



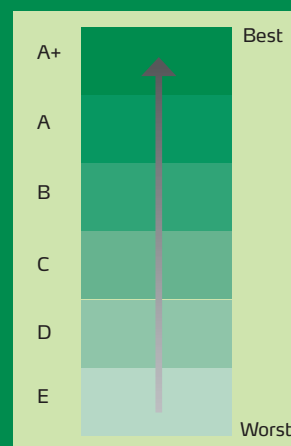
Rockpanel: designing for a sustainable future

The sustainable properties of Rockpanel boards are unique. They are manufactured from the sustainable raw material basalt through a highly efficient production process. The durability of stone and the workability of wood are combined in Rockpanel products. The panels fit effortlessly into sustainable developments, and in addition accommodate contemporary architectural trends, combined with a strong emphasis on costs and installation time. Usually they are applied in ventilated constructions, where the products contribute to a healthy indoor climate for any housing, production, or non-residential environment.

Both Rockwool insulation and Rockpanel board material meet all the requirements to optimize energy consumption and simultaneously create a skin of the building for a harmonious effect or a bold statement with daring contrasting colours, without compromising on sustainable aspects. In a market strongly focusing on sustainability, rainscreen cladding constructions will be applied in a wider sense in order to establish comfortable living and working conditions. The ventilated construction not only offers excellent opportunities to comply with current energy standards, moreover it remains flexible for future improvements. The construction can simply be broadened to be filled with additional Rockwool insulation materials.

BREEAM

BREEAM-UK (British Research Establishment Environmental Assessment Method) assesses building products in the UK market. BREEAM UK references the Green Guide as credits are awarded on a sliding scale for using building elements with particular ratings. The Green Guide looks at the life-cycle environmental impacts associated with a product from extraction of raw materials to disposal at end of life across 13 different categories of environmental issues. Most of Rockwool insulation products achieve A+ and A ratings in the BRE Green Guide. The production process and raw materials of Rockpanel products is largely the same as the Rockwool products. See how Rockpanel contributes to a durable future in the paragraph 'Sustainable from beginning to end'. The combination of Rockwool insulation with Rockpanel board material in rainscreen cladding allows designers to tick many green boxes in their design vision.





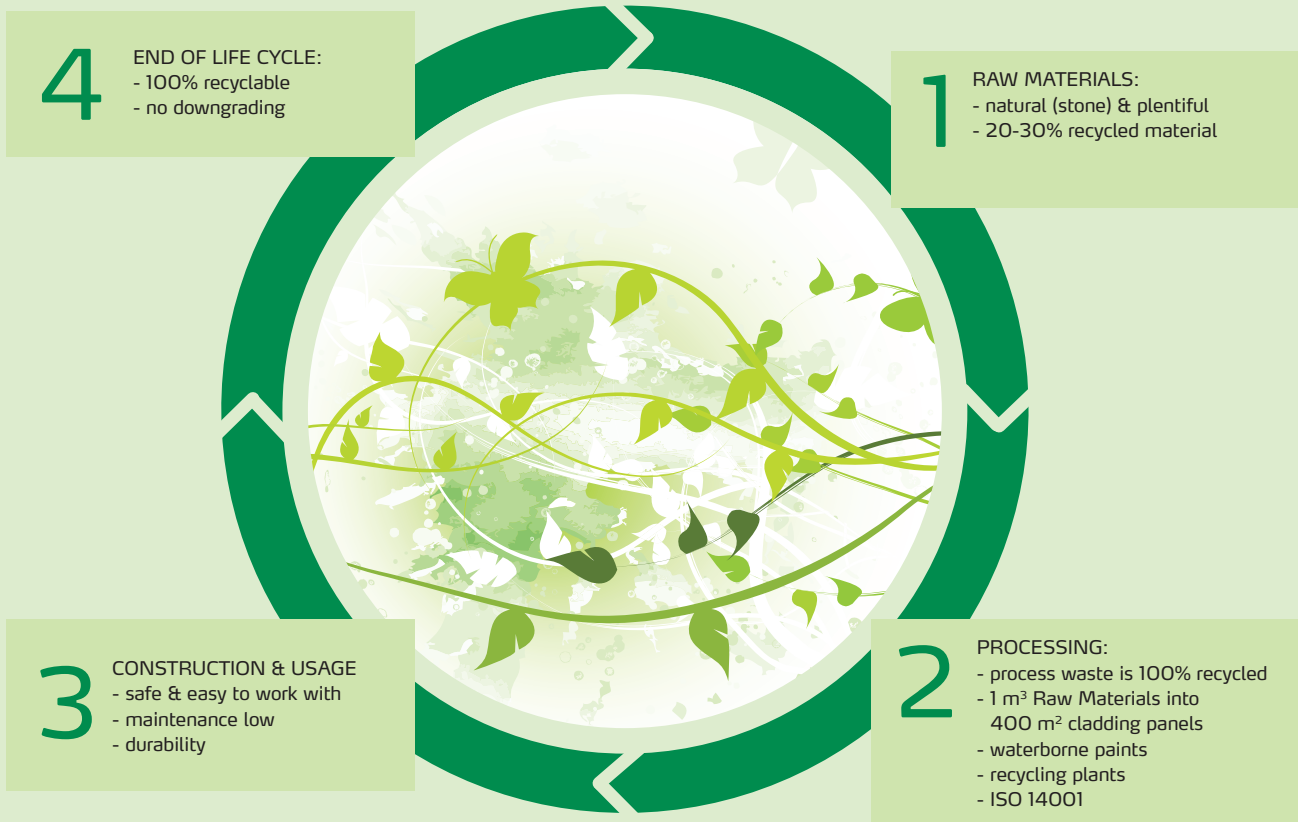
Sustainable from beginning to end

4. The life cycle

Rockpanel boards are fully recyclable. When re-used there will be no downgrading of the quality of the products.

1. Stone raw materials

The basic stone raw materials like natural basalt are widely available and the quantity of accessible stone reserves is more than sufficient to supply the demand for Rockwool products for millions of years to come. The raw material can therefore be considered inexhaustible. Even the natural production of basalt alone is greater than the world-wide demand for stone wool products.



3. Robust and safe

Stone wool is one of the most documented and researched building materials in the market. Due to its volcanic origin and the production process in which it's made, the basalt is melted at temperatures over 1200°C. Rockpanel can withstand all the elements of nature. Rockpanel products are dimensionally stable, not sensitive to moisture or temperature fluctuations, exceptionally durable, and inherently safe to work with.

2. The production process

As a member of the Rockwool Group, Rockpanel is also committed to environmentally sound production practices. The stone raw materials like basalt are natural materials which is readily available and can be regarded as sustainable. Through a highly efficient manufacturing process we are able to produce more than 400 m² of Rockpanel boards from 1 m³ of basalt. And we continue to strive for more efficient production techniques so that we can use our resources even more efficiently. Our products are treated with a water based coating and the production process is ISO 14001 certified.

Casestudies

Innovation Center Think Tank – Lincoln (UK)

Attempts to make the Think Tank carbon neutral bit the dust in value engineering, although the project did achieve a BREEAM Excellent rating. From its highly insulated envelope including sustainable Rockpanel cladding materials to a green roof seeded to match a Lincolnshire meadow, the building ticks most green boxes.

Besides the project being sustainable, the innovation centre also complies with contemporary architecture. Lincoln is where the first tanks were built in the Great War and now Marks Barfield has created a tank-inspired innovation centre. The historic roots of the environment and the building have been integrated in the appearance of the building, using Rockpanel Chameleon boards and rivets punching into the facade.



Haus Kaspar - Villarlod (Switzerland)

Haus Kaspar was a sustainable future oriented project in Switzerland, which was built in 2006. Optimal orientation of the building in combination with high insulation values made additional heating redundant. It was the second project in Romandie (CH) to achieve the Minergie-P label. The upper part of the building is a 5 room dwelling and the lower part is an architect agency. The Rockpanel Natural boards were applied to create an even more natural look of the building. Under the effect of the climate the appearance of this hard-wearing, unpainted sheeting material changes. Sunlight provides for a natural weathering and colouring of the sheets. The purest boards out of the Rockpanel assortment allow nature to do her work in the design of the outside wall.

Sleephellingskade – Rotterdam (Netherlands)

In Rotterdam a number of historical buildings are being refurbished into passive house standards. Rockwool Benelux is one of the partners in the project. The monumental apartment block Sleephelling consists of 14 houses and is ready for occupation as of this year. The refurbishment of these historical monuments into low energy standards clearly demonstrates that all types of buildings can be turned into energy efficient buildings. The dormers were cladded with Rockpanel Metallics. This project was the first in the Netherlands to receive a 'Passive Building Quality Mark' for refurbishment.



Rockpanel boards tick the green boxes for designers in various projects. The boards are applied in sustainable projects throughout Europe where they allow the designer to give a sustainable project the desired look and feel.

Passive House De Kroeven – Roosendaal (NL)

The Aramis Housing Corporation in Roosendaal, The Netherlands, spearheads a new approach to building design with its project De Kroeven. Three passive houses have been developed and all are finished with façades using Rockwool insulation materials and Rockpanel boards. What makes a passive house different from other forms of housing is its combination of optimum interior temperature and very low energy consumption. It provides home owners with an ideal environment of comfortable interior temperatures whilst at the same time reducing energy costs.

Architectural firm Han Van Zwieten on the choice of Rockpanel boards: "Monotony is something we want to avoid at all times. Passive living is a way of living, or rather a standard of living, with a future. That should also be apparent in the architecture and the decoration. For our project in the De Kroeven redevelopment district we decisively chose Rockpanel cladding boards. Three corner houses have been equipped with bright red Rockpanel boards. The colour can be custom-supplied. But the durable nature of Rockpanel products also appealed to us. It is 100% recyclable. That too is the future..."



Recycling Centre – Bangor (N.Ireland)

The Bangor Recycling and Environmental Information Centre, opened in June 2008, set a new standard for innovative architectural design in the waste recycling sector and has been recognised for its approach through a number of prestigious awards, including a:

- Special Award for Design and Innovation in Construction at the Royal Ulster Architects Awards 2008;
- Best Recycling Initiative Award, Sustainable Ireland 2007;
- Green Apple Award for The Built Environment.

Paul Griffith, Project Architect at Northern Ireland based Michael Whitley Architects says: "The 'green' characteristics of Rockpanel boards are unbeatable, and our brief was to deliver an environmentally sustainable facility which was friendly to the natural environment in its construction and life span. Rockpanel solutions are made from sustainable board and is fully recyclable, so we were able to meet our own and our client's drive for a 'sustainable' product approach to the design vision."