sistemi di fissaggio
BOSSONG®
BOSSONG S.p.A. Via Enrico Fermi, 51 (Z.I.2) - 24050 GRASSOBBIO (Bergamo) Italy
Tel +39 035 3846 011 - Fax +39 035 3846 012 - www.bossong.com - info@bossong.com
FASTENING SYSTEMS SYSTEMES DE FIXATION BEFESTIGUNGSSYSTEME SISTEMAS DE FIJACIÒN

CE

DECLARATION OF PERFORMANCE
In accordance with Construction Products Regulation No. 305/2011

DoP N°22/0468

Unique identification code of the product-type:

BCR E-PLUS

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

BCR + contenuto in ml + E-PLUS. Esempio BCR 585 E-PLUS

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		Chemical anchor for post-installed connections of rebars										
Size covered		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø22	Ø24 a Ø26	Ø28	Ø30	Ø32
lv [mm]	**min**	according to EN 1992-1-1 and EAD330087-01-0601										
	max	250*-700	250*-900	250*-1100	1300	1400	1800	2000	2200	2500	2500	2500
		* Valid lengths for drilling with reduced diameter										
Base material and strength class		Normal weight concrete of a minimum grade C12/15 and maximum grade C50/60 according to EN 206-1.										
Base material condition		Cracked and non-cracked concrete.										
Anchor metal material and corresponding environmental exposure		Straight reinforced bars category B or C according to Annex C of EN 199-1-1 table C1 and C2N. Exposure category from X0 to XA according to EN 206-1.										
Type of loading		Static or quasi static load, seismic and fire resistance										
Service temperature range		-40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C).										
Use category		Dry and wet concrete, not flooded hole. Non-carbonated concrete with the allowable chloride content of 0,40% (Cl 0,40) related to the cement content according to EN 206-1. Overhead installation is allowed. Perforation with hammer drilling machine, hollow drill bit and diamond 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):

Non applicabile

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

System 1

Cap.Soc. € 520.000
S.V. € 260.000
P.IVA IT 00227840162
R.E.A. BG n.98000
Iscr.Reg.Impr. BG n. 00227840162

BPU – Banca Popolare di Bergamo
Agenzia di Longuelo Via Mattioli, 69
ABI 5428 CAB 11103 C/C 220
IBAN:
IT70 C054 2811 1030 0000 0000 220

Deutsche Bank S.p.A.
Sede Bergamo Via Camozzi,82
ABI 3104 CAB 11100 C/C13030
IBAN:
IT 76 J 03104 11100 000000013030

ASSOCIATO MEMBER OF ECAP assorestauro

Numero Verde 800121962

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:
ETA-DENMARK issued ETA-22/0468 on basis of EAD 330087-01-0601. TZUS (n°1020) 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° 1020-CPR -090-056636.

9. . Declared performance:

HARMONIZED TECHNICAL SPECIFICATION: EAD330087-01-0601											
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-22/0468**										
Installation parameters	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø22**	**Ø24 a Ø26**	**Ø28**	**Ø30**	**Ø32**
Ø [mm]	8	10	12	14	16	20	22	24 a 26	28	30	32
d_0 [mm]	10**-12	12**-14	14**-16	18	20	25	26	30-32	35	35-37	40
a [mm]	40 mm ≥ 4·Ø										
C_{min} [mm]	30 + 0,06 lv ≥ 2·Ø per Ø<25 mm 40 + 0,06 lv ≥ 2·Ø per Ø≥25 mm (the minimum concrete cover according to EN 1992-1-1 must be observed)										
Setting depth	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø22**	**Ø24 a Ø26**	**Ø28**	**Ø30**	**Ø32**
$l_{b,min}$ [mm] under tensile	max {0,3 · $l_{b,rqd}$; 10 Ø; 100 mm}										
$l_{b,min}$ [mm] under compression	max {0,6 · $l_{b,rqd}$; 10 Ø; 100 mm}										
$l_{0,min}$ [mm]	max {0,3 α_6 $l_{b,rqd}$; 15 Ø; 200 mm}										
$l_{b,rqd}$ [mm]	according to EN 1992-1-1 point 8.4.3										
Amplification factor for concrete class C12/15 a C50/60 – All drilling method for 50 and 100 years	**Ø8**	**Ø10**	**Ø12**	**Ø14**	**Ø16**	**Ø20**	**Ø22**	**Ø24 a Ø26**	**Ø28**	**Ø30**	**Ø32**
α_{lb}	1,0										

Efficiency factor k_b for hammer drilling for 50 and 100 years	**C12/15**	**C16/20**	**C20/25**	**C25/30**	**C30/37**	**C35/45**	**C40/50**	**C45/55**	**C50/60**
from Ø8 to Ø30	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Ø32	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,93
*** Design bond strength $f_{bd,PIR}$ according to EN 1992-1-1 [N/mm2] for hammer drilling for 50 and 100 years**	**C12/15**	**C16/20**	**C20/25**	**C25/30**	**C30/37**	**C35/45**	**C40/50**	**C45/55**	**C50/60**
from Ø8 to Ø30	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,30
Ø32	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,00

* Values valid only for good bond condition according to EN 1992-1-1. For other bond conditions multiply the values for 0,7
** Valid for drilling with reduced diameter.

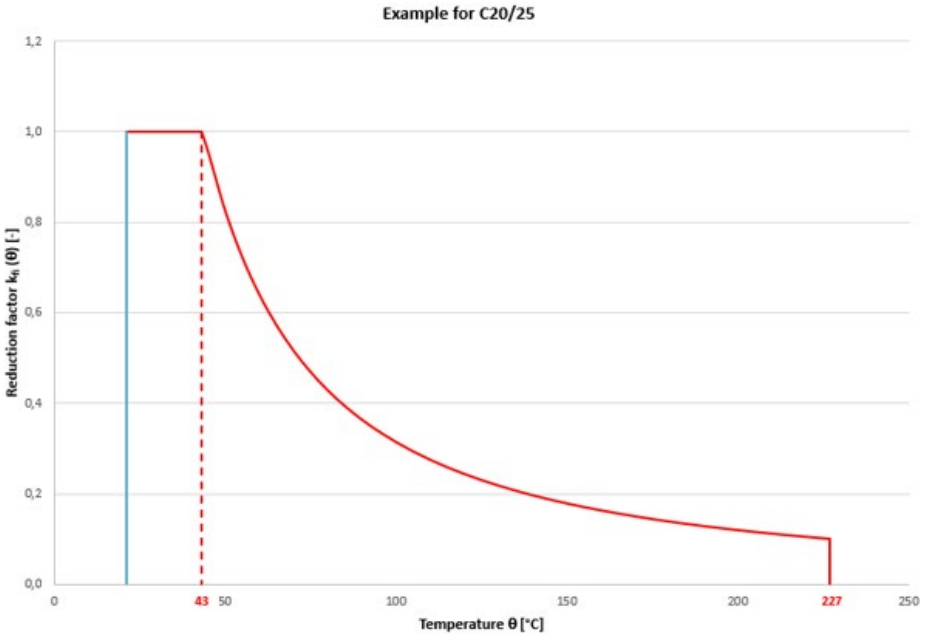
HARMONIZED TECHNICAL SPECIFICATION: EAD330087-01-0601									
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-22/0468**								
Efficiency factor k_b for diamond drilling for 50 and 100 years	**C12/15**	**C16/20**	**C20/25**	**C25/30**	**C30/37**	**C35/45**	**C40/50**	**C45/55**	**C50/60**
from Ø8 to Ø26	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Ø28	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,92	0,86
Ø30	1,00	1,00	1,00	1,00	1,00	1,00	0,91	0,84	0,79
Ø32	1,00	1,00	1,00	1,00	1,00	0,90	0,82	0,76	0,71
***Design bond strength $f_{bd,PIR}$ according to EN 1992-1-1 [N/mm2] for diamond drilling for 50 and 100 years**	**C12/15**	**C16/20**	**C20/25**	**C25/30**	**C30/37**	**C35/45**	**C40/50**	**C45/55**	**C50/60**
from Ø8 to Ø26	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,30
Ø28	1,60	2,00	2,30	2,70	3,00	3,40	3,70	3,70	3,70
Ø30	1,60	2,00	2,30	2,70	3,00	3,40	3,40	3,40	3,40
Ø32	1,60	2,00	2,30	2,70	3,00	3,00	3,00	3,00	3,00

* Values valid only for good bond condition according to EN 1992-1-1. For other bond conditions multiply the values for 0,7

HARMONIZED TECHNICAL SPECIFICATION: EAD 330087-01-0601– SEISMIC CONDITION								
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-22/0468**							
Efficiency factor $k_{b,seis}$ for hammer drilling for 50 and 100 years	**C16/20**	**C20/25**	**C25/30**	**C30/37**	**C35/45**	**C40/50**	**C45/55**	**C50/60**
from Ø12 to Ø30	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Ø32	1,00	1,00	1,00	1,00	1,00	1,00	1,00	0,93
***Design bond strength $f_{bd,PIR,seis}$ according to EN 1992-1-1 [N/mm2] for hammer drilling for 50 and 100 years**	**C16/20**	**C20/25**	**C25/30**	**C30/37**	**C35/45**	**C40/50**	**C45/55**	**C50/60**
from Ø12 to Ø30	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,30
Ø32	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,00

* Values valid only for good bond condition according to EN 1992-1-1. For other bond conditions multiply the values for 0,7

HARMONIZED TECHNICAL SPECIFICATION: EAD 330087-01-0601	
ESSENTIAL CHARACTERISTICS	**PERFORMANCE**
Fire reaction	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: EAD 330087-01-0601 – FIRE RESISTANCE	
ESSENTIAL CHARACTERISTICS	**PERFORMANCE ACCORDING TO ETA-22/0468**
Reduction factor under fire exposure $k_{fi(\theta)}$ for 50 and 100 years	Per 21°C ≤ θ ≤ 227°C $k_{fi}(\theta) = \frac{1887{,}34 \cdot \theta^{-1{,}392}}{f_{bd,PIR} \cdot 4{,}3} \leq 1{,}0$ Per θ > 227°C $k_{fi}(\theta) = 0$ 
Values of the design adhesion $f_{bd,fi}$ for exposure to fire for 50 and 100 years	$fbd, fi(\theta) = kfi(\theta) \cdot fbd, PIR \cdot \frac{\gamma_c}{\gamma M, fi}$

TERMINOLOGY AND SYMBOLS	
Ø	Nominal diameter of the reinforced bar
d_0	Drill hole diameter
lv	Setting depth
a	Minimum clear spacing between two post-installed rebar
C_{min}	Minimum concrete cover
$l_{b,min}$	Minimum anchorage length
$l_{0,min}$	Minimum overlap joint length
$l_{b,rqd}$	Required basic anchorage length
α_{lb}	Amplification factor
k_b	Efficiency factor
γ_c	Safety installation coefficient
$\gamma_{M,fi}$	Safety installation coefficient for exceptional actions
$f_{bd,PIR}$	Design values of bond adhesion
$f_{bd,PIR,seis}$	Design values of seismic bond adhesion.
θ	Temperature
$k_{fi}(\theta)$	Reduction factor under fire exposure
$f_{bd,fi}$	Design value of the ultimate bond stress in case of fire

Regulamentation 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.

---

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** **10.10.2022**