



DECLARATION OF PERFORMANCE
According to Construction Product Regulation n° 305/2011

DoP N°09/0140

1. Unique identification code of the product-type:

BCR V PLUS

2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):

CODE	ITEM	BARCODE
747286	BCR 825 V PLUS	8034013853447
747280	BCR 400 V PLUS	8034013850002
747274	BCR 400 V PLUS WINTER	8057288742704
747276	BCR 400 V PLUS TROPICAL	8057288742711
747270	BCR 345 V PLUS	8034013850019
747260	BCR 300 V PLUS	8034013850026
747250	BCR 165 V PLUS	8034013850033

3. Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:

Generic type and use	Bonded anchor for anchorage of threaded rod.					
Size covered	M8	M10	M12	M16	M20	M24
hef [mm]	min	60	70	80	100	145
	max	160	200	240	320	480
Base material and strength class	Reinforced or unreinforced normal weight concrete of strength class C20/25 at minimum to C50/60 at maximum according to EN 206-1.					
Base material condition	Non-cracked concrete from M8 to M24, Cracked concrete from M10 to M20					
Anchor metal material and corresponding environmental exposure	Threaded rods: a) Carbon galvanized steel class from 4.8 to 12.9 according to EN ISO 898-1 for dry internal conditions. b) Stainless steel A4-70 and A4-80 according to EN ISO 3506 for dry internal conditions, external atmospheric exposure (including industrial and marine environment) or exposure in permanently damp internal conditions if no particular aggressive conditions exist. High resistant corrosion stainless steel class 70 according to EN ISO 3506 for all conditions.					
	Nuts and washers: Corresponding to anchor rod material above mentioned for the different environmental exposures.					
Type of loading	Static or quasi-static loading.					
Service temperature range	a) -40°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C), b) -40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C), c) -40°C to +120°C (max. short term temperature +120°C and max. long term temperature +72°C).					
Use category	Category 1 and 2: dry and wet concrete and flooded hole. Overhead installation is allowed. Perforation with hammer drilling machine.					

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):

Bossong S.p.A. - via Enrico Fermi 49/51 - 24050 Grassobbio (Bg) – Italy – www.bossong.com

5. Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12(2):

Not applicable

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:

System 1

7. In case of the declaration of performance concerning a construction product covered by a harmonized standard:

Not applicable

8. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:

ITB issued ETA-09/0140 on the basis of ETAG 001 part 5.

ITB (n°1488) performed:

the determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product; the initial inspection of the factory and of the factory production control; the continuous surveillance; assessment and approval of the factory production control; under system 1 and issue the certificate of conformity n° 1488-CPR-0119/W.

9. Declared performance:

HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 5

ESSENTIAL CHARACTERISTICS		PERFORMANCE ACCORDING TO ETA-09/0140					
Installation parameters		M8	M10	M12	M16	M20	M24
d [mm]		8	10	12	16	20	24
d ₀ [mm]		10	12	14	18	24	28
d _{fix} [mm]		9	12	14	18	22	26
h ₁ [mm]		h _{ef} + 5 mm					
h _{min} [mm]		MAX { h _{ef} + 30 mm; ≥ 100 mm; h _{ef} + 2d ₀ }					
T _{inst} [Nm]		10	20	40	80	130	200
t _{fix} [mm]		10	20	30	40	50	55
S _{min e C_{min}} [mm]	h _{ef,min}	40	40	40	50	60	75
S _{min e C_{min}} [mm]	h _{ef,med}	40	45	55	70	90	110
S _{min e C_{min}} [mm]	h _{ef,max}	50	60	75	95	120	145
γ ₂ [-] Category 1		1,00					
γ ₂ [-] Category 2		1,20					
Resistance for tensile load							
Resistance for combined pullout and concrete cone failure		M8	M10	M12	M16	M20	M24
τ _{Rk,ucr} [N/mm ²] concrete C20/25		16,0	12,0	12,0	12,0	9,5	9,5
Temperature range -40°C/+40°C (T _{mip} = 24°C)							
τ _{Rk,ucr} [N/mm ²] concrete C20/25		11,0	8,5	8,5	8,5	7,0	7,0
Temperature range -40°C/+80°C (T _{mip} = 50°C)							
τ _{Rk,ucr} [N/mm ²] concrete C20/25		6,0	4,5	4,5	4,5	4,0	4,0
Temperature range -40°C/+120°C (T _{mip} = 72°C)							
τ _{Rk,cr} [N/mm ²] cracked concrete C20/25		-	9,0	9,0	9,0	6,5	-
Temperature range -40°C/+40°C (T _{mip} = 24°C)							
τ _{Rk,cr} [N/mm ²] cracked concrete C20/25		-	6,5	6,5	6,5	4,5	-
Temperature range -40°C/+80°C (T _{mip} = 50°C)							
τ _{Rk,cr} [N/mm ²] cracked concrete C20/25		-	3,5	3,5	3,5	2,5	-
Temperature range -40°C/+120°C (T _{mip} = 72°C)							
ψ _{C,uc/ucr} C30/37 [-]		1,12					
ψ _{C,uc/ucr} C40/50 [-]		1,23					
ψ _{C,uc/ucr} C50/60 [-]		1,30					

HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 5

ESSENTIAL CHARACTERISTICS		PERFORMANCE ACCORDING TO ETA-09/0140					
Resistance for tensile load Resistance for splitting failure		M8	M10	M12	M16	M20	M24
C _{cr,sp} [mm]	se h = h _{min}	2,5 h _{ef}		2,0 h _{ef}		1,5 h _{ef}	
	se h _{min} ≤ h < 2 h _{ef}	Interpolated value					
	se h ≥ 2 h _{ef}	C _{cr,Np}					
S _{cr,sp} [mm]		2,0 C _{cr,sp}					
Resistance for shear load Resistance for concrete pry-out failure		M8	M10	M12	M16	M20	M24
k [-]		2,0					
Displacement under service load Tensile load		M8	M10	M12	M16	M20	M24
F _{unc} [kN] for concrete from C20/25 to C50/60		9,6	10,8	14,3	23,8	29,6	42,4
δ _{0,unc} [mm]		0,30	0,30	0,35	0,35	0,35	0,40
δ _{∞,unc} [mm]		0,85					
F _{cr} [kN] for concrete from C20/25 to C50/60		-	9,5	14,3	21,4	23,8	-
δ _{0,cr} [mm]		-	0,50	0,50	0,70	0,60	-
δ _{∞,cr} [mm]		0,85					
Displacement under service load Shear load		M8	M10	M12	M16	M20	M24
F _{unc/cr} [kN] for concrete from C20/25 to C50/60		3,7	5,8	8,4	15,7	24,5	35,3
δ _{0,unc/cr} [mm]		2,00					
δ _{∞,unc/cr} [mm]		3,00					

HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 1 PARAGRAPH 5.2.1

ESSENTIAL CHARACTERISTICS	PERFORMANCE
Reaction to fire	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.

HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 1 PARAGRAPH 5.2.2 AND TECHNICAL REPORT TR020

ESSENTIAL CHARACTERISTICS	PERFORMANCE
Resistance to fire	NPD

HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 1 ANNEX E

ESSENTIAL CHARACTERISTICS	PERFORMANCE
Qualification for seismic load	NPD

TERMINOLOGY AND SYMBOLS	
d	Diameter of anchor bolt or thread diameter
d ₀	Drill hole diameter
d _{fix}	Diameter of clearance hole in the fixture
h _{ef}	Effective anchorage depth
h ₁	Depth of the drilling hole
h _{min}	Minimum thickness of concrete member
T _{inst}	Torque moment to installation
t _{fix}	Thickness to be fixed
S _{min}	Minimum allowable spacing
C _{min}	Minimum allowable edge distance
N _{Rk}	Characteristic tensile resistance for combined pull-out and concrete cone failure for single anchor
γ ₂	Partial safety factors for installation
S _{cr,Np}	Spacing for ensuring the transmission of the characteristic resistance of a single anchor without spacing and edge effects in case of pullout failure
C _{cr,Np}	Edge distance for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of pullout failure
S _{cr,N}	Spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of concrete cone failure
C _{cr,N}	Edge distance for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of concrete cone failure
S _{cr,sp}	Spacing for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of splitting failure
C _{cr,sp}	Edge distance for ensuring the transmission of the characteristic tensile resistance of a single anchor without spacing and edge effects in case of splitting failure
ψ _{c,ucr}	Increasing factor for un-cracked concrete
ψ _{c,cr}	Increasing factor for cracked concrete
k	Factor for concrete edge failure
F	Service load in un-cracked (ucr) or cracked concrete (cr)
δ ₀	Short term displacement under service load in un-cracked (ucr) or cracked concrete (cr)
δ _∞	Long term displacement under service load in un-cracked (ucr) or cracked concrete (cr)
NPD	No declared performance

Regolamento REACH n°1907/2006

Estimate customer,

We inform you that in the REACH supply chain our company is classified as DU: Downstream-user.

About the product detailed in the point 1 we confirm you that we don't use in our production substances classified as SVHC according to the Candidate List published on ECHA site web:

http://echa.europa.eu/chem_data/candidate_list_table_en.asp

You can require the safety data sheet of the product to our technical department: tek@bossong.com or you can download the document from our web site www.bossong.com.

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4. Signed for and on behalf of the manufacturer by:

Name and function	Place and date of issue	Signature
Andrea Taddei General Manager	Grassobbio (Bg) - Italy 12.01.2015	

Note: this DoP replace the previous version dated 18.02.2014.