi-static loads
Base materials:	Non-cracked, reinforced or unreinforced normal weight concrete, strength class C20/25 to C50/60 according to EN 206
Environmental conditions:	Structures subject to dry internal conditions
Reaction to fire:	Anchorage satisfy requirements for Class A1
Installation:	Perforation by hammer drilling Installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters on job site

3. Manufacturer: **G&B Fissaggi S.r.l.** C.so Savona 22, Villastellone (TO), Italia

5. System of AVCP: 1

6b.

European Assessment Document: "Mechanical fasteners for use in concrete" EAD 330232-00-0601

European Technical Assessment: ETA-17/0237

Technical Assessment Body: Instytut Techniki Budowlanej

Notified body: 1488 INSTYTUT TECHNIKI BUDOWLANEJ (ITB)

7. Declared performances:

**Declared performances according to EAD 330232-00-0601, ETA-17/0237** (Design method Technical Report TR 055)

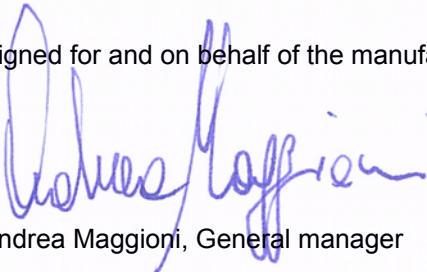
Thread diameter			M8	M10	M12	M16	M20
<b>Essential Characteristics</b>			<b>Performance</b>				
<i>Installation parameters, standard embedment depth</i>							
$d_0$	Nominal diameter of drill bit	[mm]	8	10	12	16	20
$d_f$	Diameter of clearance hole in the fixture	[mm]	9	12	14	18	22
$h_{ef}$	Effective anchorage depth	[mm]	45	50	60	85	100
$h_{nom}$	Minimum installation depth	[mm]	50	55	70	100	115
$h_1$	Minimum hole depth	[mm]	60	65	80	110	125
$h_{min}$	Minimum thickness of the concrete member	[mm]	100	100	120	170	200
$s_{min}$	Minimum spacing	[mm]	61	68	81	115	135
$c_{min}$	Minimum edge distance	[mm]	61	68	81	115	135
$T_{inst}$	Installation torque	[Nm]	20	35	55	100	150
<i>Tension steel failure mode</i>							
$N_{Rk,s}$	Characteristic tension resistance of steel	[kN]	18.3	29.0	42.2	78.5	117.6
$E_s$	Modulus of elasticity	[N/mm <sup>2</sup> ]	210 000				
$\gamma_{Ms}$	Partial safety factor	[-]	1.50				

Thread diameter			M8	M10	M12	M16	M20
<b>Essential Characteristics</b>			<b>Performance</b>				
<i>Pull-out failure mode</i>							
$N_{Rk,p}$	Tension characteristic resistance in non-cracked concrete C20/25	[kN]	9	12	16	16	30
$\gamma_2 = \gamma_{inst}$	Installation safety factor	[-]	1.2				1,0
$\psi_{c,C30/37}$	Increasing factor for concrete C30/37	[-]	1.22				
$\psi_{c,C40/50}$	Increasing factor for concrete C40/50	[-]	1.41				
$\psi_{c,C50/60}$	Increasing factor for concrete C50/60	[-]	1.55				
<i>Concrete cone failure mode</i>							
$k_1 = k_{ucr}$	Factor for non-cracked concrete, design according to ETAG 001 Annex C or CEN/TS 1992-4-4:2009	[-]	10.1				
$k_1 = k_{ucr,N}$	Factor for non-cracked concrete, design according to FprEN 1992-4:2016	[-]	11.0				
$s_{cr,N}$	Critical spacing	[mm]	135	150	180	255	300
$c_{cr,N}$	Critical edge distance	[mm]	68	75	90	128	150
$\gamma_2 = \gamma_{inst}$	Installation safety factor	[-]	1.2				1.0
<i>Splitting failure mode</i>							
$N_{Rk,c}^0 = N_{Rk}^0 = N_{Rk,sp}^0$	Characteristic resistance for splitting	[kN]	9	12	16	16	30
$s_{cr,sp}$	Critical spacing	[mm]	225	250	300	425	500
$c_{cr,sp}$	Critical edge distance	[mm]	113	125	150	213	250
$\gamma_2 = \gamma_{inst}$	Installation safety factor	[-]	1.2				1.0
<i>Displacement under tension load</i>							
N	Service tension load	[kN]	3.8	5.0	8.7	9.8	14.4
$\delta_{N0}$	Short term displacement under tension load	[mm]	0.8	1.9	3.7	3.7	3.7
$\delta_{N\infty}$	Long term displacement under tension load	[mm]	1.2	1.2	1.2	1.2	1.2
<i>Shear steel failure mode without lever arm</i>							
$V_{Rk,s} = V_{Rk,s}^0$	Characteristic shear resistance of steel	[kN]	9.2	14.5	21.1	39.3	58.8
$k = k_2 = k_7$	Ductility factor	[-]	0.8				
$\gamma_{Ms}$	Partial safety factor	[-]	1.25				
<i>Shear steel failure mode with lever arm</i>							
$M_{Rk,s}^0$	Characteristic bending resistance of steel	[Nm]	18.8	37.4	65.6	166.6	311.8
$\gamma_{Ms}$	Partial safety factor	[-]	1.25				
<i>Concrete pry-out failure mode</i>							
$k = k_3 = k_8$	Concrete pry-out failure factor	[-]	1.0		2.0		
$\gamma_{Mc}$	Partial safety factor	[-]	1.5				
<i>Concrete edge failure mode</i>							
$l_{ef}$	Effective length of anchor under shear loading	[mm]	45	50	60	85	100
$d_{nom}$	Outside diameter of anchor	[mm]	8	10	12	16	20
$\gamma_{Mc}$	Partial safety factor	[-]	1.5				

Thread diameter			M8	M10	M12	M16	M20
Essential Characteristics			Performance				
<i>Displacement under shear load</i>							
V	Service shear load	[kN]	2.7	6.2	8.3	13.7	25.1
$\delta_{V0}$	Short term displacement under shear load	[mm]	0.5	0.9	0.9	0.9	1.9
$\delta_{V\infty}$	Long term displacement under shear load	[mm]	0.7	1.3	1.3	1.3	2.8

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:



Andrea Maggioni, General manager

Villastellone, 9 June 2017



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