ROCKWOOL B.V. / Rockpanel
Konstruktieweg 2
NL-6045 JD Roermond
www.rockpanel.com

DECLARATION OF PERFORMANCE

No. ***0764-CPR-0321 – DK - English - vs02***

1. Unique identification code of the product-type:

Rockpanel Durable 8 mm finish Colours and Rockpanel Durable 8 mm finish ProtectPlus

2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11 (4):

Backside print on the board.

3. Intended use / es

Internal and external wall and ceiling finishes

4. Manufacturer

ROCKWOOL B.V.
Industrieweg 15
NL-6045 JG Roermond, Netherlands
Tel. +31 475 353 353

5. 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 for reaction to fire and system 2+ for other characteristics

6. European Assessment Document:

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

European Technical Assessment: ETA-07/0141 of 2021-12-03

Technical Assessment Body:
ETA-Danmark A/S
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Notified Body:
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Notified Body 0764
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and issued: **Certificate of Constancy of performance No. 0764 - CPR – 0321**

7. 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 Rockpanel Durable 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 Durable'** 8 mm are indicated below:

- thickness 8
- length, max 3050 mm
- width, max 1250 mm
- density nominal 1050 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 8 contains the performances of Rockpanel Durable 8 mm.

8. Declared performance

<table>
<tr><td>Essential characteristics</td><td colspan="5">Performance</td><td>Harmonised technical specification</td></tr>
<tr><td rowspan="11">Basic Requirements for construction works

BR2 - Safety in case of fire</td><td colspan="5">Table 1 - Euroclass classification of different constructions with Rockpanel boards</td><td rowspan="11">ETA-07/0141
issued on 2021-12-03
EN 13501-1</td></tr>
<tr><td rowspan="2">Fixing method</td><td rowspan="2">Ventilated or non-ventilated</td><td>vertical wooden subframe</td><td>vertical aluminum subframe</td></tr>
<tr><td colspan="2">‘Durable Colours’ and ‘Durable ProtectPlus’</td></tr>
<tr><td rowspan="5">mechanically fixed</td><td>Non-ventilated.
Cavity filled with mineral wool</td><td>B-s1,d0
closed horizontal joint</td><td></td></tr>
<tr><td>Ventilated with EPDM gasket on the battens [a] [d]</td><td>B-s2,d0
open 6 mm horizontal joint</td><td></td></tr>
<tr><td>Ventilated with 6 or 8 mm ROCKPANEL strips on the battens [b] [d]</td><td>B-s2,d0
open 6 mm horizontal joint</td><td></td></tr>
<tr><td>Ventilated with 9 mm wind board in front of insulation and > 20 mm cavity, with EPDM gasket on the battens.</td><td>B-s1,d0
open 6 mm horizontal joint</td><td></td></tr>
<tr><td>Ventilated with 8 mm ROCKPANEL strips on the battens [b]</td><td>B-s1,d0
open 6 mm horizontal joint for finish white and black [c]</td><td></td></tr>
<tr><td rowspan="2">bonded</td><td>ventilated with 8 mm ROCKPANEL strips on the battens [b]</td><td>B-s2,d0
open 6 mm horizontal joint</td><td></td></tr>
<tr><td>ventilated</td><td></td><td>B-s2,d0
open 6 mm horizontal joint</td></tr>
<tr><td colspan="5">[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
[c] also valid for a mixture of the colours white and black
[d] also valid for boards with a primer finish</td></tr>
</table>

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 or adhered as described in table 1, which are attached to the subframe mentioned below
- Adhered to a wooden subframe with intermediate ROCKPANEL strips mechanically fixed
- The panels are backed with minimum 50 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 with a cavity between the panels and the insulation (mechanically fixed)
- The panels are backed with minimum 40 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 without an air gap between the wooden subframe (mechanically fixed – non ventilated)
- The panels are backed with minimum 50 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 with a cavity between the panels and the insulation (fixing method Adhesive ROCKPANEL Tack-S)

Substrates:
- Concrete walls, masonry walls, timber framing

Insulation:
- Ventilated constructions: The battens are backed with minimum 50 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 with a cavity of minimum 28 mm between the panels and the insulation
- Non-ventilated constructions: The panels are backed with minimum 40 mm mineral wool insulation with 30-70 kg/m³ between the battens and minimum 50 mm with density 30-70 kg/m³ behind the battens without air gap
- Ventilated construction and fixing method adhesive ROCKPANEL Tack-S: The panels are backed with minimum 50 mm mineral wool insulation with density 30-70 kg/m³ according to EN 13162 with a cavity of minimum 36 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 same type of panel used without insulation, if the substrate chosen according EN 13238 is made of panel with Euro class A1 or A2 (e.g. fibre-cement panel)

Subframe:
- Vertical softwood battens without fire retardant treatment, thickness minimum 28 mm
- In the event of application of a wind board (K_1 10), the softwood battens may reduced to a minimum thickness 20 mm
- Test results are also valid for the same type of panel with aluminum or steel frame
- Test results are also valid for the same type of panel with vertical LVL battens, without fire retardant treatment, thickness minimum 27 mm

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 or filled with insulation of stone wool with a nominal density 30-70 kg/m³ according to EN 13162
- The depth of the cavity is minimum 28 mm
- 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 (ventilated constructions) or with an aluminum profile (ventilated and non-ventilated constructions)
- 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:
- Nominal 8

Density:
- Nominal 1050 kg/m^3

Essential characteristics	***Table 2*** *- Performance - Water vapour permeability and water permeability*		*Harmonised technical specification*
	Property	*Declared values*	
BR3 – Hygiene, health and environment	Water vapour permeability	Durable Colours: s_d < 1.80 m at 23°C and 85 %RH Durable ProtectPlus: s_d < 3.5 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-07/0141 issued on 2021-12-03 EN ISO 12572 test condition B
	Water permeability	Incl. joints for non-ventilated applications: NPD	ETA-07/0141 issued on 2021-12-03

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-07/0141 issued on 2021-12-03

*) 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 8 mm 'Durable' boards* *Subframe: solid wood / metal*				*Harmonised technical specification*	
	*For service class **2** (see 'Note') and load-duration class **'Instantaneous'** [c]. For hole diameters fixings see table 6*						
	Property	8 mm boards	Span in mm [b]		$X_d = X_k$ / γ_M in N	*Table in ETA*	
			a fixing	b board	Middle / Edge / Corner		
BR4 – Safety in use	**Design** value of the axial load $X_d = X_k$ / γ_M	**screw** fixing [a][e] with the use of gaskets	600	600	C18/C24[d]: 533 / 241 / 118	6-3 [c]	ETA-07/0141 issued on 2021-12-03 EN 14592:2008+A1:2012 (E)
		screw fixing [a][e] with the use of 8 mm ROCKPANEL strips	600	600	C18 [d]: 284 / 241 / 118 C24 [d]: 306 / 241 / 118	6-4 [c]	
		Standard nail fixing (32 mm) [e] with the use of gaskets	400	600	C18 [d]: 142 / 142 / 142 C24 [d]: 170 / 170 / 170	6-5 [c]	
		High Performance nail fixing (35 mm)[e] with the use of gaskets	400	600	C18 [d]: 341 / 314 / 199 C24 [d]: 376 / 314 / 199	6-6 [c]	
		Rivet fixing in metal [e]	600	600	654 / 309 / 156	6-1	
		Screw fixing in steel [e]	600	600	533 / 241 / 118	6-2	

[a] with ≥ 30° : *is the angle between the screw axis and the grain direction*

[b] see Table 7a

*[c] k_{mod} = 1.10 in accordance with Table 3.1 – 'Values of k_{mod} ' DS EN 1995-1-1:DK NA:2010; For 'service class' **2** ["ventilated structures protected against precipitation"] and 'load-duration class' **'Instantaneous'** [Table 2.2 DS / EN 1995-1-1 DK NA: 2010-05]*

[d] Strength class EN 338

[e] for specifications fixings see table 9a, 9b and 9c

*Note (according to DS EN 1995-1-1 NA:2010-05 §2.3.1.3 (3)P): **Service class 2** "ventilated structures protected against precipitation, e.g. ventilated roof structures". EN 1995-1-1: 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 8 mm 'Durable' boards Subframe: solid wood / metal*			*Harmonised technical specification*	
	*For service class **3** (see 'Note') and load-duration class **'Instantaneous'** [c]. For hole diameters fixings see table 6*					
	Property	8 mm boards	Span in mm [b]		$X_d = X_k$ / γ_M in N	*Table in ETA*
			a fixing	b board	Middle / Edge / Corner	
BR4 – Safety in use	**Design** value of the axial load $X_d = X_k$ / γ_M	**screw** fixing [a][e] with the use of gaskets	600	600	C18/C24[d]: 533 / 241 / 118	6-3 [c]
		screw fixing [a][e] with the use of 8 mm ROCKPANEL strips	600	600	C18 [d]: 233 / 233 / 118 C24 [d]: 250 / 241 / 118	6-4 [c]
		Standard nail fixing (32 mm) [e] with the use of gaskets	400	600	C18 [d]: 116 / 116 / 116 C24 [d]: 139 / 139 / 139	6-5 [c]
		High Performance nail fixing (35 mm)[e] with the use of gaskets	400	600	C18 [d]: 279 / 279 / 199 C24 [d]: 333 / 314 / 199	6-6 [c]
		Rivet fixing in metal [e]	600	600	654 / 309 / 156	6-1
		Screw fixing in steel [e]	600	600	533 / 241 / 118	6-2

ETA-07/0141 issued on 2021-12-03 EN 14592:2008+A1:2012 (E)

[a] with ≥ 30° : *is the angle between the screw axis and the grain direction*

[b] see Table 7a

*[c] k_{mod} = 0.90 in accordance with Table 3.1 – 'Values of k_{mod} ' DS EN 1995-1-1 DK NA:2010-05; For 'service class' **3** ["External uses fully exposed"] and 'load-duration class' **'Instantaneous'** [Table 2.2 DS EN 1995-1-1 DK NA : 2010-05]*

[d] Strength class EN 338

[e] for specifications fixings see table 9a, 9b and 9c

*Note (according to DS EN 1995-1-1 NA: 2010-05 §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 8 mm 'Durable' boards Subframe: solid wood / metal*			*Harmonised technical specification*	
	*For service class **2** (see 'Note') and load-duration class **'Permanent'** [c]. For hole diameters fixings see table 6*					
	Property	8 mm boards	Span in mm [b]		$X_d = X_k$ / γ_M in N	*Table in ETA*
			a fixing	b board	Middle / Edge / Corner	
BR4 – Safety in use	**Design** value of the axial load $X_d = X_k$ / γ_M	**screw** fixing [a][e] with the use of gaskets	600	600	C18[d]: 396 / 241 / 118 C24[d]: 425 / 241 / 118	6-3 [c]
		screw fixing [a][e] with the use of 8 mm ROCKPANEL strips	600	600	C18 [d]: 155 / 155 / 118 C24 [d]: 167 / 167 / 118	6-4 [c]
		Standard nail fixing (32 mm) [e] with the use of gaskets	400	600	C18 [d]: 77 / 77 / 77 C24 [d]: 93 / 93 / 93	6-5 [c]
		High Performance nail fixing (35 mm)[e] with the use of gaskets	400	600	C18 [d]: 186 / 186 / 186 C24 [d]: 222 / 222 / 199	6-6 [c]
		Rivet fixing in metal [e]	600	600	654 / 309 / 156	6-1
		Screw fixing in steel [e]	600	600	533 / 241 / 118	6-2

ETA-07/0141 issued on 2021-12-03 EN 14592:2008+A1:2012 (E)

[a] with ≥ 30° : *is the angle between the screw axis and the grain direction*

[b] see Table 7a

*[c] k_{mod} = 0.60 in accordance with Table 3.1 – 'Values of k_{mod} ' DS EN 1995-1-1 DK NA: 2010; For 'service class' **2** ["Ventilated structures protected against precipitation"] and 'load-duration class' **'Permanent'** [Table 2.2 DS EN 1995-1-1 DK NA:2010-05]*

[d] Strength class EN 338

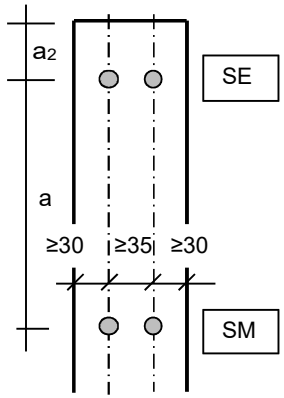
[e] for specifications fixings see table 9a, 9b and 9c

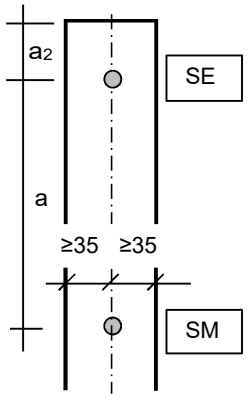
*Note (according to DS EN 1995-1-1 NA: 2010-05 §2.3.1.3 (3)P): **Service class 2** "ventilated structures protected against precipitation, e.g. ventilated roof structures". EN 1995-1-1. In service class 2 the average moisture content in most softwoods will not exceed 20 %.*

Essential characteristic	***Table 5*** *- Performance -*	*Design value of the axial load for mechanical fixing 8 mm 'Durable' strips for bonding purposes* *For service class* ***2*** *(see 'Note') and load-duration class* ***'Instantaneous'*** *[c]* *For hole diameters fixings see table 6* *Subframe: solid wood*						*Harmonised technical specification*	
	Property	8 mm strips [b] in combination with	Span in mm			$X_d = X_k$ / γ_M *[c]* in N		*Table in ETA*	
			a_2	a fixing	b adhesive ridge	SE: start / end of the strip	SM: Middle of the strip		
BR4 – Safety in use	**Design** value of the axial load $X_d = X_k$ / γ_M *[c]*	**screw** fixing and intermediate strips [a][e]	≥ 50	400	600	C18 [d] : 266 C24 [d] : 266	C18 [d] : 425 C24 [d] : 425	6-8 [c]	ETA-07/0141 issued on 2021-12-03 and EN 14592:2008 +A1:2012 (E)
		screw fixing and end strips or joint strips [a][e]	≥ 50	400	600	C18 [d] : 124 C24 [d] : 124	C18 [d] : 412 C24 [d] : 412	6-7 [c]	
		Standard nail fixing (32 mm) and intermediate strips [e]	≥ 50	300	600	C18 [d] : 133 C24 [d] : 133	C18 [d] : 142 C24 [d] : 170	6-10 [c]	
		Standard nail fixing (32 mm) and end or joint strip [b][e]	≥ 50	300	600	C18 [d] : 76 C24 [d] : 76	C18 [d] : 142 C24 [d] : 170	6-9 [c]	
		Strips for a wooden subframe :			located on vertical joints		located on end or between joints		

[a] with ≥ 30° : *is the angle between the screw axis and the grain direction*
[b] fixed points in the middle of the length of the strip
[c] k_{mod} *= 1.10 Table 3.1 DS EN 1995-1-1 DK NA: 2010*
For serviceclass 2 ["ventilated structures protected against precipitation"] External and Load-duration class 'Instantaneous' [Table 2.2 DS EN 1995-1-1 DK NA:2010-05]
[d] Strength class EN 338
[e] for specifications fixings see table 9b

Note *(according to DS EN 1995-1-1 NA: 2010-05 §2.3.1.3 (3)P):*
Service class 2- *"ventilated structures protected against precipitation, e.g. ventilated roof structures". EN 1995-1-1: In service class 2 the average moisture content in most softwoods will not exceed 20 %.*

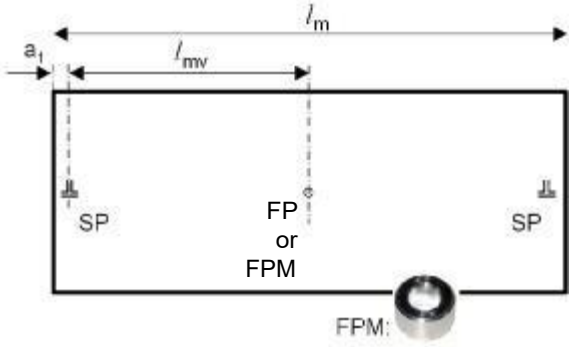




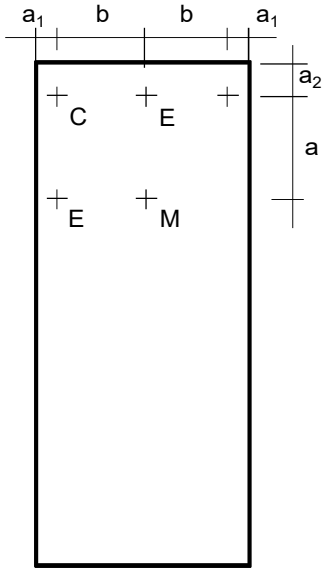
Essential characteristic	***Table 6*** *– Performance mechanical fixings : hole diameters for 'Durable' boards and 'Durable' strips in bonded applications*					*Harmonised technical specification*
	Fixing type [a]	Fixed hole	Moving hole	Slotted hole	Board dimension considered	
BR4 – Safety in use	Screw for timber	3.2	6.0	3.4 * 6.0	1200 * 3050	ETA-07/0141 issued on 2021-12-03
	Nail	2.5	3.8	2.8 * 4.0	1200 * 2420	
	Rivet	5.2	8.0	5.2 * 8.0	1200 * 3050	
	Screw for steel	4,3	8,0	4,3 * 8,0	1200 * 3050	

[a] for specifications fixings see table 9a, 9b and 9c.

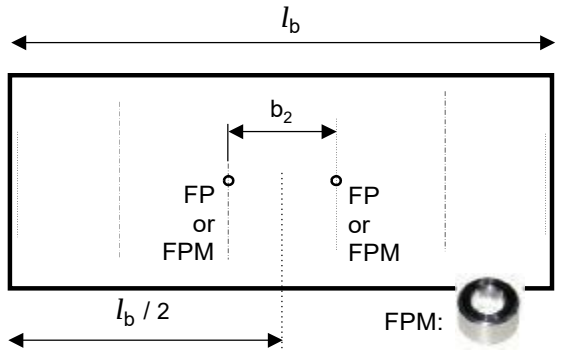
Essential characteristic	***Table 7a***	*Performance fixings according to table 4, 5 and 6 with the required edge distances, maximum distances and horizontal installation of boards*	*Harmonised technical specification*
BR4 – Safety in use			ETA-07/0141 Issued on 2021-12-03 Table 5 and fig. 8



FP/SP [b]	'Fixed hole' FP and 'slotted holes' SP (according to Table 6) 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' ≤ 1510 mm



Location oft he fixing
M: middle of the board
E: edge of the board
C: corner of the board



l_b	Length of the board
b_2	max. 600 mm; b_2 in the central area of the board length l_b
FPM [b]	Creating a fixed point by the use of a sleeve FPM

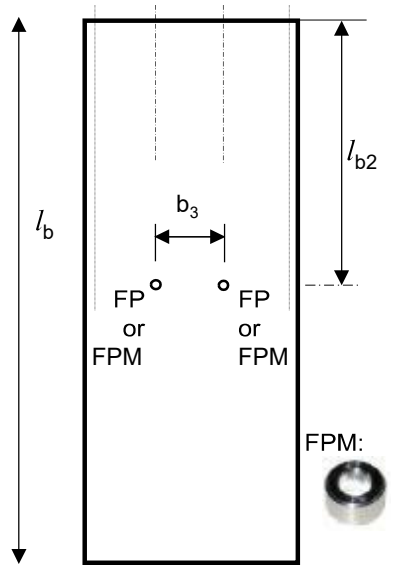
Fixing type	b_{max}	a_{max}	a_1	a_2
Rivet [a]	600	600	≥ 15	≥ 50
Screw	600	600	≥ 15	≥ 50
Nail	600	400	≥ 15	≥ 50
Adhesive	600	Continuously applied triangular adhesive ridge of 9 mm		

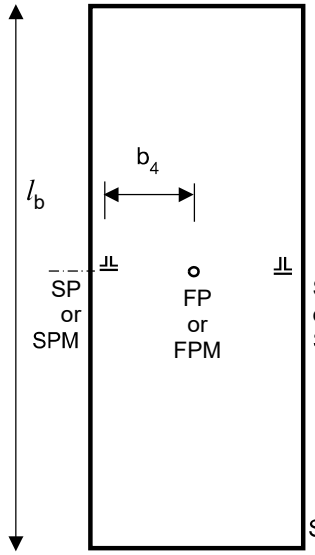
Subframe Aluminum :	FPM – Sleeve [a] [b]	Drill hole according to Table 6	Sleeve
		8 mm	ø8 x 7.5 – drill hole ø 5.1
	FP - 'Fixed point' FP (according to Table 6) in the central area of the vertical edge of the board		

[a]: For correct fixing (SP, FP and SPM) a riveting tool with rivet spacer must be used (e.g. 0.3 mm).
[b]: Subframe aluminum

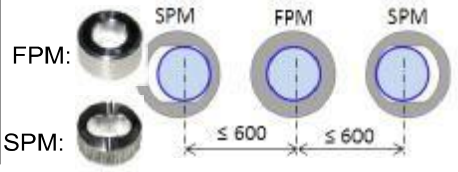
Essential characteristic	***Table 7b***	*Performance fixings according to Table 4, 5 and 6 with the required edge distances, maximum distances and vertical installation of boards*	*Harmonised technical specification*

BR4 – Safety in use





FP/SP [b]	'Fixed points' FP and 'slotted points' SP (according to Table 6) 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 oft he board
l_{b2}	ca l_b / 2
b_3	max. 400 mm
b_4	max. 600 mm



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Issued on
2021-12-03
Table 5 and fig. 8

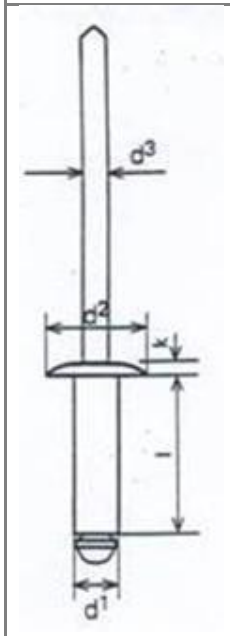
		Drill hole according to Table 6	Sleeve
Subframe Aluminum :	FPM – Sleeve [a] [b]	8 mm	ø8 x 7.5 – hole ø 5.1
	SPM – Side sleeve [a] [b]	8 mm	ø8 x 7.5 – hole ø5.1 x 6,2

[a]: For correct fixing (including SP, SPM, FP and FPM) a riveting tool with rivet spacer must be used (e.g. 0.3 mm).

[b]: Subframe aluminum

Essential characteristic	***Table 8** – Performance shear strength mechanical fixings*				*Harmonised technical specification*
		Fixing	Failure load	Deformation	
BR4 – Safety in use	Characteristic shear strength mechanical fixings Average values	Screws (applies to screws for steel and screws to timber)	1549 N	9 mm	ETA-07/0141 issued 2021-12-03
		Nails (applies to standard Nail and to HP Nail)	1325 N	15 mm	
		Rivets	1722 N	1.7 mm	

***Table 9a** - Specifications mechanical fixings - Rivet aluminum or stainless steel [e]*



	SFS Aluminum [d]	SFS Stainless steel A4 [a]	MBE Aluminum [d]	MBE 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 ≥ 1.5 mm	steel t ≥ 1.0 mm [a]	aluminum t ≥ 1.8 mm	steel t ≥ 1.5 mm [b]

[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 µm/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)

Table 9b *- Specifications mechanical fixings -*

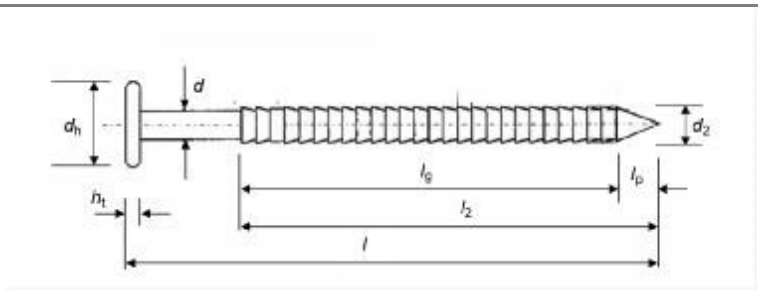
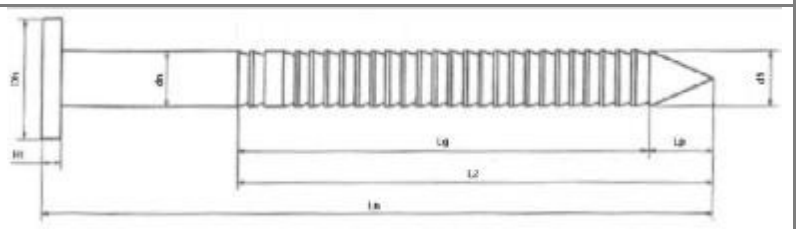
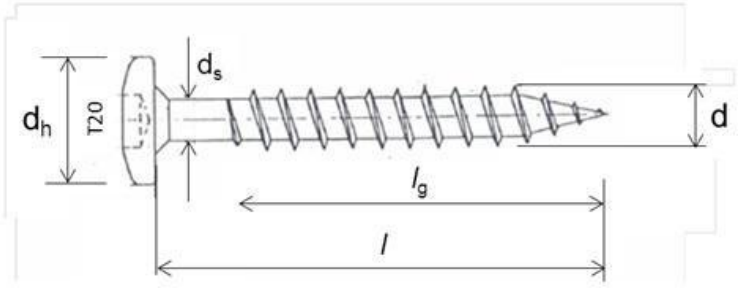
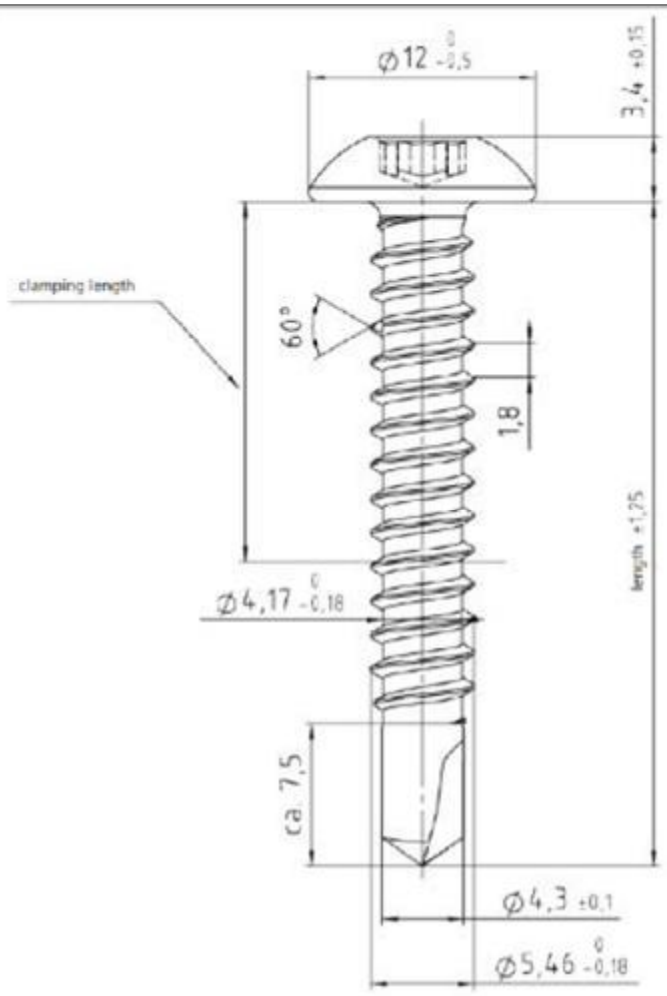
Ring-shank nail – Standard version 2.7/2.9 x 32 and 2.7/2.9 x 40 mm Stainless steel in accordance with EN 10088 - Material number 1.4401 or 1.4578 Definitions in accordance with EN 14592:2008+A1:2012	
d = 2.6 – 2.8 d_2 = 2.8 – 3.0 l for nail 32 = 31 – 32.5 l for nail 40 = 39 – 40.5 l_2 for nail 32 = 24 – 26 l_2 for nail 40 = 32 – 34 l_p = ≤ 4.8 l_g = l_2 - l_p d_h = 5.8 – 6.3 h_t = 0.8 – 1.0	
Ring-shank nail – High Performance version 2.7/3.1 x 35 mm Stainless steel in accordance with EN 10088 - Material number 1.4401 or 1.4578 Definitions in accordance with EN 14592:2008+A1:2012	
d_n = 2,7 ± 0,1 d_1 = 3,1 ± 0,1 l_n = 35 ± 1,0 l_2 = 28 ± 1,0 l_g = 25 ± 1,0 l_p = 3 ± 0,5 d_h = 6 ± 0,2 h_t = 0,9 ± 0,1	
Torx screws 4.5 x 35 mm Stainless steel in accordance with EN 10088 - Material number 1.4401 or 1.4578 Definitions in accordance with EN 14592:2008+A1:2012	
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	

***Table 9c** - Specifications mechanical fixings -*

Self-drilling screw for steel sub-constructions – code JT6-FR-3-5,5 x L Stainless steel A4 in accordance with EN ISO 3506	
Screw length 25 mm: Clamping length 9 mm Screw length 35 mm: Clamping length 19 mm	

Essential characteristic	***Table 10** –Performance Tack-S adhesive and FoamTape - Initial tensile strength*					*Harmonised technical specification*
			Contact surfaces - Rear of the board onto	Characteristic N/mm¹	Design N/mm¹	
BR4 – Safety in use	Tack-S adhesive [a] Partial factor for material property $\gamma_M = 4$ (tensile caused by wind load)	Conditions:				ETA-07/0141 issued on 2021-12-03 Table 6
		-40°C, -20°C, +23°C and +80°C	‘ProtectPlus’	$X_k = 6.94$	$X_d = 1.735$	
			‘Colours’	$X_k = 8.30$	$X_d = 2.075$	
			Primer ‘586’	$X_k = 4.58$	$X_d = 1.145$	
		-20°C, +23°C and +80°C	aluminum	$X_k = 5.92$	$X_d = 1.48$	
	FoamTape	+23°C	‘ProtectPlus’	$X_k = X_d = 0.73$		
			‘Colours’	$X_k = X_d = 1.17$		
			Primer ‘586’	$X_k = X_d = 0.86$		
			aluminum	$X_k = X_d = 0.47$		

[a] For the partial load factor $y_F = 1.5$ shall be taken

Essential characteristic	***Table 11** – Performance Tack-S adhesive and FoamTape - Initial shear strength*						*Harmonised technical specification*
		Partial factor for material property γ_M	Condi-tions:	Contact surfaces - Rear of the board onto	Characteristic N/mm¹	Design N/mm¹	
BR4 – Safety in use	Tack-S adhesive [a]	40 (shear caused by permanent load)	-40°C -20°C +23°C and +80°C	'ProtectPlus'	X_k = 7.00	X_d = 0.175	ETA-07/0141 issued on 2021-12-03 Table 6
				'Colours'			
				Primer '586'	X_k = 7.69	X_d = 0.192	
				aluminum	X_k = 8.58	X_d = 0.214	
	FoamTape	20 (shear caused by temporary load)	+23°C	'ProtectPlus'	X_k = 1.00	X_d = 0.05	
				'Colours'			
				Primer '586'	X_k = 0.85	X_d = 0.04	
				aluminum	X_k = 0.99	X_d = 0.05	

[a] For the partial load factor y_F = 1.5 shall be taken

Essential characteristic	***Table 12** – Performance Tack-S adhesive- Shear : deformation declared*			*Harmonised technical specification*
		Contact surfaces - Rear of the board onto	Deformation mm	
BR4 – Safety in use	Tack-S adhesive Conditions: -20°C, +23°C and +80°C	'ProtectPlus' and 'Colours'	7.8 – 12.2	ETA-07/0141 issued on 2021-12-03
		aluminum	9 – 12.0	
		Primer 586	9.4 – 12.2	

Essential characteristic	***Table 13** – Performance Tack-S adhesive: Characteristic tensile strength*				*Harmonised technical specification*
		Contact surfaces - Rear of the board onto	*Performance* N/mm¹		
			21 days	42 days	
Aspects of durability and serviceability	Immersion in water without UV	'ProtectPlus'	X_k = 2.80	X_k = 2.22	ETA-07/0141 issued on 2021-12-03
		'Colours'			
		Primer 586	X_k = 5.44	X_k = 4.73	
		aluminum	X_k = 3.12	X_k = 2.58	

[a] For the partial load factor y_F = 1.5 shall be taken

Essential characteristic	***Table 14** – Performance Tack-S adhesive: Characteristic tensile strength*			*Harmonised technical specification*
		Contact surfaces - Rear of the board onto	*Performance*	
Aspects of durability and serviceability	Humidity and NaCl	aluminum	X_k = 6.03 N/mm¹	ETA-07/0141 issued on 2021-12-03
	Humidity and SO_2	aluminum	X_k = 6.67 N/mm¹	

Essential characteristic	***Table 15** – Performance Impact resistance*					*Harmonised technical specification*
		Impactor		Energy	Category	
BR4 – Safety in use	Panels without a horizontal joint	Hard body	Steel ball 0.5 kg	1 J	IV	ETA-07/0141 issued on 2021-12-03
				3 J	III, II and I	
			Steel ball 1.0 kg	10 J	II and I	
		Soft body	Ball 3 kg	10 J	IV and III	
				60J	II and I	
		Soft body	Bag 50 kg	300 J	II	
	Panels with a horizontal joint ready accessible and vulnerable to impacts	Hard body	Steel ball 0.5 kg	1 J	IV	
			Steel ball 0.5 kg	3 J	III, II and I	

Essential characteristic	***Table 16** – Performance dimensional stability*			*Harmonised technical specification*
		Length	Width	
BR4 – Safety in use	Cumulative dimensional change *[a]*	0.085%	0.084%	ETA-07/0141 issued on 2021-12-03
	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 17** – Resistance to hygro-thermal cycles and Xenon Arc exposure*		*Performance*	*Harmonised technical specification*
Aspects of durability and serviceability	Resistance to Hygrothermal cycles		Pass	ETA-07/0141 issued on 2021-12-03
	Resistance to Xenon Arc exposure *EOTA TR010 climate class S (Technical Report 010)* 5000 hours artificial weathering	Finish 'Colours'	ISO 105 A02: 3-4 or better	
		Finish 'ProtectPlus'	ISO 105 A02: 4 or better	

9. *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 15-06-2022

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*