

LC Spanrock

Low Carbon (LC) stone wool for sandwich panel insulation core





CORE SOLUTIONS



In fact, around 75% of buildings in the EU are energy inefficient, and most of them will still be in use in 2050².

Succeeding on climate action requires succeeding on making the world's buildings far more energy efficient than they are today. Constructing new and renovating existing buildings with improved energy efficiency requires using wellknown building materials and practices.

Prefabricating carbon reduction

Offsite construction has the potential to reduce the building industry's carbon footprint and support the net zero target in several ways.

- Reducing travel to and from site
- Limiting on-site waste
- Utilising energy-efficient manufacturing methods



Stone wool insulated sandwich panels

Improving the thermal performance of offsite structures further contributes to reducing carbon emissions, by reducing the amount of energy required to regulate building temperatures. Integrating insulation into system design is key for achieving this.

Forging industry partnerships with this collective goal will drive forward progress. Crucially, those manufacturers who make a positive environmental contribution and can demonstrate this with both product manufacture and operations are those who will achieve competitive advantage.

¹ EU Commission, 2020, In focus: Energy efficiency in buildings,https://ec.europa.eu/info/news/focus-energy-efficiency-buildings-2020-feb-17_en ² European Commission Renovate Wave strategy, https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/renovatic

Introducing ROCKWOOL Core Solutions

ROCKWOOL Core Solutions is part of the ROCKWOOL Group*. Specialising in prefabrication production offsite sector.

ROCKWOOL Core Solutions manufactures stone wool insulation products to exact specification, precision designed and delivered to meet unique system needs. Working in partnership with offsite manufacturers, we can help your systems achieve the latest fire resistance and thermal standards - with the additional acoustic, durability and circularity benefits of our non-combustible stone wool insulation adding even greater value.

Partner with ROCKWOOL Core Solutions to benefit from:

- Optimised production processes through just-in-time delivery and exact material volumes
- Quality assurance during testing, regulation and certification
- Bespoke solutions that address cost, design and warranties to support achieving BOPA accreditation
- Recycling programme that covers manufacturing by-product and end-of-life stone wool core from sandwich panel system
- Dedicated customer service with ongoing supply chain communication

*Learn more about ROCKWOOL Group on page 6



The environmental strength in stone

ROCKWOOL insulation products save an enormous amount of energy, significantly reducing the associated greenhouse gas emissions in both buildings and industry. The fact that the thermal efficiency of ROCKWOOL stone wool insulation does not deteriorate over time is an important reason for this. While the production is energy-intensive, ROCKWOOL stone wool insulation saves far more energy and CO₂ – actually 100 times more – than is consumed and emitted during its production.

Further enhancing the carbon reduction credentials of its stone wool insulation solutions, ROCKWOOL Core Solutions has developed LC Spanrock for sandwich panel manufacture.

This fully tested non-combustible insulation board uses innovative new electric melting technology which significantly reduces the Global Warming Potential (GWP) of stone wool insulation



solutions, ROCKWOOL Core Solutions brings the proven benefits of non-combustible stone wool insulation to the

Introducing LC Spanrock...

Spanrock stone wool insulation boards are designed to provide a non-combustible core material for sandwich panels and other multi-layer systems.

Manufactured using electric melting technology, LC Spanrock is the solution of choice for sandwich panel manufacturers and specifiers looking for non-combustible and sustainable insulation.



Manufactured using large-scale electric melting technology, LC Spanrock has -45% GWP* compared to standard coalbased technology (A1-A3: production stage in EPDs)

*Dependent on manufacturing site. For full GWP performance please refer to Environmental Product Declaration (EPD). Calculation made on the basis of 2 lines (electric and standard

SDG: Sustainable Development Goal

LC Spanrock range

Non-combustible ROCKWOOL boards for high performance lamella core solutions for sandwich panels. Spanrock boards are designed to provide a non-combustible core material for sandwich panels and other multi-laver systems. LC Spanrock is produced to bespoke specifications to suit exact manufacturer and project requirements.





Advantages

- For industrial use SVHC. ODS and CMR free**
- Easy to cut
- Infinitely recyclable

technology) on the same production site.

Technical properties

- Best reaction to fire non-combustible
- Does not contribute to fire development
- . Efficient thermal insulation
- Balanced mechanical properties
- High acoustic properties

Dimensions

• Thickness from 80 to 200mm

SVHC - Substances of Very High Concern ODS - Ozone Depleting Substances CMR - Carcinogenic, Mutagenic or Toxic to Reproduction LC Spanrock



...and the benefits in sandwich panels

Choosing LC Spanrock helps to decrease the CO₂ impact of the overall sandwich panel construction.

LC Spanrock also reduces the lifetime environmental impact of a system through circularity in construction as stone wool in infinitely recyclable.

From a performance perspective, choosing LC Spanrock delivers wider benefits in addition to thermal insulation. As a non-combustible product, it withstands temperatures in excess of 1,000°C and does not emit significant amounts of toxic smoke when exposed to fire. The proven sound reduction properties of stone wool insulation also help to reduce the transfer of external noise into buildings constructed with sandwich panels.

To assist with system specification and construction, full technical support is provided to calculate the CO₂ impact of a sandwich panel using LC Spanrock.



Stone wool insulated sandwich panel perforated for acoustic performance



Environmental Product Declaration (EPD)

GWP (A1-A3) of a sandwich panel with LC Spanrock core reduced by 20%* compared to a sandwich panel with standard stone wool core

*Dependent on SWP thickness: calculation made on 150 mm wall SWP.

To assist with calculating the reduction in CO₂ impact that can be achieved by using LC Spanrock, please refer to the EPD certificate for full data.

The products considered in the EPD are boards used for insulating core for sandwich panels as slabs or as lamellas.

Resilient by nature

ROCKWOOL Core Solutions is part of the global ROCKWOOL Group.

ROCKWOOL Group is a net carbon negative company with our stone wool building insulation sold in 2021 saving in the lifetime of its use 100 times the energy consumed and CO₂ emitted in its production. Through our insulation products, we have a truly significant positive impact on climate change and create opportunities to support communities to build climate change resilience.

Net carbon negative

A question we are sometimes asked is how can ROCKWOOL claim to be carbon negative when we are energy intensive?

While the production of ROCKWOOL is energy-intensive, the use of ROCKWOOL stone wool products actually saves 100 times¹ more energy than is consumed and carbon that is emitted to make them.

One of the main reasons for this is that the thermal efficiency of ROCKWOOL stone wool insulation does not deteriorate over time. This means the thermal performance of buildings constructed using ROCKWOOL stone wool insulation will contribute to energy savings for the lifetime of the installation.

There are currently no standard methodologies for calculating the avoided emissions of products (also known as Scope 4 emissions³). We have therefore collaborated with a third-party to develop such a methodology, which we share here and encourage others to use as well.

For more information visit www.rockwool.com/group/carbon-impact/#methodology.



SDG-7

Enabling more energy-efficient buildings and industry



ROCKWOOL building insulation sold in 2021 will save annually



heating energy - equivalent to the annual energy use of over one million homes³.

To learn more about the sustainability commitment of ROCKWOOL Group, please download the annual sustainability report: www.rockwool.com/group/about-us/sustainability/

¹ The calculation "100 times" is based on the principle of ceteris paribus.

² World Resource Institute, 2019, Estimating and reporting the comparative emissions impacts of products: Avoided emissions are emission reductions that occur outside of a product's lifecycle or value chain, but as a result of the use of that product https://ghgprotocol.org/estimating-and-reporting-avoided-emissions
³ Odyssee-Mure, 2021 https://www.odyssee-mure.eu/publications/efficiency-by-sector/households/average-energy-consumptiondwelling.Html

Circular by nature

A key attribute of our stone wool is that it can be fully recycled into new products – infinitely, and without any loss in performance. This contributes to closing the materials loop in one of the most wasteful sectors - construction.

As a company that aspires to take responsibility for its own resources, we do not, however, simply rely on our products being 'recyclable'. We are constantly developing more user-friendly recycling services for the benefit of our customers and the environment.

For ROCKWOOL and the broader global community, 2021 saw circularity gaining new momentum in its role in decarbonising society. We expanded our Rockcycle[®] reclaimed material schemes to additional markets and increased reclaimed material volumes while strengthening cross-sectoral circularity collaboration. And our factories are increasingly operating in fully-closed loop systems.





ROCKWOOL Core Solutions is part of the ROCKWOOL Group, offering advanced tailor-made stone wool insulation products for original equipment manufactured (OEM) systems.

At the ROCKWOOL Group, we are committed to enriching the lives of everyone who experiences our product solutions. Our expertise is perfectly suited to tackle many of today's biggest sustainability and development challenges, from energy consumption and noise pollution to fire resilience, water scarcity and flooding. Our product range reflects the diversity of the world's needs, while supporting our stakeholders in reducing their own carbon footprint.

Stone wool is a versatile material and forms the basis of all our businesses. With more than 11,000 passionate colleagues in 39 countries, we are the world leader in stone wool solutions, from building insulation to acoustic ceilings, external cladding systems to horticultural solutions, engineered fibres for industrial use to insulation for the process industry and marine & offshore.

To arrange a meeting or to learn more about using LC Spanrock in offsite manufacture, please email:

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