Declaration of Performance
DoP-08/0339-R-XPT

1. Unique identification code of the product-type:

R-XPT

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

2. Intended use/es:

general type	Anchors
to be applied in	Torque-controlled zinc plated M8, M10, M12, M16, M20 anchors for use in non-cracked concrete
option / category	ETAG 001
Loading	subject to static or quasi-static
material	The R-XPT anchors are through-fixing torque controlled expansion anchors in sizes of M8, M10, M12, M16 and M20. Each type comprises a nut, bolt, washer and expansion sleeve. The anchors are made from zinc-plated and passivated steel.

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:

ETAG 001 Metal anchors for use in concrete. Part 1 Anchors in general and Part 2 Torque-controlled expansion anchors
Utilization category:

6. European Technical Assessment:

ETA-08/0339 edition of 2013-05-31

7. Technical Assessment Body:

British Board of Agrément

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-CPD-0117/W**

9. Declared performance/s:

Essential Characteristics:

Technical Specification	**Basic requirements according to CPR**		**Remarks:**
ETA-08/0339	[1]	Mechanical resistance and stability	Declared values on the page 2
	[4]	Operational safety	Such criteria as those significant for [1]

Characteristic values of anchors subject to tensile load without the influence of distances between anchors and from the edge of concrete

				M8		M10		M12		M16		M20	
				Reduced anchoring (1)	Standard anchoring	Reduced anchoring (1)	Standard anchoring	Reduced anchoring	Standard anchoring	Reduced anchoring	Standard anchoring	Reduced anchoring	Standard anchoring
Steel failure													
Characteristic resistance in non-cracked concrete	$N_{Rk,s}$		[kN]	15,8		25,2		37,3		66,1		101,0	
Calculated resistance in non-cracked concrete	N_{Rd}		[kN]	11,3		18,0		26,6		47,2		72,1	
Safety factor	γ_{Ms}			1,4									
Concrete pull-out failure													
Characteristic resistance in non-cracked concrete	$N_{Rk,p}$	C20/25	[kN]	9,0	12,0	9,0	12,0	16,0	25,0	30,0	40,0	35,0	40,0
Calculated resistance in non-cracked concrete	N_{Rd}	C20/25	[kN]	5,0	6,7	5,0	6,7	8,9	13,9	16,7	22,2	19,4	22,2
Increasing factors for $N_{Rk,p}$ in non-cracked concrete		Ψc											
(C30/37)				1,25	1,10	1,36	1,37	1,20	1,16	1,12	1,17	1,18	1,30
(C40/50)				1,50	1,21	1,72	1,74	1,40	1,33	1,23	1,34	1,36	1,59
C50/60)				1,76	1,32	2,08	2,10	1,60	1,49	1,34	1,50	1,54	1,89
Partial safety factor	γ_{Mp}			1,8 (2)									
Failure of concrete cone													
Effective anchoring depth	h_{ef}		[mm]	32	47	39	49	48	68	65	85	79	99
Distance between anchors	$s_{cr,N}$		[mm]	96	141	117	147	144	204	195	255	237	297
Distance from edge	$c_{cr,N}$		[mm]	48	71	59	74	72	102	98	128	119	149
Partial safety factor	γ_{Mc}			1,8 (2)									
Destruction by splitting off													
Distance between anchors	$s_{cr,sp}$		[mm]	160	240	200	260	250	370	360	430	410	530
Distance from edge	$c_{cr,sp}$		[mm]	80	120	100	130	125	185	180	215	205	265
Partial safety factor	γ_{Mc}		[mm]	1,8 (2)									

(1) Application limited to fixations in structural elements for which stability has not been determined

(2) Contains γ_2 factor 1. 2

Characteristic values of anchors subject to shear load without the influence of distances between anchors and from the edge of concrete

			M8		M10		M12		M16		M20	
			Reduced anchoring (1)	Standard anchoring	Reduced anchoring (1)	Standard anchoring	Reduced anchoring	Standard anchoring	Reduced anchoring	Standard anchoring	Reduced anchoring	Standard anchoring
Steel failure without moment arm												
Characteristic resistance in non-cracked concrete	$V_{Rk,s}$	[kN]	10,1		16,0		23,3		43,0		67,4	
Calculated resistance in non-cracked concrete	V_{Rd}	[kN]	8,1		12,8		18,6		34,4		53,9	
Partial safety factor	γ_{Ms}		1,25									
Steel failure on moment arm												
Calculated resistance in non-cracked concrete	$M_{Rk,s}$	[Nm]	17		35		61		154		301	
Increasing factors for $N_{Rk,p}$ in non-cracked concrete	γ_{Ms}		1,25									
Concrete pull-out failure												
Characteristic resistance in non-cracked concrete C20/25	$V_{Rk,cp}$	[kN]	–	–	12,0	–	–	–	–	–	68,7	–
Calculated resistance in non-cracked concrete C20/25	V_{Rd}	[kN]	–	–	**6,7**	–	–	–	–	–	**38,2**	–
Coefficient for equation (5.6), ETAG, Annex C, 5.2.3.3 (k)	k		–	–	1,0	–	–	–	–	–	2,0	–
Partial safety factor	γ_{Mcp}		1,8 (2)									
Concrete edge failure												
Effective anchor length	l_f	[mm]	32	47	39	49	48	68	65	85	79	99
Anchor diameter	d_{nom}	[mm]	8		10		12		16		20	
Partial safety factor	γ_{Mc}	[mm]	1,8 (2)									

(1) Application limited to fixations in structural elements for which stability has not been determined
(2) Contains γ_2 factor 1. 2

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, 11.02.2015.