Toimivusdeklaratsioon
DoP-17/0518-R-ONR

1. Tootetüübi kordumatu identifitseerimiskood:

R-ONR

Antud pildil on näidatud valitud toote tüüp

2. Kavandatud kasutusala(d):

üldine tüüp	Metallelementide
kasutamiseks	Sandwich-tüüpi paneelide kruvid
variant / kategooria	
koormus	staatiline
materjalid	Kruvid, kihiliste OC paneelide R-OCR 55/63xL, R-ONR 55/63xL, R-ORR 63/70xL i R-ORT 63/70xL kinnitamiseks on isepuurivad kruvid. R-OCR, R-ONR, R-ORR, R-OTR kruvid on valmistatud tsingitud süsinikterasest täiendava tsinkhelbega. Kruvidel on kaasas metallist seibid ja rõngastihendid EPDM.

3. Tootja:

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

4. Toimivuse püsivuse hindamise ja kontrolli süsteem:

Toimivuse 2+

5. Euroopa hindamisdokument:

EAD 330047-01-0602 Sandwich-tüüpi paneelide kruvid
Kasutamise kategooriad:

6. Euroopa tehniline hinnang:

ETA-17/0518 välja antud 2019-06-26

7. Tehnilise hindamise asutus:

Instytut Techniki Budowlanej

8. Teavitatud asutus(ed):

1488 alusel:

- tootmisettevõtte esmane ülevaatus ja tehase tootmisohje esmane ülevaatus
- tehase tootmisohje pidev järelevalve ja hindamine

ja sertifikaadi väljastamine **1488-CPR-0512/Z**

9. Deklareeritud toimivus:

Põhilised omadused:

Tehnilised andmed	**CPR põhinõuded**		**Märkused:**
ETA-17/0518	[1]	Mehhaaniline vastupidavus ja stabiilsus	Deklareeritud omadused lehel 2
	[4]	Kasutamis ohutus	Sellised kriteeriumid, mis olulised [1]

Self-drilling screws R-OCR-55/63 with hexagon head and aluminum washer ≥ Ø 19							
$t_{N,II}$ [mm]		1,50	2,00	2,50	3,00	4,00	≥ 5,00
$N_{R,k}$ [kN] for $t_{N,1}$ [mm]	0,40	1,86	1,86	1,86	1,86	1,86	1,86
	0,50	2,13	2,13	2,13	2,13	3,19	3,19
	0,55	2,13	2,13	2,13	2,13	3,19	3,19
	0,63	2,13	2,13	2,13	2,13	4,04	4,04
	0,75	2,13	2,13	2,13	2,13	4,15	4,15
	0,88	2,13	2,13	2,13	2,13	4,15	4,15
	1,00	2,13	2,13	2,13	2,13	4,15	4,15
$V_{R,k}$ [kN] for $t_{N,2}$ [mm]	0,40	0,86	0,86	0,86	0,86	0,86	0,86
	0,50	1,38	1,38	1,38	1,38	1,38	1,38
	0,55	1,38	1,38	1,38	1,38	1,38	1,38
	0,63	1,80	1,80	1,80	1,80	1,80	1,80
	0,75	2,23	2,23	2,23	2,23	2,23	2,23
	0,88	2,23	2,23	2,23	2,23	2,23	2,23
	1,00	2,23	2,23	2,23	2,23	2,23	2,23
"max. head displacement "u" depending on sandwich panel thickness [mm]"	30	12	12	12	12	1,5	1,5
	40	12	12	12	12	1,5	1,5
	50	12	12	12	12	1,5	1,5
	60	18	18	18	18	4	4
	70	18	18	18	18	4	4
	80	18	18	18	18	4	4
	90	23	23	23	23	10	10
	100	23	23	23	23	10	10
	110	23	23	23	23	10	10
	120	23	23	23	23	10	10
	130	23	23	23	23	10	10
	≥ 140	23	23	23	23	10	10

Self-drilling screws R-ONR-55/63 with hexagon head and aluminum washer ≥ Ø 19						
$t_{N,II}$ [mm]		4,00	5,00	6,00	7,00	≥ 8,00
$N_{R,k}$ [kN] for $t_{N,1}$ [mm]	0,40	1,86	1,86	1,86	1,86	1,86
	0,50	3,19	3,19	3,19	3,19	3,19
	0,55	3,19	3,19	3,19	3,19	3,19
	0,63	4,04	4,04	4,04	4,04	4,04
	0,75	4,15	4,15	4,15	4,15	4,15
	0,88	4,15	4,15	4,15	4,15	4,15
	1,00	4,15	4,15	4,15	4,15	4,15
$V_{R,k}$ [kN] for $t_{N,2}$ [mm]	0,40	0,86	0,86	0,86	0,86	0,86
	0,50	1,38	1,38	1,38	1,38	1,38
	0,55	1,38	1,38	1,38	1,38	1,38
	0,63	1,80	1,80	1,80	1,80	1,80
	0,75	2,23	2,23	2,23	2,23	2,23
	0,88	2,23	2,23	2,23	2,23	2,23
	1,00	2,23	2,23	2,23	2,23	2,23
"max. head displacement "u" depending on sandwich panel thickness [mm]"	30	1,5	1,5	1,5	1,5	1,5
	40	1,5	1,5	1,5	1,5	1,5
	50	1,5	1,5	1,5	1,5	1,5
	60	4	4	4	4	4
	70	4	4	4	4	4
	80	4	4	4	4	4
	90	10	10	10	10	10
	100	10	10	10	10	10
	110	10	10	10	10	10
	120	10	10	10	10	10
	130	10	10	10	10	10
	≥ 140	10	10	10	10	10

Self-drilling screws R-ORR-63/70 with hexagon head and aluminum washer ≥ Ø 19						
$t_{N,II}$ [mm]		8,00	9,00	10,00	11,00	≥ 12,00
$N_{R,k}$ [kN] for $t_{N,1}$ [mm]	0,40	1,86	1,86	1,86	1,86	1,86
	0,50	3,19	3,19	3,19	3,19	3,19
	0,55	3,19	3,19	3,19	3,19	3,19
	0,63	4,04	4,04	4,04	4,04	4,04
	0,75	4,15	4,15	4,15	4,15	4,15
	0,88	4,15	4,15	4,15	4,15	4,15
	1,00	4,15	4,15	4,15	4,15	4,15
$V_{R,k}$ [kN] for $t_{N,2}$ [mm]	0,40	1,10	1,10	1,10	1,10	1,10
	0,50	1,81	1,81	1,81	1,81	1,81
	0,55	1,81	1,81	1,81	1,81	1,81
	0,63	2,24	2,24	2,24	2,24	2,24
	0,75	2,84	2,84	2,84	2,84	2,84
	0,88	2,84	2,84	2,84	2,84	2,84
	1,00	2,84	2,84	2,84	2,84	2,84
"max. head displacement "u" depending on sandwich panel thickness [mm]"	30	1,5	1,5	1,5	1,5	1,5
	40	1,5	1,5	1,5	1,5	1,5
	50	1,5	1,5	1,5	1,5	1,5
	60	4	4	4	4	4
	70	4	4	4	4	4
	80	4	4	4	4	4
	90	10	10	10	10	10
	100	10	10	10	10	10
	110	10	10	10	10	10
	120	10	10	10	10	10
	130	10	10	10	10	10
	≥ 140	10	10	10	10	10

Self-drilling screws R-OTR-63/70 with hexagon head and aluminum washer ≥ Ø 19		
Component II: wood class ≥ C24		Effective lenght l_{ef} [mm]
		≥ 30
$N_{R,k}$ [kN] for $t_{N,1}$ [mm]	0,40	1,86
	0,50	3,19
	0,55	3,19
	0,63	3,28
	0,75	3,28
	0,88	3,28
	1,00	3,28
$V_{R,k}$ [kN] for $t_{N,2}$ [mm]	0,40	0,81
	0,50	1,38
	0,55	1,38
	0,63	1,66
	0,75	2,03
	0,88	2,03
	1,00	2,03
"max. head displacement "u" depending on sandwich panel thickness [mm]"	30	1
	40	1
	50	1
	60	1,5
	70	1,5
	80	1,5
	90	2
	100	2
	110	2
	120	2
	130	2
	≥ 140	2

Determination of design values

1. Determination of Design Shear Resistance The determination of the design values of the shear resistance depends on the type of substructure. For Metal Supporting Substructures the following applies: The design values VR,d of the shear resistance are the characteristic values of the shear resistance divided by the recommended partial safety factor γ= 1,33. The recommended partial safety factor γ should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used. For Timber upporting Substructures the following applies: The design values VR,d of the shear resistance are the characteristic values of the shear resistance multiplied by kmod according to EN 1995-1-1 Section 8.7 (Screwed connections), Table 3.1, and divided by the recommended partial safety factor γ= 1,33. If failure of the inner face with the thickness tN2 and not failure of the timber substructure is the relevant failure mode then kmod = 1.0. The recommended partial safety factor should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used.

2. Determination of Design Pull-through, Pull-out and Tension Resistance The design values of the pull-through resistance are the characteristic values of the pull-through resistance divided by the recommended partial safety factor γ = 1,33. The recommended partial safety factor γshould be used in cases where no value is given in national regulations of the Member State where the fastening screws are used. The determination of the design values of the pull-out resistance depends on the type of substructure. For Metal Supporting Substructures the following applies: The design values of the pull-out resistance are the characteristic values of the pull-out resistance divided by the recommended partial safety factor γ = 1,33. The recommended partial safety factor γ should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used. For Timber Supporting Substructures the following applies: The design values of the pull-out resistance are the characteristic values of the pull-out resistance multiplied by kmod according to EN 1995-1-1 Section 8.7 (Screwed connections), Table 3.1, and divided by the recommended partial safety factor γ = 1,33. The recommended partial safety factor should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used. The design tension resistance NR,d is the minimum value of the design values of either pull-through resistance or relevant pull-out resistance for the corresponding connection.

3. Design Resistance in case of combined Tension and Shear Forces (interaction) In case of combined tension and shear forces the linear interaction formula according to EN 1993-1-3, section 8.3 (8) should be taken into account.

Eespool kirjeldatud toote toimivus vastab deklareeritud toimivusele. Käesolev toimivusdeklaratsioon on välja antud kooskõlas määrusega (EL) nr 305/2011 eespool nimetatud tootja ainuvastutusel.

Tootja poolt ja nimel allkirjastanud

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Wrocław, 02.09.2019.