

DECLARATION OF PERFORMANCE

No. **0764-CPR-0240 - DK – english - vs01**

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

ROCKPANEL FS-Xtra 9 mm finish Colours/Rockclad and ROCKPANEL FS-Xtra 9 mm finish ProtectPlus

2. *Intended use / es*

Internal and external wall and ceiling finishes

3. *Manufacturer*

ROCKWOOL B.V. / ROCKPANEL Group
Konstruktieweg 2
NL-6045 JD Roermond, Netherlands
Tel. +31 475 353 000
Fax +31 475 353 550

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-13/0340 of 2015-03-25

Technical Assessment Body: ETA-Danmark A/S
Göteborg Plads 1, DK-2150 Nordhavn, Denmark
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Notified Body: Materialprüfanstalt für das Bauwesen
Nienburger Strasse 3, D-30167 Hannover, Germany
Notified Body 0764
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and issued: **Certificate of Constancy of performance No. 0764 - CPR – 0240**

6. Characteristics of the product

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

The ROCKPANEL FS-Xtra ProtectPlus panels are surface treated with a four-layer water-borne polymer emulsion paint on one side, which has been provided with an extra anti-graffiti clear coat as a fifth layer on the colour paint.

The physical properties of **ROCKPANEL FS-Xtra 9 mm** are indicated below:

- thickness and tolerances	9 ± 0,5 mm
- length, max	3050 mm
- width, max	1250 mm
- density, nominal	1250 kg/m ³
- bending strength	length and width $f_{05} \geq 25,5$ N/mm ²
- Modulus of Elasticity	$m(E) \geq 4740$ N/mm ²
- Thermal conductivity EN 10456	0,55 W/(m•K)

Clause 7 contains the performances of ROCKPANEL FS-Xtra 9 mm.

7. Declared performance

Essential characteristics	Performance				Harmonised technical specification
Basic Requirements for construction works ER2 - Safety in case of fire	Table 1 - Euroclass classification of constructions with ROCKPANEL FS-Xtra boards				ETA-13/0340 issued 2015-03-25 EN 13501-1:2010
	Fixing method	Ventilated or non-ventilated	subframe	Euroclass	
	mechanically fixed	Ventilated with ≥ 40 mm cavity	vertical aluminum or steel profiles	A2-s1,d0 open 8 mm horizontal joint	

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 to a metal subframe
- The panels are backed with min. 50 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 with a cavity between the panels and the insulation

Substrates:

- Concrete walls, masonry walls

Insulation:

- Ventilated constructions: The subframe is backed with min. 50 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 with a cavity of minimal 40 mm between the panels and the insulation
- 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
- Results are also valid for the panels without insulation, if the substrate chosen according to EN 13238 is made of panel with Euro-class A1 or A2 (e.g. fibre-cement panels)

Subframe:

- Test results are only valid for a metal subframe

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:

- Unfilled
- The depth of the cavity is minimum 40 mm
- Test results are also valid for other higher thickness of air space between the back of the board and the insulation behind the subframe

Joints:

- Vertical joints are without a gasket backing and horizontal joints can be open or closed with an aluminum profile
- Test results are also valid for higher thicknesses of ROCKPANEL strips
- 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
- Max joint width: 8 mm

The classification is also valid for the following product parameters:

- Thickness: • Nominal 9 mm, individual tolerances $\pm 0,5$ mm
- Density: • Nominal 1250 kg/m³

Essential characteristics	Table 2 - Performance - Water vapour permeability and water permeability		Harmonised technical specification
	Property	Declared values	
ER3 – Hygiene, health and environment	Water vapour permeability	NPD No Performance Declared	ETA-13/0340 issued on 2015-03-25
	Water permeability	NPD No Performance Declared	ETA-13/0340 issued on 2015-03-25

Essential characteristics	Table 3 - Performance - Release of dangerous substances		Harmonised technical specification
	Property	Product specification	
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-13/0340 issued on 2015-03-25

*) 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 4 - Performance - Design value of the axial load for mechanical fixing 9 mm 'FS-Xtra' boards					Harmonised technical specification		
	For hole diameters fixings see Table 5						Table in ETA	ETA-13/0340 issued on 2015-03-25
	Property	9 mm boards	Span in mm [a]		$X_d = X_k / \gamma_M$ in N Middle / Edge / Corner			
ER4 – Safety in use	Design value of the axial load $X_d = X_k / \gamma_M$ [c]	Rivet fixing [b]	a fixing	b board		600	600	468 / 304 / 200 [c]

[a] see Table 6

[b] for specifications fixings see Table 8

[c] The following material factors have been used: for the FS-Xtra $\gamma_M = 2,0$; for the connection rivet-subframe $\gamma_M = 1,25$

Essential characteristic	Table 5 - Performance mechanical fixings : hole diameters for 'FS-Xtra' boards				Harmonised technical specification
	Fixing type [a]	Fixed hole	Moving hole	Slotted hole	
ER4 – Safety in use	Rivet	5,1	8,0	5,1 * 8,0	ETA-13/0340 issued on 2015-03-25

[a] for specifications fixings see Table 8; for installation methods see table 6a and 6b

Essential characteristic	Table 6a	Performance fixings according to table 4 and 5 with the required edge distances, maximum distances and horizontal installation of boards	Harmonised technical specification																
BR4 – Safety in use		<table border="1"> <tr> <td>FP/SP [b]</td> <td>'Fixed point' FP and 'slotted point' SP (according to Table 5) in the middle of the vertical part of the board</td> </tr> <tr> <td colspan="2">All the other fixing points are 'moving points'</td> </tr> <tr> <td>l_m</td> <td>length max 3050 mm</td> </tr> <tr> <td>l_{mv}</td> <td>'moving length' \leq 1510 mm</td> </tr> </table> <p>Location of the fixing M: middle of the board E: edge of the board C: corner of the board</p>	FP/SP [b]	'Fixed point' FP and 'slotted point' SP (according to Table 5) in the middle of the vertical part of the board	All the other fixing points are 'moving points'		l_m	length max 3050 mm	l_{mv}	'moving length' \leq 1510 mm		ETA-13/0340 issued on 2015-03-25 Table 10, 11 and Fig. 2							
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<p>[a]: For correct fixing (FP and FPM) a riveting tool with rivet spacer must be used (e.g. 0,3 mm).</p> <p>[b]: Subframe aluminum</p>																			

Essential characteristic	Table 6b	Performance fixings according to Table 4 and 5 with the required edge distances, maximum distances and vertical installation of boards	Harmonised technical specification																	
BR4 – Safety in use			<table border="1"> <tr> <td>FP/SP [b]</td> <td>'Fixed points' FP and 'slotted points' SP (according to Table 5) in the middle of the vertical part of the board</td> </tr> <tr> <td>FPM [b]</td> <td>Fixed point realized by a sleeve FPM</td> </tr> <tr> <td>SPM [b]</td> <td>Slotted hole realized by a side sleeve</td> </tr> <tr> <td colspan="2">All the other fixing points are 'moving' points</td> </tr> <tr> <td>l_b</td> <td>Length of the board</td> </tr> <tr> <td>l_{b2}</td> <td>ca $l_b / 2$</td> </tr> <tr> <td>b_3</td> <td>max. 400 mm</td> </tr> <tr> <td>b_4</td> <td>max. 600 mm</td> </tr> </table>	FP/SP [b]	'Fixed points' FP and 'slotted points' SP (according to Table 5) in the middle of the vertical part of the board	FPM [b]	Fixed point realized by a sleeve FPM	SPM [b]	Slotted hole realized by a side sleeve	All the other fixing points are 'moving' points		l_b	Length of the board	l_{b2}	ca $l_b / 2$	b_3	max. 400 mm	b_4	max. 600 mm	ETA-13/0340 issued on 2015-03-25 Table 11, 12 and Fig. 2
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[a]: For correct fixing (FP, FPM, SP and SPM) a riveting tool with rivet spacer must be used (e.g. 0,3 mm).

[b]: Subframe aluminum

Essential characteristic	Table 7 – Performance shear strength mechanical fixings				Harmonised technical specification
	Fixing	Failure load	Deformation		
ER4 – Safety in use	Characteristic shear strength Average values	Rivets	2390 N	3,2 mm	ETA-13/0340 issued on 2015-03-25

Table 8 - Specifications mechanical fixings - Rivet aluminum or stainless steel [e]					Harmonised technical specification
	Aluminum [d]	Stainless steel A4 [a]	Aluminum [d]	stainless steel [b]	
	Code	AP14-50180-S	SSO-D15-50180	1290406	1290806
	Body	aluminum EN AW-5019 (AlMg5) in accordance with EN 755-2	stainless steel material number 1.4578 in accordance with EN 10088	aluminum EN AW-5019 (AlMg5) in accordance with EN 755-2	stainless steel material number 1.4567 in accordance with EN 10088
	Mandrel	stainless steel material number 1.4541 in accordance with EN 10088	stainless steel material number 1.4541 in accordance with EN 10088	stainless steel material number 1.4541 in accordance with EN 10088	stainless steel material number 1.4541 in accordance with EN 10088
	Pull-out strength	$F_{mean,n} = 2038$	$F_{mean,n} = 1428$	$F_{mean,10} = 2318$	$F_{mean,10} = 3212$
		$s = 95$	$s = 54$	$s = 85$	$s = 83$
		$F_{u,5} = 1882$	$F_{u,5} = 1339$	$F_{u,5} = 2155$	$F_{u,5} = 3052$
	d^1	5	5	5	5
	d^2	14	15	14	14
	d^3	2,7	2,7	2,7	2,95
	l	18	18	18	16
	k	1,5	1,5	1,5	1,5
profile	aluminum $t \geq 1,5$ mm	steel $t \geq 1,0$ mm [a]	aluminum $t \geq 1,8$ mm	steel $t \geq 1,5$ mm [b]	

ETA-13/0340
issued
on 2015-03-25
Table 5

[a] : The minimum thickness of the vertical steel profiles is 1,0 mm. The steel quality is S320GD +Z EN 10346 number 1.0250 (or equivalent for cold forming). For minimum coating thickness see [c]

[b] : The minimum thickness of the vertical steel profiles is 1,5 mm. The steel quality is EN 10025-2:2004 S235JR number 1.0038. For minimum coating thickness see [c]

[c] : The minimum coating thickness (Z or ZA) is determined by the corrosion rate (amount of corrosion loss in thickness per year) which depends on the specific outdoor atmospheric environment (the Zinc Life Time Predictor can be used to calculate the Corrosion Rate in $\mu\text{m}/\text{y}$ for a Z coating: <http://www.galvinfo.com:8080/zclp/> (copyright The International Zinc association).

The coating designation (classification which determines the coating mass) shall be agreed between the contractor and the building owner.

Alternatively a hot dip galvanized coating according to EN ISO 1461 can be used.

[d] : The aluminum is AW-6060 according to EN 755-2. The $R_m/R_{p0,2}$ value is 170/140 for profile T6 and 195/150 for profile T66.

[e] : For correct fixing a riveting tool with rivet spacer must be used (e.g. 0,3 mm)

Essential characteristic	Table 9 – Performance Impact resistance				Table in ETA	Harmonised technical specification
	Impactor		Energy	Category		
ER4 – Safety in use	Hard body	Steel ball 0,5 kg	1 J	IV	6	ETA-13/0340 issued on 2015-03-25
	Hard body	Steel ball 0,5 kg	3 J	III, II and I		
	Hard body	Steel ball 1 kg	10 J	II and I		
	Soft body	Ball 3 kg	10 J	IV and III		

Essential characteristic	Table 10 – Performance dimensional stability			Table in ETA	Harmonised technical specification
		Length	Width		
ER4 – Safety in use	Deformation - cumulative dimensional change [a]	0,061%	0,066%	7	ETA-13/0340 issued on 2015-03-25
	Dry heat 23°C / 50% to 23°C / 0% (mm/m)	-0,240	-0,290		
	Coefficient of thermal expansion (10 ⁻⁶ K ⁻¹)	9,7	9,7		
	Coefficient of moisture expansion 42% RH difference after 4 days (mm/m)	0,204	0,207		

[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		Performance	Harmonised technical specification
Aspects of durability and serviceability	Resistance to Hygrothermal cycles		Pass	ETA-13/0340 issued on 2015-03-25
	Resistance to Xenon Arc exposure EOTA TR010 climate class S (Technical Report 010) 5000 hours artificial weathering	Finish 'Colours/Rockclad'	ISO 105 A02: 3-4 or better	
		Finish 'ProtectPlus'	ISO 105 A02: 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 22nd December 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