

Product description

Rockpanel boards for external cladding have been developed for a user-friendly and aesthetically pleasing finishing of facades, soffits, fascias and detailing. The boards are as durable as stone and as easy to work as wood. The boards are resistant to weather, temperature.

Rockpanel Natural is the most elemental version in the selection. Under the influence of climate the look of this durable board material changes. Sunlight produces a natural weathering and colouration of the boards comparable to that of other natural materials such as wood, concrete, steel, and so forth. Every microclimate produces a unique effect on Rockpanel Natural. This makes the product exceptionally innovative and it is therefore frequently applied in combination with other natural basic materials.

Application

Rockpanel Natural is suited for non-residential building, but also fits effortlessly into contemporary modern housing construction. The products are suited for renovation as well as new construction. Rockpanel Natural is frequently used in ventilated construction. It provides good building physics, durable performance of the insulating material and thus a comfortable interior climate in a building. Use of ventilated constructions also makes buildings easily adaptable to new energy standards in the future.

Typical application areas include:

- facade and partly-cladded
- soffits and fascias
- detailing and roofline

Product advantages Rockpanel Natural

- natural weathering/colouration
- edge finishing against moisture not needed
- dimensionally stable
- fire-safe
- 100% recyclable
- light in weight
- can easily be cut to size on-site
- does not require pre-drilling

Properties

The board material is deliverable in two different strengths.

Durable: for use in regular facade and roofline applications.

Xtreme: for use when a greater degree of impact resistance is required, usually towards groundlevel.

Dimensions and tolerances of the boards:

	Durable		Xtreme	
Panel length in mm*	3050		3050	
Panel width mm*	1200		1200	
Panel thickness in mm	8	10	8	10
Length/width tolerance in mm	+2/-2		+2/-2	
Thickness tolerance in mm	+0,5/-0,5		+0,5/-0,5	
Diagonal tolerance in mm	≤ 4		≤ 4	

* For different sizes, please contact Rockpanel for the possibilities available.

Characteristics

Rockpanel Natural weathering process

Rockpanel Natural weathers and colours as a consequence of natural elements such as UV light, wind, rain and the location of the building in its surroundings (for example, forests in the near vicinity). Every microclimate produces a unique effect on Rockpanel Natural. It is important in using Rockpanel Natural to bear in mind a few special points in detailing during application. For these, see the paragraph on application.

Material properties

Properties	Value		Unit	Standard
Mechanical properties				
	Durable	Xtreme		
Modules of elasticity	4015	5260	N/mm ²	EN 310
Characteristic bending strenght	≥ 27	≥ 30	N/mm ²	EN 310 en EN 1058 f ₀₅
Fire Euroclass				
Classification**	B-s2-d0			EN 13501-1
Physical properties				
	Durable	Xtreme		
Density nominal	1050+150/-150	1200+150/-150	kg/m ³	
Nominal mass of surface	8,4	9,6	kg/m ²	
	10,5	12	kg/m ²	
Dimensional stability				
- Dimensional stability	11*10 ⁻³		mm/(m ² K)	EN 438-2
- Dimensional stability length/width per 23°C/50% RF change 23°/95% RF	0,302		mm/m (after 4 days)	
Water uptake via the sawn edge after 28 days:				
- At 20° C and 65% RH	< 2,0		%	
- At 2° C and 90% RH	< 0,2		%	

** Depending on the bearing constructions in some case a sub classification of s1 can be reached. Contact Rockpanel for more information.

Fire safety

Rockpanel board material is subject to thorough testing and is a fire-safe building material. In the event of a fire the mineral wool structure of Rockpanel remains fully intact. There is absolutely no drop-formation and the risk of fire spreading is prevented.

Installation

Ventilated external-wall systems

Rockpanel products are applied in ventilated constructions. Typical of these kinds of facades is that the outer facade is being constructed as a cavity wall with an inner and an outer layer, resulting in a ventilated space between facade cladding and isolation. Two types of constructions are possible, i.e. with an open or a closed facade.

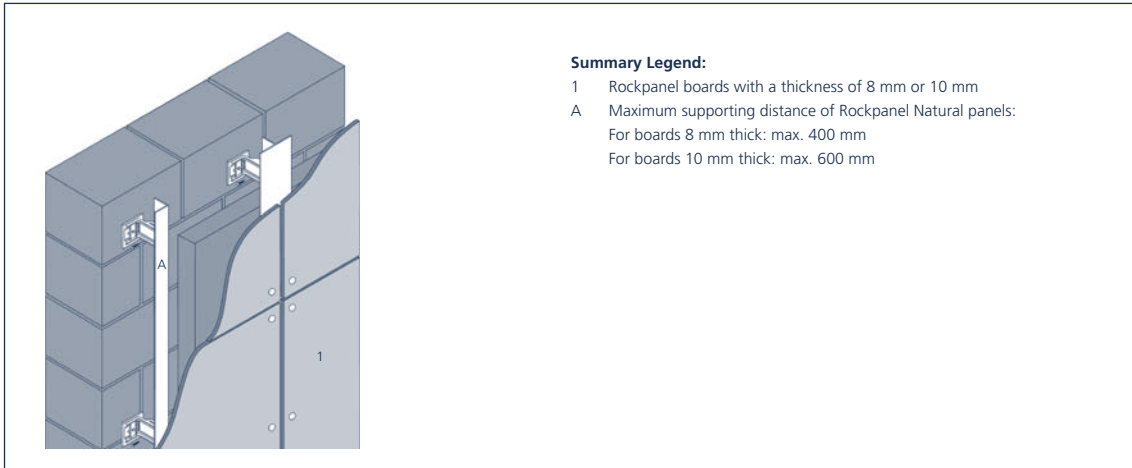
- **Open facade:** Here the use of water-draining sections is avoided, as a result of which some of the rainwater run-off runs into the cavity behind the cladding. Rockpanel recommends a cavity depth of at least 60 mm, by aluminium construction, by which the insulation should met the standard EN-13162, f.e. Rockwool with a density between 51 and 69 kg/m³. By open joints at a wooden construction, the construction behind the vertical batten should protected by a breathable membrane which is water repellend, non capicaly and UV resistance. The cavity behind Rockpanel and between the breathable membrane need to be at least 20 mm but common is the thickness of the battens which means a cavity of 28 mm or 34 mm.
- **Closed facade:** Here rainwater is drained off as much as possible on the outer side of the cladding. The recommended cavity depth for a ventilated cavity is min. 20 mm, but in practice they use the thickness of the timber battens what represents 28 mm or 34 mm.

Fixing: visible or invisible

Rockpanel can be fixed on wood and aluminium constructions, either mechanically or by means of an adhesive system.

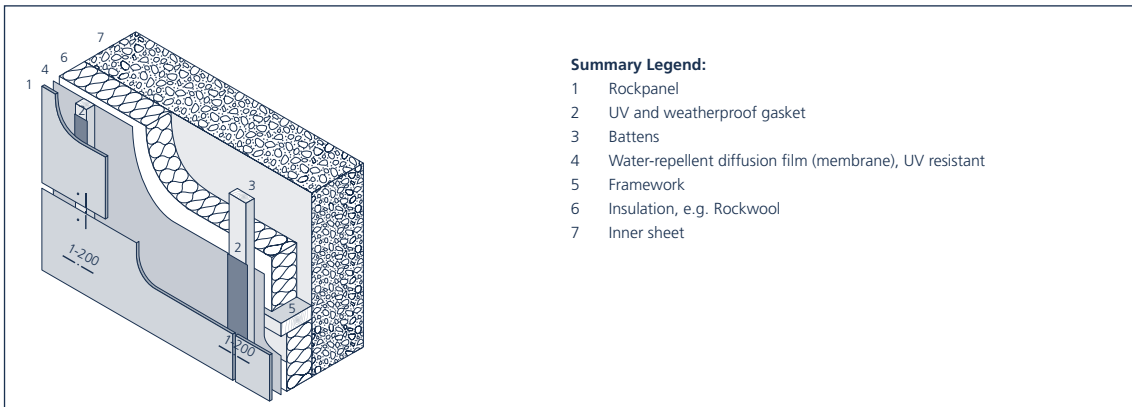
Mechanical fixing on aluminium

- For the mounting of Rockpanel on aluminium load-bearing sections, AP14-5 x 18-S flat-topped aluminium pop rivets can be used. Material EN-AW-5019 in conformity with EN 755-2. Material number rivet 1.4541, in conformity with EN 10088-3. Take into account here that the warping of the aluminium load-bearing sections is greater than that of the Rockpanel boards material.



Mechanical fixing on wood

- Using Rockpanel 2.7/2.9 x 32 ring shank nails (316 quality stainless steel). Can be installed with a synthetic hammer as well as a pneumatic hammer. Rockpanel advises plain nails for Rockpanel Natural.
- Using 4.5 x 35 mm torx screws (316 quality stainless steel). Rockpanel advises plain screws for Rockpanel Natural. Pre-drilling is not necessary.



Adhesive installation on wood or aluminium structures

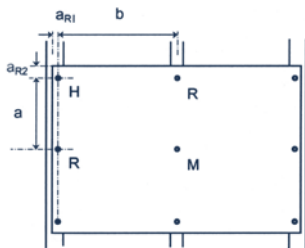
Adhesive installation of Rockpanel board material should be carried out according to the instructions of the supplier of the adhesive system and under his supervision and warranty conditions. Adhesive installation on a metal support structure or, in the case of wood, on a Rockpanel strip is a more durable implementation than direct adhesive installation on a wooden support structure. See the Rockpanel website for more information and an adhesive supplier with a suitable system.

Distances between fastening points

When fixed mechanically Rockpanel boards must be assembled with earlier mentioned fixings on a suitable subframe (aluminium rail support or timber frame) and free of tension. When determining the subframe the following should be kept in mind:

- wind loading
- the maximum fixing centres for the boards
- the required ventilation provisions
- unimpeded movement of the boards
- legal local requirements
- weathering of the boards

In the table below you will find the designloads for the strength of the fastener [N], the values are to both mechanical and non-mechanical fixing.



		Designloads - permissible pullover strength in N / position of the fixing							
		Location of the fastening, a_{R1} is the panel edge distance on timber batten							
	Maximum centre to centre distance fastenings mm	M: middle of the panel		R: edge of the panel $a_{R1} = 15 \text{ mm}$		H: panelcorner $a_{R1}/a_{R2} = 15/50 \text{ mm}$			
Panel thickness	8 (a-b) 10 (a-b)	8	10	8	10	8	10	8	10
Adhesive [a]	a b a b	1 N/mm ¹							
	n.a. 400 n.a. 600								
Ring shank nail	300 400 400 600	155	190	100	190	85	130		
Screw	300 400 600 600	230	330	125	180	75	85		
Rivet	300 400 600 600	255	435	150	230	100	115		

UK : Designloads including a safety factor of 3
 [a] : Rockpanel Tack-S

Joints and board connections

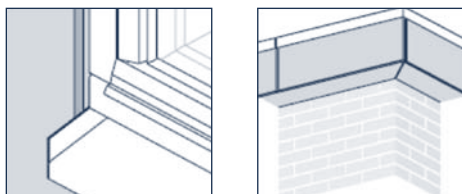
The following guidelines apply when installing the boards:

- Rockpanel is dimensionally stable, and therefore resistant to changes in length and width. When constructing keep in mind that other materials expand or contract to varying degrees compared to Rockpanel boards.
- Boards, assembly and building tolerances play an important role in the joint detail. Take this into account.
- Apply joint tape to the seams to protect the back construction against weather influences.
- The joints should be such that sufficient ventilation and/or drainage is ensured in order to prevent damage as a result of retained moisture.

Special points in detailing

For a perfect final result with Rockpanel Natural it is important to work carefully during application and in detailing. Bear in mind the following points:

- Through proper detailing, adhesion of algae can be prevented. The structure should be designed in such a way that the boards drain properly, do not retain capillary moisture and dry quickly through proper ventilation. It is recommended that overhanging vegetation near the facade be avoided.
- Take into account in the detailing that dirt on Rockpanel Natural does not wash away as easily as from a coated Rockpanel board. For example, by using an aluminium water runoff with a front panel or double roof trim so that dirt from drainage water leaves no tracks. See the diagrams.



- Any dirt can be removed with a wire brush. However, this also removes a portion of the weathered surface, which at first is visible on the board. After cleaning, the cleaned portion will weather again and merge into the rest.
- The weathering effect of Rockpanel Natural occurs in the top layer. Any scratches or nicks are at first visible, but will weather again and merge into the rest.
- If the board is used directly on an aluminium support structure, at the support locations the heat of the facade is more quickly dissipated than in the 'span'. Because of this, at the beginning of the ageing curve the difference between the location of the support structure and the span is visible and the support structure can be distinguished. Over the course of time this effect will disappear as the ageing curves of the span and support structure approach each other.
- Due to the weathering in the top layer, Rockpanel advises using 10 mm where 8 mm is normally used and 8 mm where 6 mm is normally used. In the design loads listed in this productdatasheet this has already been taken into account.

Workability

Sawing

When working Rockpanel products, as a rule the same guidelines apply as if you were working with wood products.

- hand saw, e.g. a hardpoint hand saw
- circular saw, e.g. a fine-toothed hard metal saw blade
- fretsaw, e.g. a fine-toothed saw blade or a saw blade with tungsten granules

Drilling

The boards do not need to be pre-drilled before delivery and can be mechanically installed directly on the construction site. Take into account possible fixed and sliding points due to the difference in warping of the aluminium support profile with regard to the Rockpanel board material.

Edge finishing

Rockpanel board material is resistant to the elements and does not delaminate or rot. Cut edges do not need to be retreated. Chamfering can be done easily by using a leftover strip of Rockpanel to lightly rub down the edge. The sides can be given a finishing coat of paint for aesthetic purposes.

Storage

Rockpanel is water-repellent. However, the board material should be stored dry, flat, frost-free and protected on a flat pallet. Never stack more than 2 pallets on each other. It is not advisable to slide the boards over each other; lift them when handling.

Maintenance

To clean Rockpanel Natural we advise using a sponge and water. Stubborn stains can be removed with a wire brush. The cleaned spot will then become visible and weather again. Do not clean Rockpanel Natural with a solvent or detergent.

Specifications and CAD drawings

Specifications and CAD drawings can be downloaded from www.rockpanel.co.uk.

Availability

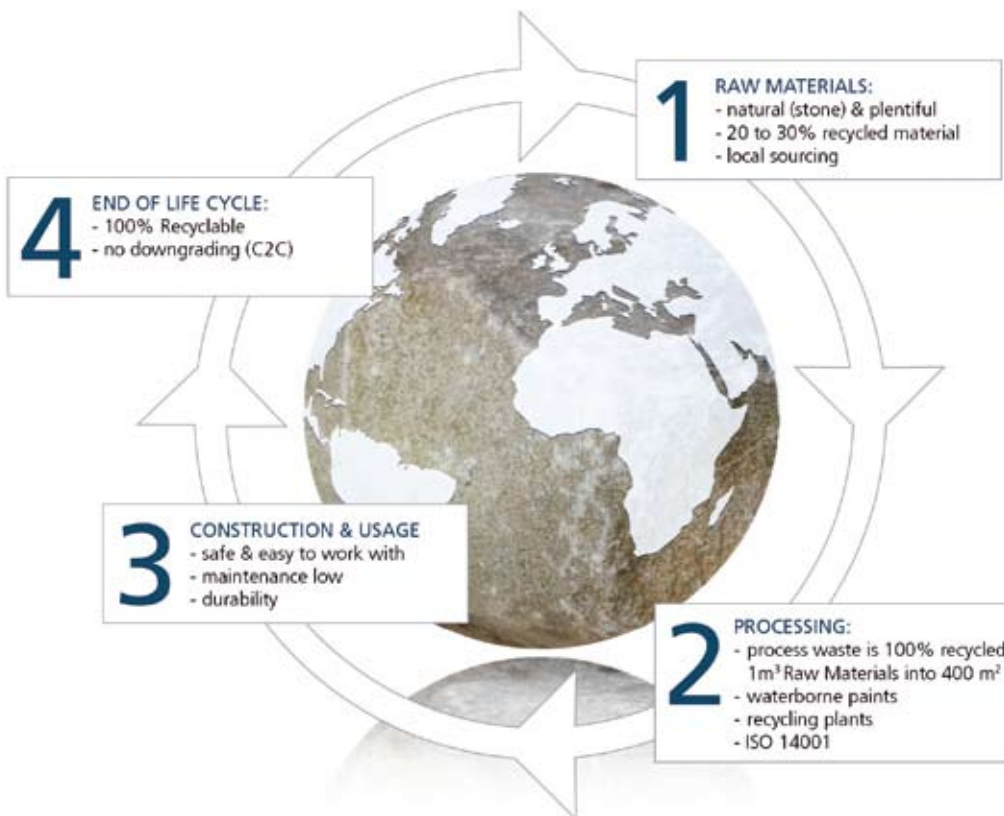
Consult the dealer locator on www.rockpanel.co.uk for a Rockpanel distributor in your area.

Assortment

Rockpanel boards can be supplied in several colours/designs. For the full Rockpanel range, please consult www.rockpanel.co.uk.

Sustainability

Rockpanel is a sustainable building material throughout the material's useful life.



Published September 2009. This publication supersedes and replaces all previous publications. Subject to alterations. All data are intended to serve as general information about our products and their possible uses, and do not imply a guarantee that these products have certain properties. Therefore, no rights may be derived from the content of this publication. © 2009

Rockwool Rockpanel B.V. – Wern Tarw, Pencoed – Bridgend CF35 6NY

01-09-2009