

	DECLARATION OF PERFORMANCE According to Construction Product Regulation n° 305/2011
	DoP N°24/0016


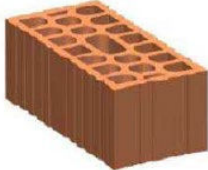



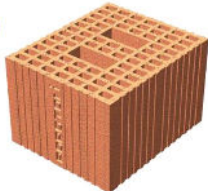


1. Unique identification code of the product-type:
BCR HYBRID

2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):
BCR + content in ml + HYBRID. Example BCR 400 HYBRID

3. Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:
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Generic type and use	Bonded anchor for anchorage of threaded rod and rebars.					
Size covered	M8 - ϕ 8	M10- ϕ 10	M12- ϕ 12	M16		
hef [mm]	Category b	80	85	95	105	
	Category c	80 with GC 12x80	85 with GC 15x85	135 with GC 15x135	85 with GC 20x85	-
	Category d	80	85	95	105	
GC = Plastic sleeve for hollow masonry						
Base material and strength class	Solid masonry (category b) Hollow masonry (category c) AAC blocks (category d) The resistance class of the masonry mortar must be at least M 2.5 in accordance with EN 998-2:2010.					
Anchor metal material and corresponding environmental exposure	Threaded rod: X1) Structures subject to dry internal conditions: elements made of galvanized steel (galvanized or hot galvanized) and stainless steel A2, A4 or high corrosion resistance steel (HCR). X2) Structures subject to external atmospheric exposure (including industrial and marine environment) and permanently wet internal conditions, if there are no particular aggressive conditions: Elements made of A4 stainless steel or high corrosion resistance steel (HCR). X3) Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently wet internal conditions, if other particular aggressive conditions exist. Such particularly aggressive conditions are eg. permanent immersion, alternating in sea water or in the sea water spray area, chloride atmosphere of swimming pools or indoor environments with chemical pollution (eg in desulphurisation plants or road tunnels where de-icing materials are used): Elements made of corrosion-resistant steel (HCR) Bars with improved adhesion class B or C according to EN 1992-1-1.					
Type of loading	Static or quasi-static loading					
Service temperature range	a) from -40°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C). b) from -40°C to +50°C (max. short term temperature +50°C and max. long term temperature +40°C).					
Use category	Category w/d and w/w: installation in wet substrate and use in structures subject to dry and wet conditions. Drilling with hammer drilling.					

Brick type

Brick n°	Brick name – Use category Density [kg/m ³] Dimension L x B x H [mm]	Brick picture
1	Mattone pieno (b) EN 771-1 Rosso classico $\rho=1560$ 120 x 250 x 55	
2	Mattone forato (c) EN 771-1 Mattone Doppio UNI $\rho=810$ 240 x 120 x 120	
3	Mattone forato (c) EN 771-1 Brique creuse RC 40 $\rho=600$ 555 x 195 x 275	
4	Mattone forato (c) EN 771-1 Porotherm 25 P+W $\rho=800$ 373 x 238 x 250	
5	Hollow brick (c) EN 771-1 Hlz B – 1.0 1NF 12-1 $\rho=900$ 115 x 240 x 71	
6	Hollow brick (c) EN 771-1 Poroton $\rho=900$ 300 x 245 x 230	
7	AAC2 (d) EN 771-4 Climagold $\rho=300$ 625 x 200 x 360	
8	AAC5 (d) EN 771-4 Blocco sismico $\rho=575$ 625 x 200 x 300	

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
 ETA-Denmark A/S issued ETA-24/0016 on the basis of 'EAD330076-01-0604.
 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-090-061864.

9. Declared performance:

HARMONIZED TECHNICAL SPECIFICATION: EAD330076-01-0604				
ESSENTIAL CHARACTERISTICS	PERFORMANCE ACCORDING TO ETA-24/0016			
Installation parameters	M8	M10	M12	M16
d [mm]	8	10	12	16
d ₀ [mm] category b e d (solid masonry - AAC)	10	12	14	18
d ₀ [mm] category c (hollow masonry)	12	16	20	-
Plastic sleeve for use in hollow masonry category c	GC 12x80	GC 15x85 GC 15x135	GC 20x85	-
d _{fix} [mm]	9	12	14	18
h ₁ [mm]	h _{ef} + 5 mm			
T _{inst} [Nm] category b (solid masonry)	5	8	10	10
T _{inst} [Nm] category c (hollow masonry)	3	4	6	-
T _{inst} [Nm] category d (block AAC)	2	2	2	2

Brick	Use conditions	Diameter	β factor
Brick n°1	d/d - w/d - w/w	M8 to M16 and φ8 to φ12	0,85
Brick n°2-3-4-5-6	d/d - w/d - w/w	M8+GC 12x80 M10+GC 15x85 M10+GC 15x135 M12+GC 20x85	0,85
Brick n° 7-8	d/d - w/d - w/w	M8 to M16	0,89

Mattone Rosso Classico

Brick Type	Mattone Rosso Classico	
Compressive resistance [N/mm ²]	≥ 21	
Brick dimension [mm]	≥ 250 x 120 x 55	
Drilling method	Hammer drilling	

Installation parameter

Diameter	Setting depth [mm]	Edge distance [mm]		Spacing [mm]	
		C _{min}	C _{cr}	S _{min}	S _{cr,I} = S _{cr,II}
M8	80	50	120	50	240
M10	85	50	128	50	255
M12	95	50	143	50	285
M16	105	60	158	60	315

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C			
		NR _k [kN]		VR _{k,b} [kN]	
		C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}	C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}
M8	80	2,00	2,00	4,50	5,50
M10	85	2,50	2,50	8,00	8,50
M12	95	3,00	3,50	11,00	11,50
M16	105	3,50	4,00	13,00	13,50

- 1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054
 2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054


Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]		δ _{No} [mm]		δ _{Vo} [mm]	
		F [kN]	δ _{No} [mm]	δ _{No∞} [mm]	F [kN]	δ _{Vo} [mm]	δ _{Vo∞} [mm]
M8	80	0,71	0,08	0,16	1,62	0,27	0,41
M10	85	0,97	0,10	0,20	2,50	0,30	0,45
M12	95	1,31	0,11	0,22	3,42	0,34	0,51
M16	105	1,48	0,13	0,26	3,87	0,35	0,53

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g II, N}	α _{g I, N}	α _{g II, V II}	α _{g I, V II}	α _{g II, V I}	α _{g I, V I}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone Rosso Classico

Brick Type	Mattone Rosso Classico	
Compressive resistance[N/mm ²]	≥ 21	
Brick dimension[mm]	≥ 250 x 120 x 55	
Drilling method	Hammer drilling	

Installation parameter

Diameter	Setting depth [mm]	Edge distance [mm]		Spacing [mm]	
		C _{min}	C _{cr}	S _{min}	S _{cr,I} = S _{cr,II}
φ8	80	50	120	50	240
φ10	85	50	128	50	255
φ12	95	50	143	50	285

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C			
		N _{Rk} [kN]		V _{Rk,b} [kN]	
		C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}	C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}
φ8	80	2,00	2,00	4,50	5,50
φ10	85	3,00	3,00	8,00	8,00
φ12	95	3,00	3,50	11,00	11,50

- 1) For design according to TR 054: NRk = NRk,p = NRk,b; NRk,s according to Table C2 Annex C2; Calculation NRk,pb see TR 054
 2) For VRk, see Annex C2, Table C2; Calculation of VRk,pb and VRk,c see TR 054

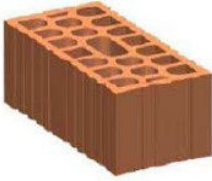
Displacement

Diameter	Setting depth[mm]	Displacement under service load Tensile and shear load					
		F [kN]	δ _{N0} [mm]	δ _{N∞} [mm]	F [kN]	δ _{V0} [mm]	δ _{V∞} [mm]
φ8	80	0,81	0,12	0,24	1,63	0,29	0,44
φ10	85	1,08	0,13	0,26	2,31	0,34	0,51
φ12	95	1,21	0,15	0,30	3,33	0,38	0,57

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g II, N}	α _{g L, N}	α _{g II, V II}	α _{g L, V II}	α _{g II, V L}	α _{g L, V L}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone DOPPIO UNI

Brick Type	Mattone DOPPIO UNI	
Compressive resistance[N/mm ²]	≥ 18,3	
Brick dimension[mm]	≥ 240 x 120 x 120	
Drilling method	Rotary drilling	

Installation parameter

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Edge distance [mm]		Spacing [mm]	
			C _{min}	C _{cr}	S _{min,II} = S _{cr,II}	S _{min,I} = S _{cr,I}
M8	80	12x80	120	120	240	120
M10	85	15x85	120	120	240	120
M12	85	20x85	120	120	240	120

Characteristic resistances for tensile and shear load

Diameter	Setting depth[mm]	Sleeve dxL [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C	
			NR _k [kN]	VR _{k,b} [kN]
M8	80	12x80	4,00	6,00
M10	85	15x85	5,00	6,50
M12	85	20x85	5,50	9,00

- 1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054
 2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054


Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]	δ _{N0} [mm]	δ _{N∞} [mm]	F [kN]	δ _{V0} [mm]	δ _{V∞} [mm]
M8	80	1,48	0,06	0,16	1,72	0,20	0,30
M10	85	1,81	0,08	0,16	2,03	0,38	0,57
M12	85	2,09	0,10	0,20	2,93	0,34	0,51

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g,II,N}	α _{g,I,N}	α _{g,II,V}	α _{g,I,V}	α _{g,II,V⊥}	α _{g,I,V⊥}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone Brique creuse RC 40

Brick Type	Brique creuse RC 40	
Compressive resistance[N/mm ²]	≥ 4,0	
Brick dimension[mm]	≥ 555 x 195 x 275	
Drilling method	Rotary drilling	

Installation parameter

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Edge distance [mm]		Spacing [mm]	
			C _{min}	C _{cr}	S _{min,II} = S _{cr,II}	S _{min,⊥} = S _{cr,⊥}
M8	80	12x80	278	278	555	275
M10	85	15x85	278	278	555	275
M12	85	20x85	278	278	555	275

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C	
			NR _k [kN]	VR _{k,b} [kN]
M8	80	12x80	1,00	1,50
M10	85	15x85	1,00	1,50
M12	85	20x85	0,75	1,50

- 1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054
 2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054


Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]	δ _{N0} [mm]	δ _{N∞} [mm]	F [kN]	δ _{V0} [mm]	δ _{V∞} [mm]
M8	80	0,39	0,06	0,16	0,44	0,10	0,15
M10	85	0,44	0,06	0,16	0,63	0,18	0,27
M12	85	0,26	0,06	0,16	0,44	0,27	0,40

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g,II,N}	α _{g,⊥,N}	α _{g,II,V}	α _{g,⊥,V}	α _{g,II,V⊥}	α _{g,⊥,V⊥}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone Porotherm 25 P+W

Brick Type	Porotherm 25 P+W	
Compressive resistance[N/mm ²]	≥ 15,0	
Brick dimension[mm]	≥ 373 x 238 x 250	
Drilling method	Rotary drilling	

Installation parameter

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Edge distance [mm]		Spacing [mm]	
			C _{min}	C _{cr}	S _{min,II} = S _{cr,II}	S _{min,⊥} = S _{cr,⊥}
M8	80	12x80	187	187	373	250
M10	85	15x85	187	187	373	250
M12	85	20x85	187	187	373	250

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C	
			NR _k [kN]	VR _{k,b} [kN]
M8	80	12x80	2,50	2,50
M10	85	15x85	2,50	3,50
M12	85	20x85	3,00	3,50

1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054

2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054


Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]	δ _{N0} [mm]	δ _{N∞} [mm]	F [kN]	δ _{V0} [mm]	δ _{V∞} [mm]
M8	80	0,92	0,06	0,16	0,78	0,23	0,34
M10	85	0,91	0,06	0,16	1,06	0,19	0,28
M12	85	1,02	0,06	0,16	1,00	0,31	0,46

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g II, N}	α _{g⊥, N}	α _{g II, V II}	α _{g⊥, V II}	α _{g II, V⊥}	α _{g⊥, V⊥}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone Hlz B – 1.0 1NF 12-1

Brick Type	Hlz B – 1.0 1NF 12-1	
Compressive resistance[N/mm ²]	≥ 15,0	
Brick dimension[mm]	≥ 115 x 240 x 71	
Drilling method	Rotary drilling	

Installation parameter

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Edge distance [mm]		Spacing [mm]	
			C _{min}	C _{cr}	S _{min,II} = S _{cr,II}	S _{min,⊥} = S _{cr,⊥}
M8	80	12x80	120	120	240	120
M10	85	15x85	120	120	240	120
M12	85	20x85	120	120	240	120

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C	
			NR _k [kN]	VR _{k,b} [kN]
M8	80	12x80	3,50	4,00
M10	85	15x85	4,50	5,50
M12	85	20x85	5,00	5,50

- 1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054
 2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054

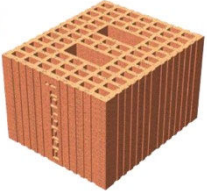
Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]	δ _{N0} [mm]	δ _{N∞} [mm]	F [kN]	δ _{V0} [mm]	δ _{V∞} [mm]
M8	80	1,19	0,12	0,24	1,25	0,17	0,25
M10	85	1,69	0,07	0,16	2,23	0,69	1,03
M12	85	1,78	0,06	0,16	1,65	0,13	0,19

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g II, N}	α _{g L, N}	α _{g II, V II}	α _{g L, V II}	α _{g II, V L}	α _{g L, V L}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone Poroton P800

Brick Type	Poroton P800	
Compressive resistance[N/mm ²]	≥ 15,0	
Brick dimension[mm]	≥ 300 x 245 x 230	
Drilling method	Rotary drilling	

Installation parameter

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Edge distance [mm]		Spacing [mm]	
			C _{min}	C _{cr}	S _{min,II} = S _{cr,II}	S _{min,⊥} = S _{cr,⊥}
M10	135	15x135	100	100	300	230

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Sleeve dxL [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C	
			NR _k [kN]	VR _{k,b} [kN]
M10	135	15x135	3,50	5,50

1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054

2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054


Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]	δ _{N0} [mm]	δ _{N∞} [mm]	F [kN]	δ _{V0} [mm]	δ _{V∞} [mm]
M10	135	1,22	0,11	0,22	1,61	0,24	0,36

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g,II,N}	α _{g,⊥,N}	α _{g,II,V,II}	α _{g,⊥,V,II}	α _{g,II,V,⊥}	α _{g,⊥,V,⊥}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone Climagold AAC2

Brick Type	Climagold	
Compressive resistance[N/mm ²]	≥ 1,8	
Brick dimension[mm]	≥ 625 x 200 x 360	
Drilling method	Rotary drilling	

Installation parameter

Diameter	Setting depth [mm]	Edge distance [mm]		Spacing [mm]	
		C _{min}	C _{cr}	S _{min}	S _{cr,I} = S _{cr,II}
M8	80	50	120	50	240
M10	85	50	128	50	255
M12	95	50	143	50	285
M16	105	60	158	60	315

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C			
		NR _k [kN]		VR _{k,b} [kN]	
		C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}	C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}
M8	80	1,00	1,50	1,00	1,50
M10	85	1,50	2,00	1,50	1,50
M12	95	2,00	2,50	2,50	2,50
M16	105	2,00	2,50	2,50	2,50

- 1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054
 2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054


Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]		δ _{No} [mm]		δ _∞ [mm]	
		F	δ _{No}	F	δ _{No}	F	δ _∞
M8	80	0,63	0,10	0,20	0,65	0,31	0,47
M10	85	0,83	0,12	0,24	0,69	0,34	0,51
M12	95	1,01	0,15	0,30	0,90	0,38	0,57
M16	105	0,99	0,16	0,32	0,98	0,40	0,60

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g II, N}	α _{g I, N}	α _{g II, V II}	α _{g I, V II}	α _{g II, V I}	α _{g I, V I}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

Mattone Blocco sismico AAC5

Brick Type	Blocco sismico	
Compressive resistance[N/mm ²]	≥ 5,0	
Brick dimension[mm]	≥ 625 x 200 x 300	
Drilling method	Rotary drilling	

Installation parameter

Diameter	Setting depth [mm]	Edge distance [mm]		Spacing [mm]	
		C _{min}	C _{cr}	S _{min}	S _{cr,I} = S _{cr,II}
M8	80	50	120	50	240
M10	85	50	128	50	255
M12	95	50	143	50	285
M16	105	60	158	60	315

Characteristic resistances for tensile and shear load

Diameter	Setting depth [mm]	Category d/d, w/d and w/w Temperature range -40°C/+24°C/+40°C e -40°C/+40°C/+50°C			
		NR _k [kN]		VR _{k,b} [kN]	
		C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}	C=C _{min} - S=S _{min}	C=C _{cr} - S=S _{cr}
M8	80	1,00	2,50	1,00	3,50
M10	85	1,50	3,00	1,50	4,00
M12	95	2,00	3,50	2,50	4,00
M16	105	2,00	4,00	2,50	4,00

- 1) For design according to TR 054: NR_k = NR_{k,p} = NR_{k,b}; NR_{k,s} according to Table C2 Annex C2; Calculation NR_{k,pb} see TR 054
 2) For VR_k, see Annex C2, Table C2; Calculation of VR_{k,pb} and VR_{k,c} see TR 054

Displacement

Diameter	Setting depth [mm]	Displacement under service load Tensile and shear load					
		F [kN]		δ _{No} [mm]		δ _∞ [mm]	
		F [kN]	δ _{No} [mm]	δ _∞ [mm]	F [kN]	δ _{vo} [mm]	δ _{v∞} [mm]
M8	80	1,10	0,08	0,16	1,29	0,31	0,47
M10	85	1,22	0,10	0,20	1,53	0,32	0,48
M12	95	1,52	0,11	0,22	1,55	0,43	0,65
M16	105	1,74	0,11	0,22	1,58	0,45	0,68

Group factor

Configuration	Tensile		Shear parallel to edge		Shear perpendicular to edge	
	α _{g II, N}	α _{g⊥, N}	α _{g II, V II}	α _{g⊥, V II}	α _{g II, V⊥}	α _{g⊥, V⊥}
S ≥ S _{min} e C ≥ C _{min}	2,0	2,0	2,0	2,0	2,0	2,0

HARMONIZED TECHNICAL SPECIFICATION: EAD330076-01-0604	
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: EAD330076-01-0604	
ESSENTIAL CHARACTERISTICS	PERFORMANCE
Resistance to fire	NPA

LEGEND OF SYMBOLS	
d	Diameter of the bolt or threaded part
d ₀	Hole diameter
d _{fix}	Diameter of the hole in the object to be fixed
h _{ef}	Effective anchoring depth
h ₁	Hole depth
T _{inst}	Tightening torque
S _{min}	Minimum wheelbase
C _{min}	Minimum distance from the edges
N _{Rk}	Characteristic Tensile resistance for single anchorage
V _{Rk}	Characteristic shear resistance for each anchor
γ _{Mm}	Partial safety coefficient
S _{cr,N}	Spacing to ensure the transmission of the characteristic load for a single anchorage
C _{cr,N}	Edge distance to ensure the transmission of the characteristic load for a single anchorage
β	Factor according to EAD330076-01-0604
α	Group factors
F	Service load
δ ₀	Short-term travel under service load
δ _∞	Long-term movement under service load
NPD	Performance not declared

Regulation 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	Data and place	Sign
Andrea Taddei General Manager	Grassobbio (Bg) - Italia 28.03.2024	