

SM0NA001



- *Unique identification code of the product-type:*
SMART S-NA
- *Type or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):*
See annex 1 to this document
- *Intended uses of the construction product, in accordance with the applicable harmonized technical specification as foreseen by the manufacturer:*




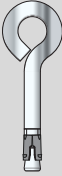




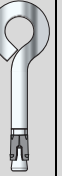

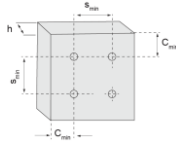
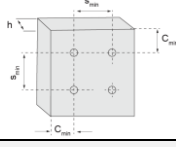
Intended use or uses of the construction product according to ETAG 001	
Generic type	Hammer nail anchor for use in concrete
Base material	<ul style="list-style-type: none"> • reinforced or unreinforced normal weight concrete according to EN 206-1:2000 • strength classes C12/15 to C50/60 according to EN 206-1:2000 • cracked and non-cracked concrete
Material:	<ul style="list-style-type: none"> • Carbon steel, zinc plated : ISO 4042 A2K $\geq 5\mu\text{m}$ • Stainless steel A4 • Stainless steel HCR
Durability	<ul style="list-style-type: none"> • Internal dry conditions : all type of anchors • Structural subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal condition no particular aggressive conditions exists: anchor types made of stainless steel with marking A4, • Structural subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal condition if particular aggressive conditions exists: anchor types made of stainless steel with marking HCR
Loading	static and quasi-static loads
Fire Resistance	F120
Assumed working life	50 years

- *Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11 (5):*
pgb-Polska sp. Z o.o. – Ul. Jondy 5 – 44-100 Gliwice – Polska
- *System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:*
System 2+
- *In case of the declaration of performance concerning a construction product for which European Technical Assessment has been issued:*

ETA - 16/0488 issued by	DIBt - Deutsches Institut für Bautechnik
On the basis of	ETAG 001-part 6 (design method C)
Under System	2+
And issued	1343-CPR-M 566-1

DECLARATION OF PERFORMANCE

- Declared performance – Essential characteristics – Performances

SMART S-NA ANCHOR TYPE				N-K	N 6	N 8	N-O	N-M	N-K	N 6	N 8	N-O	N-M			
																
hef Effective anchorage depth [mm]				25 ¹⁾					30							
Installation parameters (ETAG001)																
		d0	Nominal diameter of drill bit	[mm]	6					6						
		h1	Depth of drilled hole	[mm]	35					40						
		df	Fixture clearance hole diameter	[mm]	7		9		7		7		9		7	
		Tinst	Max. installation torque	[Nm]	-		4		4		-		-		-	
		hmin	Min. thickness of concrete member	[mm]	80					80						
Characteristic resistance for a fixing point ² (all load directions)																
Optimized for maximum load																
C12/15		FRk	Characteristic resistance	[kN]	3,0	3,0	3,0	1,5	3,0 ³⁾	4,0	4,0	4,0	1,5	4,0 ³⁾		
C20/25 to C50/60					4,5	4,5	4,5	1,5	4,5 ³⁾	5,9	5,9	5,9	1,5	5,9 ³⁾		
		Scr	Respective spacing between fixing points ⁴⁾	[mm]	100					100						
					for Ccr	200					200					
		Ccr	Respective edge distance ⁴⁾	[mm]	100					100						
					for Scr	200					200					
Optimized for minimum edge distance																
C12/15		FRk	Characteristic resistance	[kN]	1,5	1,5	1,5	1,5	1,5 ³⁾	2,0	2,0	2,0	1,5	2,0 ³⁾		
C20/25 to C50/60					2,0	2,0	2,0	1,5	2,0 ³⁾	2,5	2,5	2,5	1,5	2,5 ³⁾		
		Scr	Respective spacing between fixing points	[mm]	50					50						
					for Ccr	100					100					
Shear load with lever arm																
Zinc plated steel		M ⁰ _{Rk,s}	Characteristic resistance	[Nm]	12,7	9,2	12,7	⁵⁾	12,7	12,7	9,2	12,7	⁵⁾	12,7		
Stainless steel A4/HCR					13,5	9,2	13,5	⁵⁾	13,5	13,5	9,2	13,5	⁵⁾	13,5		

¹ For internal use only

² A fixing point is defined as:

- Single anchor,
- Double anchor group with a minimum spacing s of $50 \text{ mm} \leq s < s_{cr}$ or
- Quadruple anchor group with a minimum spacing s of $50 \text{ mm} \leq s < s_{cr}$


³ If the spacing in a fixing point is greater than or equal to the respective spacing in this table, the characteristic resistances apply to every single anchor.

⁴ When applying a shear load to anchor version N-M, shear load with lever arm must be proven.

⁵ Intermediate values can be linearly interpolated.

⁵ Proof against failure due to shear load with lever arm is not required.

DECLARATION OF PERFORMANCE

Characteristic resistance for a fixing point in concrete C20/25 to C50/60 under fire exposure														
SMART S-NA				ANCHOR TYPE										
				N-K	N 6	N 8	N-O	N-M 6)	N-K	N 6	N 8	N-O	N-M 6)	
				25					30					
h _{ef}				Effective anchorage depth				[mm]						
Load in any direction														
R30	F _{Rk,fi}	Characteristic resistance for zinc plated steel	[kN]	0,6	0,6	0,6	0,2	0,6	0,9	0,9	0,9	-	0,8	
R60				0,6	0,6	0,6	0,2	0,6	0,8	0,7	0,7	-	0,7	
R90				0,6	0,5	0,5	0,1	0,6	0,6	0,5	0,5	-	0,6	
R120				0,5	0,4	0,4	0,1	0,5	0,5	0,4	0,4	-	0,6	
R30	F _{Rk,fi}	Characteristic resistance for stainless steel A4/HCR	[kN]	0,6	0,6	0,6	0,2	0,6	0,9	0,9	0,9	0,2	0,8	
R60				0,6	0,6	0,6	0,2	0,6	0,9	0,9	0,9	0,1	0,7	
R90				0,6	0,5	0,5	0,1	0,6	0,9	0,9	0,9	0,1	0,6	
R120				0,5	0,4	0,4	0,1	0,5	0,7	0,7	0,7	0,1	0,6	
R30-120	C _{er,fi}	Edge distance	[mm]	50					50					
	S _{er,fi}	Spacing	[mm]	100					100					
Shear load with lever arm														
R30	M ⁰ _{Rk,fi}	Characteristic resistance for zinc plated steel	[Nm]	1,0	0,7	0,7	7)	0,7	1,0	0,7	0,7	-	0,7	
R60				0,8	0,5	0,5	7)	0,7	0,8	0,5	0,5	-	0,7	
R90				0,5	0,4	0,4	7)	0,6	0,5	0,4	0,4	-	0,6	
R120				0,4	0,3	0,3	7)	0,5	0,4	0,3	0,3	-	0,5	
R30	M ⁰ _{Rk,fi}	Characteristic resistance for stainless steel A4/HCR	[Nm]	2,1	1,4	1,4	7)	0,7	2,1	1,4	1,4	7)	0,7	
R60				1,5	1,1	1,1	7)	0,7	1,5	1,1	1,1	7)	0,7	
R90				1,0	0,7	0,7	7)	0,6	1,0	0,7	0,7	7)	0,6	
R120				0,7	0,5	0,5	7)	0,5	0,7	0,5	0,5	7)	0,5	

If the fire attack is from more than one side, the edge distance shall be ≥ 300 mm.

- 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 pgb-Europe nv. Signed for and behalf of the manufacturer by:

Place and date of issue	Signature
Melle, 30/08/2016	Johannes Heye, product manager 


⁶ Only in connection with threaded rods M8, M10 or M12 minimum strength class 5.8. When applying shear load to this anchor version, shear load with lever arm must be proven.

⁷ Proof against failure due to shear load with lever arm is not required.

Annex 1 : Product overview



Carton box packing - Kartonverpakking - Boîte carton

size	pgb code	EAN13	
6x30	SM0NA306040 Z	5902134199375	200
8x35	SM0NA308045 Z	5902134199382	200
10x40	SM0NA306050 Z	5902134199399	200
12x45	SM0NA308055 Z	5902134199405	200
8x35	SM0NA306070 Z	5902134199412	200
10x40	SM0NA308090 Z	5902134199429	100

Other sizes and stainless steel A4 and HCR available upon request.