

DECLARATION OF PERFORMANCE

No. **0764-CPR-0237 - UK - vs01**

1. *Unique identification code of the product-type:*

ROCKPANEL Durable 6 mm finish Colours/Rockclad

2. *Intended use / es*

Internal and external wall and ceiling finishes

3. *Manufacturer*

ROCKWOOL B.V. / ROCKPANEL Group
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4. *System or systems of AVCP (assessment and verification of constancy of performance of the construction product) as set out in Annex V (amended by : OJ L 157, 27.5.2014, p. 76-79)*

System 1

5. *European Assessment Document:*

EAD 090001-00-0404 for Prefabricated compressed mineral wool boards with organic or inorganic finish and with specified fastening system, edition May 2014.

European Technical Assessment: ETA-08/0343 of 2014-09-16

Technical Assessment Body: ETA-Danmark A/S
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Notified Body: Materialprüfanstalt für das Bauwesen
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and issued: **Certificate of Constancy of performance No. 0764 - CPR – 0237**

6. Characteristics of the product

The ROCKPANEL Durable Colours panels are surface treated with a four-layer water-borne polymer emulsion paint on one side, in a range of colours.

The physical properties of **ROCKPANEL DURABLE** 6 mm are indicated below:

- thickness 6 ± 0.3 mm
- length, max 3050 mm
- width, max 1250 mm
- density nominal 1050 ± 150 kg/m³
- bending strength length and width $f_{05} \geq 27$ N/mm²
- Modulus of Elasticity 4015 N/mm²
- Thermal conductivity 0.37 W/(m.K)

Clause 7 contains the performances of ROCKPANEL DURABLE 6 mm.

7. Declared performance

Essential characteristics	Performance		Harmonised technical specification
Basic Requirements for construction works BR2 - Safety in case of fire	Table 1 - Euroclass classification of different constructions with ROCKPANEL boards		
	Fixing method	Ventilated or non-ventilated	vertical wooden battens Durable Colours
	mechanically fixed	Ventilated with gasket on the batten [a]	B-s2,d0 open 6 mm horizontal joint
		Ventilated with ROCKPANEL strips 6 or 8 mm on the battens [b]	B-s2,d0 open 6 mm horizontal joint
		Non-ventilated Cavity filled with mineral wool	B-s1,d0 closed horizontal joint
[a] width of the gasket 15 mm at both sides wider than the batten [b] width of the strip 15 mm at both sides wider than the batten			
			ETA-08/0343 issued on 2014-09-16 EN 13501-1

Field of application

The following field of application applies.

Euroclass classification

The classification mentioned in Table 1 is valid for the following end use conditions:

- Mounting • Mechanically fixed as described in Table 1, which are attached to the subframe mentioned below
- Substrates: • The results are also valid for a wall made of timber frame (see “Insulation” for the backing of the panels)
• Test results are also valid for the same type of panel used without insulation, if the substrate chosen is made with Euro-class A1 or A2
- Insulation: • The panels are backed with minimal 50 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 with a cavity between the panels and the insulation (all constructions with the exception of ‘non-ventilated’)
• Results are also valid for all greater thickness of mineral wool insulation layer with the same density and the same or better reaction to fire classification
- Subframe: • Test results are also valid for the same type of panel with aluminum or steel frame
- Fixings: • Results are also valid with higher density of the fixing devices
• Test results are also valid for the same type of panel fixed by rivets made of the same material of screws and vice versa
- Cavity: • The depth of the cavity is minimum 28 mm
• Unfilled or filled with insulation of mineral wool with a density 30-70 kg/m³ according to EN 13162
• Test results are also valid for other higher thickness of air space between the back of the board and the insulation

- Joints:
- Vertical joints are with an EPDM foam gasket backing (*Celdex EPDM Soft EP-4530*) or ROCKPANEL strip backing as described in Table 1 and horizontal joints can be open or with an aluminum profile.
 - The result from a test with an open horizontal joint is also valid for the same type of panel used in applications with horizontal joints closed by steel or aluminum profiles

The classification is also valid for the following product parameters:

- Thickness:
- Maximum nominal 6 mm, individual tolerances ± 0.3 mm

- Density:
- Maximum nominal 1050 kg/m³, individual tolerances ± 150 kg/m³

<i>Essential characteristics</i>	Table 2 - Performance - Water vapour permeability and water permeability		<i>Harmonised technical specification</i>
	<i>Property</i>	<i>Declared values</i>	
BR3 – Hygiene, health and environment	Water vapour permeability	Durable Colours: $s_d < 1.80$ m at 23°C and 85 %RH The designer shall consider the relevant needs for ventilation, heating and insulation to minimise condensation in service.	ETA-08/0343 issued on 2014-09-16 EN ISO 12572 test condition B
	Water permeability	Incl. joints for non-ventilated applications: No Performance Determined	ETA-08/0343 issued on 2014-09-16

<i>Essential characteristics</i>	Table 3 - Performance - Release of dangerous substances		<i>Harmonised technical specification</i>
	<i>Property</i>	<i>Product specification</i>	
BR3 – Hygiene, health and environment	Dangerous substances	The kit does not contain/release dangerous substances specified in TR 034, dated April 2013*), except Formaldehyde concentration 0.0105 mg/ m ³ . Formaldehyde class E1 The used fibres are not potential carcinogenic No biocides are used in the ROCKPANEL boards No flame retardant is used in the boards No cadmium is used in the boards.	ETA-08/0343 issued on 2014-09-16

*) In addition to the specific clauses relating to dangerous substances contained in this European technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

Essential characteristic	Table 4a - Performance -		Design value of the axial load for mechanical fixing 6 mm 'Durable' boards Subframe: solid wood			Harmonised technical specification	
	For service class 2 (see 'Note') and load-duration class 'Instantaneous' [c] For hole diameters fixings see Table 5						
	Property	6 mm boards	Span in mm [b]		$X_d = X_k / \gamma_M$ in N Middle / Edge / Corner	Table in ETA	ETA-08/0343 issued on 2014-09-16 EN 14592:2008+A1:2012 (E)
BR4 – Safety in use	Design value of the axial load $X_d = X_k / \gamma_M$	screw fixing [a][e] with the use of gaskets	300	400			
		screw fixing [a][e] with the use of 6 mm ROCKPANEL strips	300	400	C18/C24 [d] : 334 / 182 / 111	6-2 [c]	
		nail fixing (32 mm) [e] with the use of gaskets	300	480	C18 [d] : 183 / 157 / 132 C24 [d] : 219 / 157 / 132	7-1 [c]	
		nail fixing (40 mm) [e] with the use of 6 or 8 mm ROCKPANEL strips	300	480	C18 [d] : 183 / 157 / 132 C24 [d] : 219 / 157 / 132	7-2 [c]	
[a] with $\alpha \geq 30^\circ$: α is the angle between the screw axis and the grain direction				[d] Strength class BS EN 338			
[b] see Table 5				[e] for specifications fixings see Table 8			
[c] $k_{mod} = 1.10$ in accordance with Table 3.1 – 'Values of k_{mod} ' BS EN 1995-1-1:2004+A1:2008; For 'service class' 2 [NA to BS EN 1995-1-1:2004+A1:2008 Table NA.2 "External uses where member is protected from direct wetting"] and 'load-duration class' 'Instantaneous' [Table NA.1 NA to BS EN 1995-1-1:2004+A1:2008]				Note (according to BS EN 1995-1-1:2004+A1:2008 §2.3.1.3 (3)P) : Service class 2 is characterised by a moisture content in the materials corresponding to a temperature of 20°C and the relative humidity of the surrounding air only exceeding 85 % for a few weeks per year. In service class 2 the average moisture content in most softwoods will not exceed 20 %.			

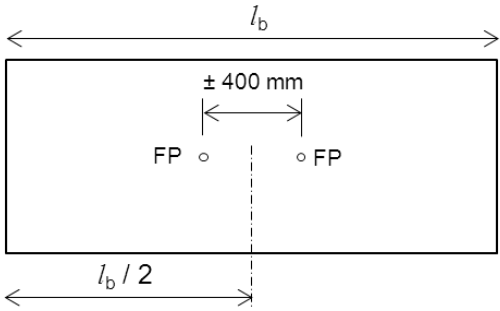
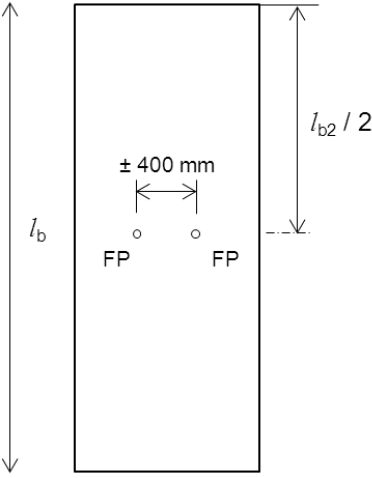
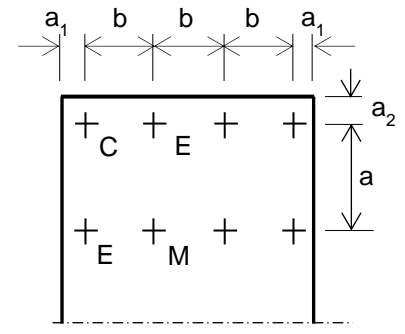
Essential characteristic	Table 4b - Performance -		Design value of the axial load for mechanical fixing 6 mm 'Durable' boards Subframe: solid wood			Harmonised technical specification	
	For service class 3 (see 'Note') and load-duration class 'Instantaneous' [c] For hole diameters fixings see Table 5						
	Property	6 mm boards	Span in mm [b]		$X_d = X_k / \gamma_M$ in N Middle / Edge / Corner	Table in ETA	ETA-08/0343 issued on 2014-09-16 EN 14592:2008+A1:2012 (E)
BR4 – Safety in use	Design value of the axial load $X_d = X_k / \gamma_M$	screw fixing [a][e] with the use of gaskets	300	400			
		screw fixing [a][e] with the use of 8 mm ROCKPANEL strips	300	400	C18 [d] : 313 / 182 / 111 C24 [d] : 334 / 182 / 111	6-2 [c]	
		nail fixing (32 mm) [e] with the use of gaskets	300	480	C18 [d] : 150 / 150 / 132 C24 [d] : 179 / 157 / 132	7-1 [c]	
		nail fixing (40 mm) [e] with the use of 6 or 8 mm ROCKPANEL strips	300	480	C18 [d] : 150 / 150 / 132 C24 [d] : 179 / 157 / 132	7-2 [c]	
[a] with $\alpha \geq 30^\circ$: α is the angle between the screw axis and the grain direction				[d] Strength class BS EN 338			
[b] see Table 5				[e] for specifications fixings see Table 8			
[c] $k_{mod} = 0.90$ in accordance with Table 3.1 – 'Values of k_{mod} ' BS EN 1995-1-1:2004+A1:2008; For 'service class' 3 [NA to BS EN 1995-1-1:2004+A1:2008 Table NA.2 "External uses fully exposed"] and 'load-duration class' 'Instantaneous' [Table NA.1 NA to BS EN 1995-1-1:2004+A1:2008]				Note (according to BS EN 1995-1-1:2004+A1:2008 §2.3.1.3 (3)P) : Service class 3 is characterised by climatic conditions leading to higher moisture contents than in service class 2 (compare 'Note' in Table 4a).			

Essential characteristic	Table 4c - Performance -		Design value of the axial load for mechanical fixing 6 mm 'Durable' boards Subframe: solid wood			Harmonised technical specification		
	For service class 2 (see 'Note') and load-duration class 'Permanent' [c] For hole diameters fixings see Table 5						Table in ETA	ETA-08/0343 issued on 2014-09-16 EN 14592:2008+A1:2012 (E)
	Property	6 mm boards	Span in mm [b]		$X_d = X_k / \gamma_M$ in N Middle / Edge / Corner			
		a fixing	b board					
BR4 – Safety in use	Design value of the axial load $X_d = X_k / \gamma_M$	screw fixing [a][e] with the use of gaskets	300	400	C18/C24 [d] : 334 / 182 / 111	6-1 [c]		
		screw fixing [a][e] with the use of 8 mm ROCKPANEL strips	300	400	C18 [d] : 209 / 182 / 111 C24 [d] : 224 / 182 / 111	6-2 [c]		
		nail fixing (32 mm) [e] with the use of gaskets	300	480	C18 [d] : 100 / 100 / 100 C24 [d] : 120 / 120 / 120	7-1 [c]		
		nail fixing (40 mm) [e] with the use of 6 or 8 mm ROCKPANEL strips	300	480	C18 [d] : 100 / 100 / 100 C24 [d] : 120 / 120 / 120	7-2 [c]		
[a] with $\alpha \geq 30^\circ$: α is the angle between the screw axis and the grain direction			[d] Strength class BS EN 338					
[b] see Table 5			[e] for specifications fixings see Table 8					
[c] $k_{mod} = 0.60$ in accordance with Table 3.1 – 'Values of k_{mod} ' BS EN 1995-1-1:2004+A1:2008; For 'service class' 2 [NA to BS EN 1995-1-1:2004+A1:2008 Table NA.2 "External uses where member is protected from direct wetting"] and 'load-duration class' 'Permanent' [Table NA.1 NA to BS EN 1995-1-1:2004+A1:2008]			Note (according to BS EN 1995-1-1:2004+A1:2008 §2.3.1.3 (3)P): Service class 2 is characterised by a moisture content in the materials corresponding to a temperature of 20°C and the relative humidity of the surrounding air only exceeding 85 % for a few weeks per year. In service class 2 the average moisture content in most softwoods will not exceed 20 %.					

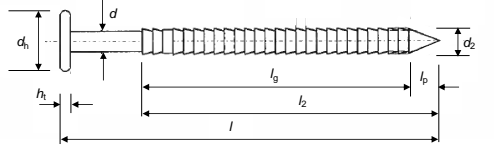
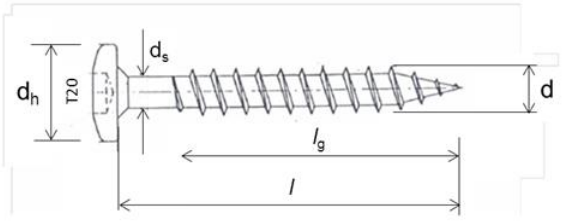
Essential characteristic	Table 5 – Performance mechanical fixings : Minimum edge distances, maximum distances between fastenings and hole diameter of fixing points in mm for 6 mm 'Durable' boards								Harmonised technical specification
BR4 – Safety in use	Fixing type [a]	Distances				Hole diameter fixing			Board dimension considered
		b_{max}	a_{max}	a_1	a_2	fixed	moving	slotted	
	Screw	400	300	≥ 15	≥ 50	3.2	6.0	3.4 * 6.0	1200 * 3050
Nail	480	300	≥ 15	≥ 50	2.5	4.0	2.8 * 4.0	1200 * 1600 [b]	

[a] for specifications fixings see table 9a and 9b

[b] board length considered : 1600 mm; In the case of a larger panel length, and certain climatic conditions, a tension between shaft and panel-hole may occur

<i>Essential characteristic</i>	Table 6	<i>Performance fixings according to table 4 and 5 with the fixing locations and installation method of boards</i>		<i>Harmonised technical specification</i>
BR4 – Safety in use	 <p>l_b = length board FP – fixed point; All the other fixing points are 'moving points'</p>		<p>C: Fixing in corner E: Fixing at edge M: Fixing at intermediate position</p>	ETA-08/0343 issued on 2014-09-16 Table 5.1 and 5.2
				

<i>Essential characteristic</i>	Table 7 – Performance shear strength mechanical fixings			<i>Harmonised technical specification</i>
BR4 – Safety in use	Characteristic shear strength mechanical fixings Average values	Fixing	Failure load	Deformation
		Screws	1182 N	8 mm
		Nails	1062 N	12 mm
				ETA-08/0343 issued on 2014-09-16

<i>Essential characteristic</i>	Table 8 - Specifications mechanical fixings		<i>Harmonised technical specification</i>
BR4 – Safety in use	Ring-shank nail	Torx screws 4,5 x 35 mm	ETA-08/0343 issued on 2014-09-16 Table 8.1 and 8.2
	Stainless steel in accordance with EN 10088 Material number 1.4401 or 1.4578	Stainless steel in accordance with EN 10088 - Material number 1.4401 or 1.4578. Definitions in accordance with EN 14592:2008+A1:2012	
$d = 2.6 - 2.8$ $d_2 = 2.8 - 3.0$ l for nail 32 = 31 – 32.5 l for nail 40 = 39 – 40.5 l_2 for nail 32 = 24 – 26 l_2 for nail 40 = 32 – 34 $l_p = \leq 4,8$ $l_g = l_2 - l_p$ $d_h = 5,8 - 6,3$ $h_t = 0,8 - 1,0$		$d = 4,3 - 4,6$ $d_s = 3,3 - 3,4$ $d_h = 9,6 - 0,4$ $l = 35 - 1,25$ $l_g = 26,25 - 28,5$	

Essential characteristic	Table 9 – Performance Impact resistance				Harmonised technical specification
	Impactor		Energy	Category	
BR4 – Safety in use	Hard body	Steel ball 0.5 kg	3 J	I	ETA-08/0343 issued on 2014-09-16
	Soft body	Ball 3 kg	10 J	III	

Essential characteristic	Table 10 – Performance dimensional stability			Harmonised technical specification
		Length	Width	
BR4 – Safety in use	Cumulative dimensional change [a]	0.085%	0.084%	ETA-08/0343 issued on 2014-09-16
	Coefficient of thermal expansion $10^{-6} K^{-1}$	10.5	10.5	
	Coefficient of moisture expansion 42% RH difference after 4 days mm/m	0.288	0.317	

[a] As a consequence the minimum joint width shall be 3 mm, preferably 5 mm.

Essential characteristic	Table 11 – Resistance to hygro-thermal cycles and Xenon Arc exposure			Harmonised technical specification
			Performance	
Aspects of durability and serviceability	Resistance to Hygrothermal cycles		Pass	ETA-08/0343 issued on 2014-09-16
	Resistance to Xenon Arc exposure <i>EOTA TR010 climate class S (Technical Report 010)</i> 5000 hours artificial weathering	Finish 'Colours/Rockclad'	ISO 105 A02: 3-4 or better	

8. 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:

ROCKWOOL B.V.
W.J.E. Dumoulin
Technical Director Operations DE-NL



At Roermond, The Netherlands on 28th January 2016

DOP in accordance with Commission Delegated Regulation (EU) No 574/2014 of 21 February 2014 amending Annex III to Regulation (EU) No 305/2011 of the European Parliament and of the Council on the model to be used for drawing up a declaration of performance on construction products, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014R0574>, OJ L 159, 28.5.2014, p. 41-46