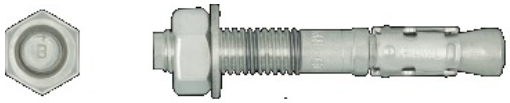
Declaration of Performance
DoP-17/0782-R-XPTII-A4

1. Unique identification code of the product-type:

R-XPTII-A4



The photo depicts an example of a product of the given type of goods

2. Intended use/es:

general type	Expansion anchor
to be applied in	Stainless steel torque-controlled M8, M10, M12, M16 expansion anchor only for use in non-cracked concrete
option / category	
Loading	subject to static or quasi-static
material	The R-XPTII-A4 anchors are through-fixing torque controlled expansion anchors in sizes of M8, M10, M12 and M16. Each type comprises special bolt with a taper, an expansion sleeve, a hexagonal nut and a washer. Anchors are made of stainless steel A4.

3. Manufacturer:

Rawlplug S.A.
ul. Kwidzyńska 6, 51-416 Wrocław, PL
www.rawlplug.com

4. System/s of AVCP:

System 1

5. European Assessment Document:

EAD-330232-00-0601 Mechanical anchors for use in concrete.
Utilization category:

6. European Technical Assessment:

ETA-17/0782 edition of 2017-09-21

7. Technical Assessment Body:

Technicky a zkusebni ustav stavebni Praha

8. Notified body/ies:

1488 on the basis of:

- an assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product
- initial inspection of the manufacturing plant and of factory production control
- continuing surveillance, assessment and evaluation of factory production control

issued a certificate **1488-CPR-0633/W**

9. Declared performance/s:

Essential Characteristics:

Technical Specification	**Basic requirements according to CPR**		**Remarks:**
ETA-17/0782	[1]	Mechanical resistance and stability	Declared values on the page 2
	[4]	Operational safety	Such criteria as those significant for [1]

Characteristic resistance under tension load

Steel failure										
Size			M8		M10		M12		M16	
			Reduced[1]	Standard	Reduced[1]	Standard	Reduced	Standard	Reduced	Standard
Characteristic resistance	$N_{Rk,s}$	[kN]	21,2		33,6		44,8		82,6	
Partial safety factor	γ_{Ms}	[-]	1,5		1,5		1,5		1,5	

Pull-out failure										
Characteristic resistance in non cracked concrete C20/25	$N_{Rk,p}$	[kN]	7,5	9,0	12,0	16,0	-[5]	25,0	-[5]	-[5]
Installation safety factor	γ_2[2]= γ_{inst}[3][4]	[-]	1,2	1,2	1,2	1,0	1,0	1,0	1,0	1,0
Increasing factor										
Non cracked concrete	C30/37	ψ_c	[-]	1,17	1,22	1,22	1,22	1,22	1,22	1,22	1,22
	C40/50			1,32	1,41	1,41	1,41	1,41	1,41	1,41	1,41
	C50/60			1,42	1,55	1,55	1,55	1,55	1,55	1,55	1,55

Concrete cone failure										
Factor for non cracked concrete	k_1[2]=k_{ucr}[3]	[-]	10,1							
	$k_{ucr,N}$[4]	[-]	11,0							
Installation safety factor	γ_2[2]= γ_{inst}[3][4]	[-]	1,2	1,2	1,2	1,0	1,0	1,0	1,0	1,0
Effective anchorage depth	h_{ef}	[mm]	32	47	39	59	48	68	65	85
Spacing	$s_{cr,N}$	[mm]	96	141	117	177	144	204	195	255
Edge distance	$c_{cr,N}$	[mm]	48	71	59	89	72	102	98	128

Splitting failure										
Spacing	$s_{cr,sp}$	[mm]	160	240	200	300	250	340	320	430
Edge distance	$c_{cr,sp}$	[mm]	80	120	100	150	125	170	160	215
Installation safety factor	γ_2[2]= γ_{inst}[3][4]	[-]	1,2	1,2	1,2	1,0	1,0	1,0	1,0	1,0

[1] Use restricted to anchoring statically indeterminate structural components
[2] parameter for design according to EOTA ETAG 001 Annex C
[3] parameter for design according to CEN/TS 1992-4-4:2009
[4] parameter for design according to FprEN 1992-4:2016
[5] Pull-out failure mode is not decisive

Displacement under tension load

Size			M8		M10		M12		M16	
			Reduced[1]	Standard	Reduced[1]	Standard	Reduced	Standard	Reduced	Standard
Tension load in non cracked concrete	N	[kN]	3,0	3,6	4,8	7,6	8,0	11,9	12,6	18,8
Displacement	δ_{N0}	[mm]	0,1	0,3	0,2	0,2	0,1	0,5	0,3	0,5
	$\delta_{N\infty}$	[mm]	0,7	0,7	0,7	0,7	0,7	0,7	0,7	0,7

1) Use restricted to anchoring statically indeterminate structural components

Characteristic resistance under shear load

Steel failure without lever arm										
Size			M8		M10		M12		M16	
			Reduced[1)]	Standard	Reduced[1)]	Standard	Reduced	Standard	Reduced	Standard
Characteristic resistance	$V^0_{Rk,s}$	[kN]	11,7		18,5		24,6		45,4	
Ductility factor	k_7	[-]	0,8		0,8		0,8		0,8	
Partial safety factor	γ_{Ms}	[-]	1,25		1,25		1,25		1,25	

Steel failure with lever arm										
Characteristic resistance	$M^0_{Rk,s}$	[Nm]	22		45		72		180	
Partial safety factor	γ_{Ms}	[-]	1,25		1,25		1,25		1,25	

Concrete pry-out failure										
Factor	k_8	[-]	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Installation safety factor	γ_2[2)]= γ_{inst}[3)4)]	[-]	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2

Concrete edge failure										
Effective length of anchor	ℓ_f	[mm]	32	47	39	59	48	68	65	85
Anchor diameter	d_{nom}	[mm]	8		10		12		16	
Installation safety factor	γ_2[2)]= γ_{inst}[3)4)]	[-]	1,2	1,2	1,2	1,0	1,0	1,0	1,0	1,0

[1)] Use restricted to anchoring statically indeterminate structural components
[2)] parameter for design according to EOTA ETAG 001 Annex C
[3)] parameter for design according to CEN/TS 1992-4-4:2009
[4)] parameter for design according to FprEN 1992-4:2016

Displacement under shear load

Size			M8		M10		M12		M16	
			Reduced[1)]	Standard	Reduced[1)]	Standard	Reduced	Standard	Reduced	Standard
Shear load in non cracked concrete	V	[kN]	6,7	6,7	5,8	10,6	14,1	14,1	25,9	25,9
Displacement	δ_{V0}	[mm]	3,0	3,0	1,5	2,7	2,5	2,5	2,2	2,2
	$\delta_{V\infty}$	[mm]	4,5	4,5	2,2	4,1	3,8	3,8	3,3	3,3

[1)] Use restricted to anchoring statically indeterminate structural components

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 manufacturer:

Sławomir Jagła
Proxy of the Quality Management System
Wrocław, 05.12.2017.

