

# Sandwich Panels

with ROCKWOOL stone wool at the core

Non-combustible, Sustainable, Sound-proof, Energy-efficient.



# Shaping the future of safe and sustainable buildings

## With innovative uses of stone wool

The building construction industry faces numerous challenges in today's marketplace. As well as the need to build quickly and economically to ensure profitability, buildings must be safe, comfortable and energy saving, with a strong focus on sustainability.

That's why ROCKWOOL Core Solutions works with sandwich panel manufacturers to reinforce the core of sandwich panels using stone wool, with advanced prefabrication off-site to speed building construction.

This collaboration drives innovation and delivers higher performance commercial, industrial and logistics buildings. These buildings will address all requirements for fire resilience, acoustic performance, sustainability and energy efficiency, and help to meet the challenges of regulatory and insurance compliance.

## We believe in *The Power of &*

In a world of increased regulations, sustainability and 'green' initiatives, any building must meet and exceed requirements. With ROCKWOOL Core Solutions, your building does not suffer from 'OR' choices, such as fire resilience or sustainability, water-resistance or noise reduction.

We believe in *The Power of &*.

Sandwich panels with ROCKWOOL stone wool benefit from all 7 Strengths of Stone and have '&' naturally built-in. With *The Power of &*, your entire building will benefit from improved fire resilience, increased energy efficiency, adherence to 'green' regulations, and will be demonstrably sustainable.

This additive philosophy extends beyond the sandwich panel and stone wool. We forge innovative and profitable relationships with sandwich panel manufacturers to fully understand your building construction needs, shape a more innovative future together, and enrich modern living.



## How our strong partnerships help create better buildings

By partnering with sandwich panel manufacturers, ROCKWOOL Core Solutions leverages five key qualities of our company to directly benefit the building and construction industry:

### & Partnership

We favour a close consultative approach with sandwich panel manufacturers – we listen, share, and become an extension of their team.

### & Added value

We add value by offering sandwich panel manufacturers all the benefits of our extensive external network, a strong international footprint, and a 360° perspective. We provide operational excellence, reliability, and just-in-time delivery.

### & Sustainability

We help sandwich panel manufacturers create solutions with sustainability built-in. This enables constructors and building owners to take on the increasing demands of a circular economy, meet and exceed green standards, and create a positive impact on our planet.

### & Innovation

We are entirely open-minded to new possibilities, and we leverage our technical and design expertise to create high-performing solutions that enrich modern living.

### & Support

We believe in the value of knowledge, working together to seamlessly provide training and education on the benefits of stone wool and sustainability. To help our partners build tomorrow – today – we provide comprehensive support services, product certifications and testing.

# Megatrends

In the building construction industry

Pressures have always existed to construct buildings quickly and effectively, safely and without defects, and for as low a cost as possible. In addition, a number of megatrends – including the need to embrace sustainable building – are driving a major transformation in the industry. The use of stone wool, with its numerous natural strengths, is ideal to address these challenges.



## Sustainability: Green building standards and certification systems

As commercial and industrial buildings move towards greener designs, the industry must align commercial performance with sustainability. Voluntary conformity to regulations such as **HQE, BREEAM and LEED** can bring added value benefits to the business (improved building values), its customers (greater comfort and safety), and also the environment (saving energy and reducing waste).

## Urbanisation

As more people migrate to cities, current projections suggest that **population growth and urbanisation will generate a two to three-fold rise in global energy use** for the building sector by 2050. Using ROCKWOOL stone wool helps to shrink the environmental footprint of new commercial and industrial buildings as we build in and around our cities.



## Health and wellbeing

A good indoor climate is essential to health and wellbeing. Using the properties of ROCKWOOL stone wool, **living and working conditions can be made more comfortable, safe, energy efficient, and attractive – with reduced noise and echoes in buildings.** This helps people thrive: for example, children can achieve their best level of education; office and manufacturing workers can remain focused and productive; and hospital patients can make a safe and speedy recovery.



## Circular economy

Since the building sector produces 1/3 of the world's total waste, we can no longer build with a short-term view. **New constructions must meet green standards, conserve energy, and be transformable with a sustainable end of life.** In the coming decades, this will include the carbon and energy-content of the building products and systems we create. Sandwich panels with stone wool at their core are backed by Environmental Product Declarations (EPDs), and ROCKWOOL Core Solutions works closely with sandwich panel manufacturers to offer stone wool recycling services to help ensure circularity within the industry.

## Safety and comfort

The increase in densely populated urban living conditions creates greater risks from fire as well as noise pollution. Sandwich panels with stone wool combat these issues by releasing the natural power of stone. **These sandwich panels are non-combustible and have an A1 fire resistant core which achieves the highest fire classification on the market today, A2-s1,d0.** The stone wool core also reduces unwanted noise by providing excellent sound insulation. Buildings which use sandwich panels reinforced with stone wool will deliver both these strengths to protect the occupants of buildings – together with the goods, equipment or services they house – while meeting insurance requirements and reducing the risk of liability claims in the event of fire.



## Climate change

Climate change demands that we seek new ways to reduce our carbon footprint and live more sustainably. It brings new design challenges too for example, withstanding the increased frequency of extreme events, such as high winds and flooding. Global warming will also become a key issue in the energy efficiency of buildings, as **rising temperatures increase the demand for cool and comfortable indoor climates.** Sandwich panels with ROCKWOOL stone wool provide a cost-effective way to cut building energy use and CO<sub>2</sub> emissions, while providing robust and safe buildings both now and for the future.

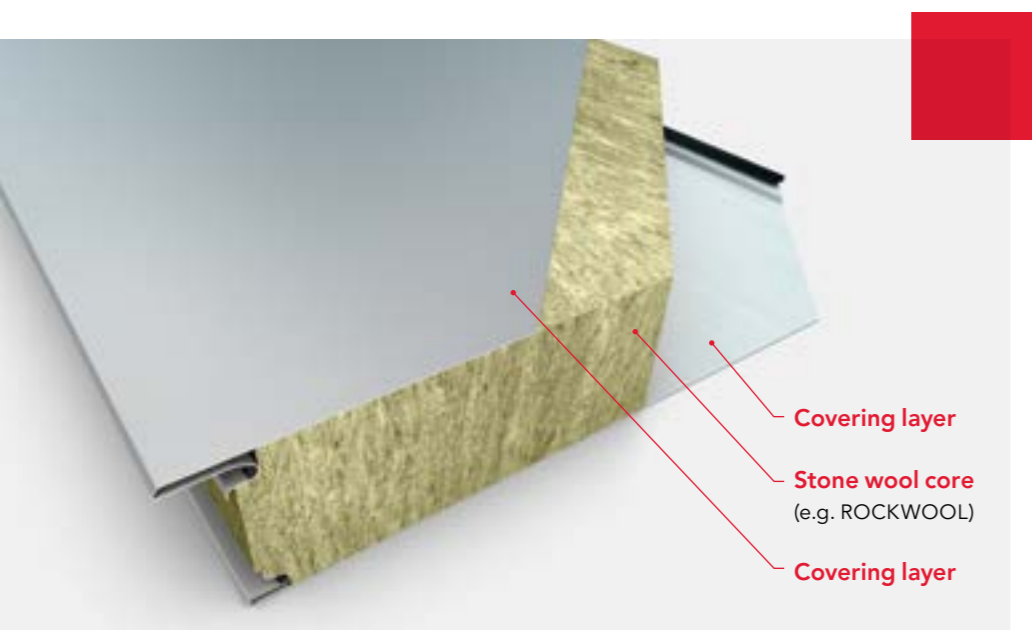


# Sandwich panels with ROCKWOOL stone wool

Safe, high quality constructions that benefit from *The Power of &*

To meet voluntary regulations and be green and sustainable, buildings require materials that do more – with zero compromise. ROCKWOOL stone wool delivers more ‘&’, such as fire resilience, improved acoustics, energy efficiency and great aesthetics.

When buildings are constructed using sandwich panels reinforced with stone wool they have all 7 Strengths of Stone, plus the benefits of off-site prefabrication, easy installation, and a solution that contributes to the circular economy.



## Stone wool at the core

With natural stone wool at the core, sandwich panels meet a wider range of construction needs – such as energy efficiency and acoustic performance and fire resilience.

Stone wool is non-combustible, resists temperatures above 1000°C, and does not contribute to the spread of fire or the emission of significant quantities of toxic smoke. This means sandwich panels with stone wool remain operational at peak temperatures, which increases safety and business continuity, and protects the building's structure – and assets within it.



## Control quality with manufacturing off-site

Sandwich panels with stone wool are manufactured in advanced plants to the specific requirements of the building design. In this controlled environment, precise manufacturing technology is applied to every panel. This improves quality compared to typical on-site installations, by producing identical, high quality solutions that do not rely on manpower and potentially different skill sets.

## Easy and safe installation

Since sandwich panels are made to measure off-site and then installed on-site, the speed of construction increases, helping deliver economical buildings on time. This means sandwich panels integrated with ROCKWOOL stone wool are ideal for fast track construction projects which leverage prefabricated building elements.

You can also play your part in creating a safer working environment during construction. Injuries can be between 50-100%<sup>1</sup> higher in the construction industry in comparison to the manufacturing industry, based on a similar number of workers. By choosing to manufacture off-site, you could significantly improve your safety record.

<sup>1</sup>Source: <http://www.hse.gov.uk/statistics/industry>

## Contribute to circularity

At its end of life, stone wool can be re-used in the same form on a different project, adapted with minimal effort, or recycled. For sandwich panels made with ROCKWOOL stone wool, the stone wool can be recycled by the manufacturers with ROCKWOOL's support. That's how you can contribute to a circular economy of construction.



# The 7 Strengths of Stone

## Built into your sandwich panels

Together we can respond to the megatrends our world faces by using sandwich panels with the 7 Strengths of Stone at their core. When integrated into your buildings, your designs immediately benefit from the same seven strengths. As a result, you will add value to your buildings, minimise the human impact on our surroundings, and maximise safety and wellbeing for the building's occupants or workers. Here are the 7 Strengths of Stone that deliver more '&':



### Fire resilience

Non-combustible ROCKWOOL stone wool resists temperatures above 1000°C and does not contribute to the spread of fire or the emission of significant quantities of toxic smoke. This means your buildings and their interiors are protected, helping to ensure business continuity.

**Fire-resilient insulation helps us build safer, more sustainable buildings**



### Thermal properties

Stone wool provides effective protection against both cold and heat. This allows you to dramatically reduce heating, cooling, and ventilation costs, all with expert support from ROCKWOOL Core Solutions.

**Stone wool helps to combat climate change by reducing a building's carbon footprint**



### Acoustic capabilities

Stone wool can be engineered to be resistant to airflow providing excellent noise reduction and sound absorption. Integrating acoustic protection into your building will help create quieter, more productive environments.

**Improving acoustics helps people live and work in greater comfort and safety**



### Robustness

Stone wool has unique built-in robustness. Compression, impacts, and changes in temperature or humidity do not affect its shape or form. This means your buildings benefit from an increased life cycle and unchanged long-term performance.

**Environmentally robust materials preserve resources and our planet**



### Aesthetics

Stone wool combines aesthetics with high product performance. Our experts can customise the stone wool core to optimise the design of a sandwich panel. This offers the flexibility to be creative and innovative with architectural design – *without* compromising core performance.

**Good design aesthetics can influence our emotions and improve our wellbeing**



### Water properties

Stone wool can be engineered to repel water. Sandwich panels with stone wool at their core are designed to shed water to safeguard and ensure integrity, and to protect against environmental damage.

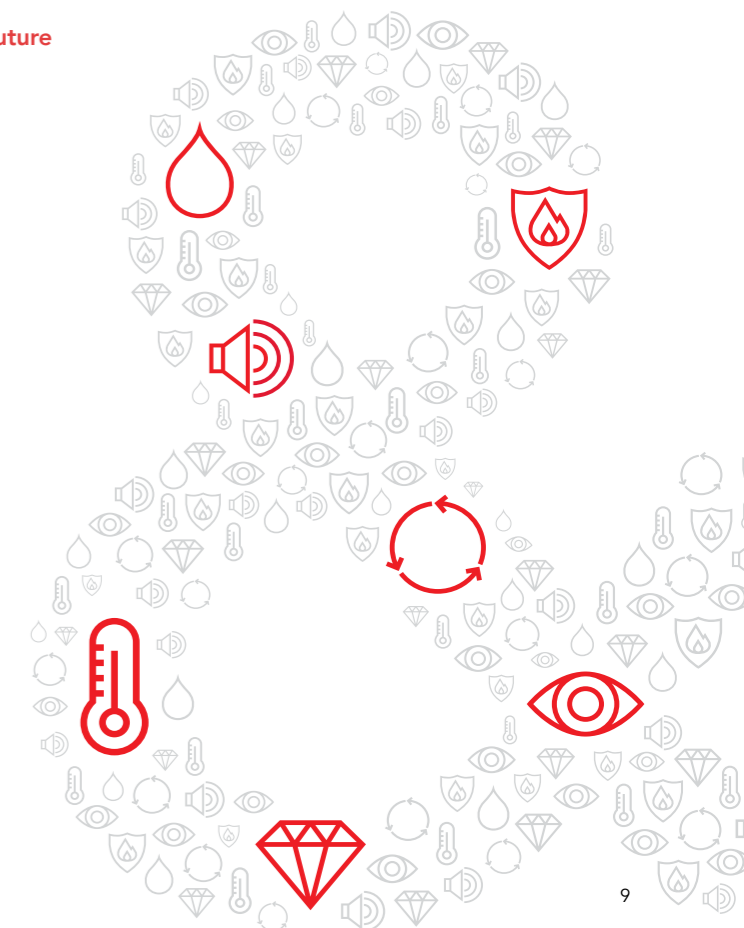
**Stone wool manages our most precious resource and protects people and buildings**



### Circularity

ROCKWOOL stone wool is sourced from one of the world's most abundant resources and can be indefinitely reused. Buildings which use sandwich panels with our recyclable long-lasting stone wool at their core contribute to the circular economy.

**Sustainable solutions create a more sustainable future**



# Versatile, reliable and rapid applications

## Create long-lasting buildings with stone wool at the core

Sandwich panels with ROCKWOOL stone wool are highly versatile and can be used in every kind of commercial, industrial and logistics building. They are suitable for use in outer walls, roofs and false ceilings, and can also be employed as firewalls and as acoustic insulation.

Wherever buildings or venues expect to see a large number of visitors, patients or workers, sandwich panels with stone wool provide increased safety, sound absorption, energy efficiency and sustainability. The building – and the assets and people within it – will directly benefit from the 7 Strengths of Stone, for decades to come. Here are just some examples of commercial, industrial and logistics buildings that benefit from sandwich panels made with ROCKWOOL stone wool at the core.



**Hospitals and educational institutions**



**Logistics centres and manufacturing facilities**



**Sports stadiums and trade fair complexes**



**Airport terminals and maintenance hangers**



## Discover *The Power of &*

Find out more about ROCKWOOL Core Solutions and the benefits of sandwich panels with a ROCKWOOL stone wool core.

Visit [www.rockwoolgroup.com](http://www.rockwoolgroup.com)

ROCKWOOL Core Solutions is part of the ROCKWOOL Group and offers advanced tailor-made stone wool products for integration into finished 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 11,600 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.



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