

DECLARATION OF PERFORMANCE

*In compliance with EU Regulation (EU): No 305/2011
(Construction Product Regulation)*

Declaration of Performance-Nr.. **BS 00289**

1. Unique identification code of the product-type:

BISON CHEMICAL ANCHOR CRT 300ML*12 L187

2. Intended use(s): (see page 7)

Injection glued anchor for anchoring threaded rods.

Glued anchor for post-installed rebar connections, designed according to EN 1992-1-1

Glued anchor for anchoring threaded rods

3. Manufacturer:

Bison International BV, Dr. A.F. Philipsstraat 9, 4462 EW Goes, The Netherlands

4. Authorized representative:

Not Applicable

5. System or systems of assessment and verification of constancy of performance:

System 1

6. European Assessment Document:

TAB:	TZUS: Technicky a Zkusebni Ustav Stavebni Praha s.p. Notified Body 1020
ETA number:	ETA-20/0553 & ETA 20/0552 & ETA 20/0551
Base:	EAD 330499-01-0601 & EAD 330087-00-0601 & EAD 330076-00-0604
Performed activities: Issued:	Determination of the product type, initial inspection of the factory and continuous monitoring of FPC CCP certificaten: Nr.1020-CPR-090-048131 / Nr. 1020 CPR-090-048129

7. Declared performances:

Basic requirements on works. Intended use 1: Anchorage of threaded rods in concrete.			Performances						Technical Specification
			M8	M10	M12	M16	M20	M24	
Installation Parameters									
d _o	Nominal drill bit diameter	mm	10	12	14	18	22	26	EAD 330499-00-0601
T _{inst}	Installation torque	Nm	10	20	40	80	150	200	
h _{ef,min} = 8d									
h ₀	Depth of drilled hole	mm	64	80	96	128	160	192	EAD 330499-00-0601
s _{min}	Minimum spacing	mm	35	40	50	65	80	96	
c _{min}	Minimum edge distance	mm	35	40	50	65	80	96	
h _{min}	Minimum thickness of concrete member	mm	h _{ef} + 30 mm ≥ 100 mm				h _{ef} + 2d _o		
h _{ef,max} = 12d									
h ₀	Depth of drilled hole	mm	96	120	144	192	240	288	EAD 330499-00-0601
s _{min}	Minimum spacing	mm	50	60	70	95	120	145	
c _{min}	Minimum edge distance	mm	50	60	70	95	120	145	
h _{min}	Minimum thickness of concrete member	mm	h _{ef} + 30 mm ≥ 100 mm				h _{ef} + 2d _o		

Basic requirements on works. Intended use 1: Anchorage of threaded rods in concrete.			Performances						Technical Specification
			M8	M10	M12	M16	M20	M24	
Tension Load: Steel Failure									
N _{Rk,s}	Characteristic tension resistance for galvanised steel class 5.8	kN	18	29	42	79	123	177	EAD 330499-00-0601
γ _{Ms}	Partial safety factor for tension resistance for galvanised steel class 5.8	-	1.5						
N _{Rk,s}	Characteristic tension resistance for galvanised steel class 8.8	kN	29	46	67	126	196	282	
γ _{Ms}	Partial safety factor for tension resistance for galvanised steel class 8.8	-	1.5						
N _{Rk,s}	Characteristic tension resistance for galvanised steel class 10.9	kN	37	58	84	157	245	353	
γ _{Ms}	Partial safety factor for tension resistance for galvanised steel class 10.9	-	1.4						
N _{Rk,s}	Characteristic tension resistance for stainless steel class A4-70	kN	26	41	59	110	172	247	
γ _{Ms}	Partial safety factor for tension resistance for galvanised steel class A4-70	-	1.9						
N _{Rk,s}	Characteristic tension resistance for stainless steel class A4-80	kN	29	46	67	126	196	282	
γ _{Ms}	Partial safety factor for tension resistance for galvanised steel class A4-80	-	1.6						
N _{Rk,s}	Characteristic tension resistance for stainless steel class 1.4529	kN	26	41	59	110	172	247	
γ _{Ms}	Partial safety factor for tension resistance for galvanised steel class 1.4529	-	1.5						
N _{Rk,s}	Characteristic tension resistance for stainless steel class 1.4565	kN	26	41	59	110	172	247	
γ _{Ms}	Partial safety factor for tension resistance for galvanised steel class 1.4565	-	1.9						

Basic requirements on works. Intended use 1: Anchorage of threaded rods in concrete.			Performances						Technical Specification
			M8	M10	M12	M16	M20	M24	
Tension Load: Combined Concrete Cone and Pullout Failure in Non Cracked Concrete C20/25									
τ_{Rk}	Characteristic bond resistance in dry / wet concrete & flooded hole	N/mm ²	10	8	9	9.5	8.5	8.5	EAD 330499-00-0601
γ_{Mp}	Partial safety factor ¹	-	1.8						
Ψ_C	C30/37	-	1.12						
	C40/50	-	1.19						
	C50/60	-	1.3						
Tension Load: Splitting Failure									
$s_{cr,sp}$	Critical spacing (splitting)	mm	4.0 h_{ef}			3.0 h_{ef}			EAD 330499-00-0601
$c_{cr,sp}$	Critical edge distance (splitting)	mm	2.0 h_{ef}			1.5 h_{ef}			
γ_{Msp}	Partial safety factor ¹	-	1.8						
Displacements Under Tension Load									
N	Service tension load	kN	6.3	7.9	11.9	23.8	29.8	45.6	EAD 330499-00-0601
δ_{N0}	Short term displacement	mm	0.2	0.2	0.3	0.5	0.7	0.9	
$\delta_{N\infty}$	Long term displacement	mm	0.4	0.4	0.4	0.4	0.4	0.4	

Basic requirements on works. Intended use 1: Anchorage of threaded rods in concrete (continued).			Performances						Technical Specification
			M8	M10	M12	M16	M20	M24	
Shear Load: Steel Failure without lever arm									
$V_{Rk,s}$	Characteristic shear resistance for galvanised steel class 5.8	kN	9	15	21	39	61	88	EAD 330499-00-0601
γ_{Ms}	Partial safety factor for shear resistance for galvanised steel class 5.8	-	1.25						
$V_{Rk,s}$	Characteristic shear resistance for galvanised steel class 8.8	kN	15	23	34	63	98	141	
γ_{Ms}	Partial safety factor for shear resistance for galvanised steel class 8.8	-	1.25						
$V_{Rk,s}$	Characteristic shear resistance for galvanised steel class 10.9	kN	18	29	42	79	123	177	
γ_{Ms}	Partial safety factor for shear resistance for galvanised steel class 10.9	-	1.5						
$V_{Rk,s}$	Characteristic shear resistance for stainless steel class A4-70	kN	13	20	30	55	86	124	
γ_{Ms}	Partial safety factor for shear resistance for galvanised steel class A4-70	-	1.56						
$V_{Rk,s}$	Characteristic shear resistance for stainless steel class A4-80	kN	15	23	34	63	98	141	
γ_{Ms}	Partial safety factor for shear resistance for galvanised steel class A4-80	-	1.33						
$V_{Rk,s}$	Characteristic shear resistance for stainless steel class 1.4529	kN	13	20	30	55	86	124	
γ_{Ms}	Partial safety factor for shear resistance for galvanised steel class 1.4529	-	1.25						
$V_{Rk,s}$	Characteristic shear resistance for stainless steel class 1.4529	kN	13	20	30	55	86	124	
γ_{Ms}	Partial safety factor for shear resistance for galvanised steel class 1.4529	-	1.56						

Shear Load: Steel Failure with lever arm								
$M_{Rk,s}^0$	Characteristic bending moment for galvanised steel class 5.8	Nm	19	37	66	166	325	561
γ_{Ms}	Partial safety factor for galvanised steel class 5.8	-	1.25					
$M_{Rk,s}^0$	Characteristic bending moment for galvanised steel class 8.8	Nm	30	60	105	266	519	898
γ_{Ms}	Partial safety factor for galvanised steel class 8.8	-	1.25					
$M_{Rk,s}^0$	Characteristic bending moment for galvanised steel class 10.9	Nm	37	75	131	333	649	1123
γ_{Ms}	Partial safety factor for galvanised steel class 10.9	-	1.5					
$M_{Rk,s}^0$	Characteristic bending moment for stainless steel class A4-70	Nm	26	52	92	233	454	786
γ_{Ms}	Partial safety factor for stainless steel class A4-70	-	1.56					
$M_{Rk,s}^0$	Characteristic bending moment for stainless steel class A4-80	Nm	30	60	105	266	519	898
γ_{Ms}	Partial safety factor for stainless steel class A4-80	-	1.33					
$M_{Rk,s}^0$	Characteristic bending moment for stainless steel class 1.4529	Nm	26	52	92	233	454	786
γ_{Ms}	Partial safety factor for stainless steel class 1.4529	-	1.25					
$M_{Rk,s}^0$	Characteristic bending moment for stainless steel class 1.4529	Nm	26	52	92	233	454	786
γ_{Ms}	Partial safety factor for stainless steel class 1.4529	-	1.56					

Basic requirements on works. Intended use 1: Anchorage of threaded rods in concrete (continued).		Performances						Technical Specification	
		M8	M10	M12	M16	M20	M24		
Shear Load: Concrete Pryout Failure									
K	K factor	-	2						EAD 330499-00-0601
γ_{Mp}	Partial safety factor	-	1.5						
Shear Load: Concrete Edge Failure									
<input type="checkbox"/>			See section 5.2.3.4 of Technical Report TR029						EAD 330499-00-0601
γ_{Mc}	Partial safety factor	-	1.5						
Displacements Under Shear Load									
V	Service shear load	kN	5.2	8.3	12	22.4	35	50.4	EAD 330499-00-0601
δ_{V0}	Short term displacement	mm	0.1	0.1	0.2	0.4	0.8	1.5	
$\delta_{V\infty}$	Long term displacement	mm	0.2	0.2	0.3	0.6	1.2	2.3	
1In the absence of other national regulations									

Basic requirements on works. Intended use 2: Post installed rebar connections			Performances								
			Ø8	Ø10	Ø12	Ø14	Ø16	Ø20			
Installation Parameters											
d_{nom}	Nominal diameter of drill bit	mm	12	14	16	18	20	25			
h_p	Maximum depth of drilled hole	mm	400	500	600	700	800	1000			
Design Values of the Ultimate Bond Resistance for all Drilling Methods for Good Bond Conditions											
fbd	Concrete C12/15	N/mm ²	1.6	1.6	1.6	1.6	1.6	1.6			
fbd	Concrete C16/20	N/mm ²	2.0	2.0	2.0	2.0	2.0	2.0			
fbd	Concrete C20/25	N/mm ²	2.3	2.3	2.3	2.3	2.3	2.3			
fbd	Concrete C25/30	N/mm ²	2.7	2.7	2.7	2.7	2.7	2.3			
fbd	Concrete C30/37	N/mm ²	2.7	2.7	2.7	2.7	2.7	2.3			
fbd	Concrete C35/45	N/mm ²	2.7	2.7	2.7	2.7	2.7	2.3			
fbd	Concrete C40/50	N/mm ²	2.7	2.7	2.7	2.7	2.7	2.3			
fbd	Concrete C45/55	N/mm ²	2.7	2.7	2.7	2.7	2.7	2.3			
fbd	Concrete C50/60	N/mm ²	2.7	2.7	2.7	2.7	2.7	2.7			
For all other bond conditions multiply the values for fbd by 0.7											

Amplification factor (**alb**) for minimum anchorage length: 1.5

Basic requirements on works. Intended use 3: Anchorage of threaded rods in hollow or perforated masonry.			Performances						Technical Specification
			M8		M10		M12		
Installation Parameters									
Anchor rod with sieve sleeve									
l_s	Sieve Sleeve	mm	85		85		85		EAD 330076-00-0604
d_s		mm	15	16	15	16	20		
d_o	Nominal drill hole diameter	mm	15	16	15	16	20		
d_b	Diameter of cleaning brush	mm	20 ^{±1}		20 ^{±1}		22 ^{±1}		
h_o	Depth of the drill hole	mm	90						
h_{ef}	Effective anchorage depth	mm	85						
$d_r \leq$	Diameter of clearance hole in the fixture	mm	9		12		14		
T_{inst}	Torque moment	Nm	2						

Edge Distances and Spacings						
Base material	Anchor rods					
	M8, M10			M12		
	$C_{cr} = C_{min}$	$S_{cr II} = S_{min II}$	$S_{cr I} = S_{min I}$	$C_{cr} = C_{min}$	$S_{cr II} = S_{min II}$	$S_{cr I} = S_{min I}$
	mm	mm	mm	mm	mm	mm
Brick number 1	100	235	115	100	235	115
Brick number 2	100	370	238	100	370	238
Brick number 3	128	255	255	128	255	255
Brick number 4	100	373	238	100	373	238
Brick number 5	100	250	240	100	250	240
Brick number 6	128	255	255	128	255	255
Brick number 7	100	245	110	100	245	110

Characteristic Bending Moment						
Size			M8	M10	M12	
Steel grade 5.8:	Nm	$M^0_{Rk,s}$	19	37	66	
Steel grade 8.8:	Nm	$M^0_{Rk,s}$	30	60	105	
Steel grade 10.9:	Nm	$M^0_{Rk,s}$	37	75	131	
Stainless steel grade A2-70, A4-70:	Nm	$M^0_{Rk,s}$	26	52	92	
Stainless steel grade A4-80:	Nm	$M^0_{Rk,s}$	30	60	105	
Stainless steel grade 1.4529 strength class 70:	Nm	$M^0_{Rk,s}$	26	52	92	
Stainless steel grade 1.4565 strength class 70:	Nm	$M^0_{Rk,s}$	26	52	92	
Characteristic resistance under tension and shear loading						
Base material			Anchor Rods $N_{Rk} = V_{Rk} (kN)^2$			β - Factors for job site tests according to ETAG 029, Annex B
			M8	M10	M12	
Brick number 1			2.0	2.0	2.0	
Brick number 2			2.0	1.5	2.5	
Brick number 3			1.5	1.5	2.5	
Brick number 4			1.2	1.2	1.2	
Brick number 5			1.2	0.9	0.9	
Brick number 6			0.75	0.75	1.2	
Brick number 7			0.75	0.5	0.5	

Displacements					
material	F (kN)	δ_{N0}	$\delta_{N\infty}$ (mm)	δ_{v0} (mm)	$\delta_{v\infty}$ (mm)
id bricks	$N_{Rk} / (1.4 \gamma_M)$	0.6	1.2	1.0 ³⁾	1.5 ³⁾
Perforated and hollow bricks	$N_{Rk} / (1.4 \gamma_M)$	0.14	0.28	1.0 ³⁾	1.5 ³⁾
²⁾ In absence of other national regulations		³⁾ the hole gap between bolt and fixture shall be considered additionally			

8. Appropriate Technical Documentation and/or Specific Technical Documentation: **Not Applicable**

The performance of the product identified above is in conformity with the set of declared performance/s. 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:

J.P.M. Klerks
 Manager Research & Development
 Goes, 27. July 2020

<p>Intended use 1:</p>	<p>Generic type: Base material: Material / durability: Load: Operating temperature: Fire resistance: Seismic category: Expected service life:</p>	<p>A Chemical injection anchor for fixing threaded rods. Uncracked concrete C20 / 25 to C50 / 60 according to EN 206-1 2000-12. Anchor size: M8 – M24. Dry / wet concrete or waterlogged holes. a) Galvanized carbon steel class 5.8, 8.8 and 10.9 according to EN ISO 898-1 for dry conditions indoors. b) Stainless steel A4-70 and A4-80 according to EN ISO 3506 for dry conditions indoors, atmospheric exposure outdoors (including industrial and marine environments), or exposure to permanent humidity conditions indoors, if none exist specific aggressive conditions. c) High corrosion resistance stainless steel 1.5429 according to EN 10088 for all conditions. Static or quasi-static -40 ° C to +80 ° C (max. Short-term temperature: +80 ° C; max. Long-term temperature: +50 ° C) Parameter not determined N / A 50 years</p>	
<p>Intended use 2:</p>	<p>Generic type: Base material: Material / durability: Load: Operating temperature: Fire resistance: Expected service life:</p>	<p>Chemical anchor for connection by post-installed corrugated bars designed according to EN 1992-1-1 (Eurocode 2). Non-carbonated concrete of normal weight grade C12 / 15 to C50 / 60 according to EN 206: 2013. Dry / wet concrete. No waterlogged holes. Drilling done with a jackhammer or pneumatic. Ceiling mounting allowed. Corrugated bar sizes: T8 - T20. Corrugated straight reinforcing bars with properties according to Annex C of classes B and C are recommended. In building components, dry or permanently humid environment, in accordance with exposure class X0 or XC1 according to EN 1992-1-1. Static or quasi-static charges -40 ° C to +80 ° C (max. Short-term temperature: +80 ° C; max. Long-term temperature: +50 ° C) Parameter not determined 50 years</p>	

Intended use 3:	Generic type: Base material: Material / durability: Load: Operating temperature: Fire resistance: Expected service life:	Chemical anchor for fixing threaded rods Perforated or hollow masonry. The strength class of the masonry mortar must be at least 2.5 according to EN 998-2: 2010. Galvanized carbon steel class 5.8 according to EN ISO 898-1. Dry conditions indoors Static or quasi-static charges -40 °C to +80 ° C (max. Short-term temperature: +80 °C; max. Long-term temperature: +50 ° C) Parameter not determined 50 years.	
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