

Declaration of Performance

DoP-11/0479-R-RB

1. Unique identification code of the product-type:

R-RB



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

2. Intended use/es:

**general type
to be applied in**

Expansion anchors

option / category

Torque-controlled M6, M8, M10, M12, M16, M20 expansion anchors for both non-cracked and cracked concrete

**Loading
material**

ETAG 001

subject to static or quasi-static

RAWL R-RB RAWLBOLT anchors types R-RBL and R-RBP in the sizes M6 to M20 are the anchors made of galvanized steel which are placed into a drill hole and anchored by torque-controlled expansion.

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-11/0479 edition of 2013-06-26

7. Technical Assessment Body:

Instytut Techniki Budowlanej

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-0258/W**

9. Declared performance/s:

Essential Characteristics:

Technical Specification	Basic requirements according to CPR		Remarks:
ETA-11/0479	[1]	Mechanical resistance and stability	Declared values on the page 2
	[4]	Operational safety	Such criteria as those significant for [1]

Design method A, characteristic tension resistance

Anchor size	M8	M10	M12	M16	M20
Steel failure					
Characteristic resistance $N_{Rk,s}$ [kN]	29,3	46,4	57,4	125,6	196,0
Partial safety factor $\gamma_{Ms}^{1)}$	1,5				
Pull-out failure					
Characteristic resistance in non-cracked concrete C20/25 – C 50/60 $N_{Rk,p}$ [kN]	9	12	16	35	40
Partial safety factor $\gamma_{Mp}^{1)}$	2,1 ²⁾				
Concrete cone failure					
Effective anchoring depth h_{ef} [mm]	60	70	80	100	125
Spacing $S_{cr,N}$ [mm]	180	210	240	300	375
Distance from edge $C_{cr,N}$ [mm]	90	105	120	150	188
Splitting failure					
Spacing $S_{cr,sp}$ [mm]	180	210	240	300	375
Distance from edge $C_{cr,sp}$ [mm]	90	105	120	150	188
Partial safety factor $\gamma_{Msc}^{1)}$	2,1				

¹⁾ – if there are no domestic regulations

²⁾ – partial safety factor $\gamma_2 = 1,4$

Dislocations caused by tension forces

Anchor size	M8	M10	M12	M16	M20
Tension force N [kN]	3,06	4,08	6,80	11,90	13,61
Dislocation δ_{NO} [mm]	0,08	0,27	0,11	0,15	0,36
	$\delta_{N_{\perp}}$ [mm]	1,00	1,00	1,00	1,00

Design method A, characteristic shear strength

Anchor size	M8	M10	M12	M16	M20
Steel failure without lever arm					
Characteristic resistance $V_{Rk,s}$ [kN]	19,20	30,00	43,20	77,60	73,68
Partial safety factor $\gamma_{Ms}^{1)}$	1,25				
Steel failure with lever arm					
Characteristic flexural resistance $M_{Rk,s}$ [Nm]	45,04	87,97	152,01	365,97	728,54
Partial safety factor $\gamma_{Ms}^{(1)}$	1,25				
Zniszczenie przez odłupanie					
Coefficient in equation (5.6) in ETAG 001 Attachment C, p. 5.2.3.3	2				
Partial safety factor $\gamma_{Mcp}^{1)}$	2,1 ²⁾				
Concrete edge failure					
Effective anchor length when shear loads are present l_f [mm]	60	70	80	100	125
Effective anchor diameter d_{nom} [mm]	8	10	12	16	20
Partial safety factor $\gamma_{Mc}^{1)}$	2,1				

¹⁾ – if there are no domestic regulations

²⁾ – partial safety factor $\gamma_2 = 1,0$

Dislocations caused by shear forces

Anchor size	M8	M10	M12	M16	M20
Shear force V [kN]	6,53	10,20	14,69	26,39	25,06
Dislocation δ_{vo} [mm]	1,91	0,99	2,07	2,44	2,81
$\delta_{v_{-}}$ [mm]	2,86	1,49	3,11	3,66	4,21

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.

PEŁNOMOCNIK SYSTEMU
ZARZĄDZANIA JAKOŚCIĄ

Jagła
mgr Sławomir Jagła