

Forging a low carbon future

Stone wool sets a new benchmark for industrial buildings
Verona | Italy

2025



Photo: Flavio Chiesa

Manni Group, one of Europe's leading steel service centres, has partnered with ROCKWOOL Core Solutions and Isopan to build a new warehouse that sets a benchmark for low-carbon construction. Located in the province of Verona, the 13,800 m² facility is designed to store long steel products for Manni Sipre. Beyond its functional role, the project reflects a deeper commitment to sustainability: integrating low-carbon materials, efficient construction practices, and collaborative innovation to demonstrate the future of industrial architecture.





The race to decarbonise: a shared challenge

In the race to decarbonise the built environment, industrial buildings present a significant and often overlooked opportunity for emissions reduction. This concerns both Scope 3 emissions – embodied via the carbon intensity of selected materials and technologies – and Scope 2 emissions, dependent on energy and resource efficiency.

With buildings accounting for 39% of global energy-related carbon emissions (28% from operational Scope 2 and 11% from Scope 3), the challenge is immense. Furthermore, around 75% of EU buildings are currently energy inefficient, yet most will remain in use by 2050. Consequently, improving energy performance in new builds like this facility is essential to meeting climate goals and achieving green building certifications such as BREEAM.



The construction sector faces mounting pressure to reduce carbon emissions while maintaining productivity and building performance. One essential strategy is the use of high-quality insulation to cut energy demand for heating and cooling.

Driven by end-user expectations and upcoming regulations such as the Corporate Sustainability Reporting Directive (CSRD), developers increasingly demand solutions that combine performance, durability, and reduced embodied carbon.

Stone wool clearly meets this challenge. Its naturally low thermal conductivity and low diffusivity minimise heat transfer across seasonal extremes – reducing summer heat gains during peak conditions and winter heat losses, helping buildings maintain stable indoor temperatures while reducing energy consumption. Non-combustible (Euro-class A1) and able to maintain its dimensions and shape over time, stone wool also resists moisture and mold, ensuring consistent and long-term acoustic, thermal and mechanical performances for industrial facilities of any size.



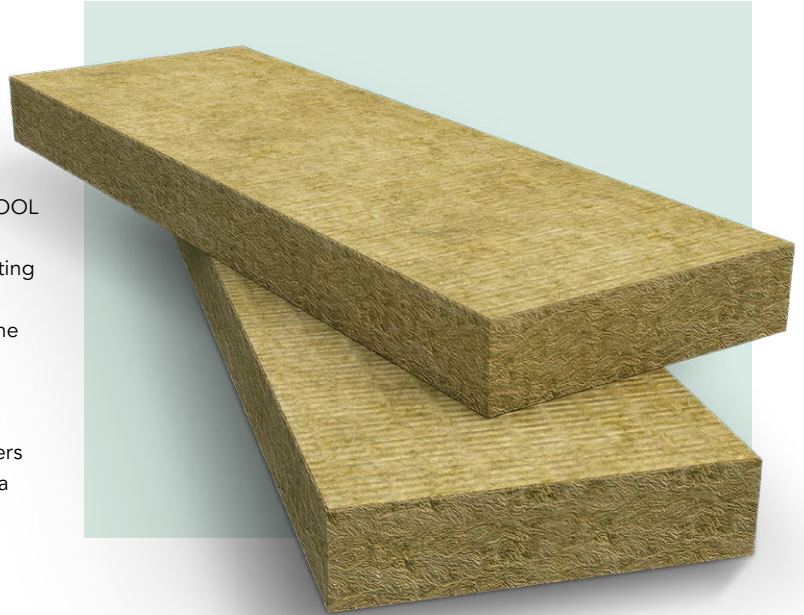
Photo: Flavio Chiesa

Learn more online about our core product LC Spanrock



Low carbon, next-generation

To accelerate emissions reduction in building materials, ROCKWOOL Core Solutions has developed LC (Low Carbon) Spanrock, a new generation of stone wool produced using largescale electric melting technology. By moving from coal-based melting to electricity, LC Spanrock lowers Global Warming Potential (GWP) by 45% at the production stage (A1–A3), compared to traditional methods. It was designed as a non-combustible core material for sandwich panels and multilayer systems, and so LC Spanrock retains the mechanical and thermal performance manufacturers and specifiers rely on. It combines safety, durability, and energy efficiency with a significantly smaller carbon footprint.



Manni Sipre: warehouse wonders

In early 2024, Manni Group approached ROCKWOOL Core Solutions with a clear brief: to source a low carbon stone wool insulation for a new warehouse serving its steel distribution business, Manni Sipre. The goal was to demonstrate that advanced materials and close collaboration could deliver both functional excellence and measurable environmental improvements.

Working jointly with Isopan, the partners defined the required technical characteristics and panel performance parameters for 2.400x1.205x103 mm stone wool boards. Pilot production trials began in July 2024, followed by the first full LC Spanrock manufacturing run during the summer for a total of 220 tons.

Our stone wool insulation was used as the core material in Isopan's high performance sandwich panels:

- 4,500 m² of façades with Isoparete Fire Evo 120 mm panels
- 9,300 m² of roof with Isofire Roof 80 mm panels

The building's steel framework was supplied by Steelior, Manni Sipre's structural elements division, using low CO₂ steel profiles sourced from international suppliers.

On site construction began in July 2024, with operations commencing in January 2025: a rapid execution timeline that was achieved through strong alignment between partners.

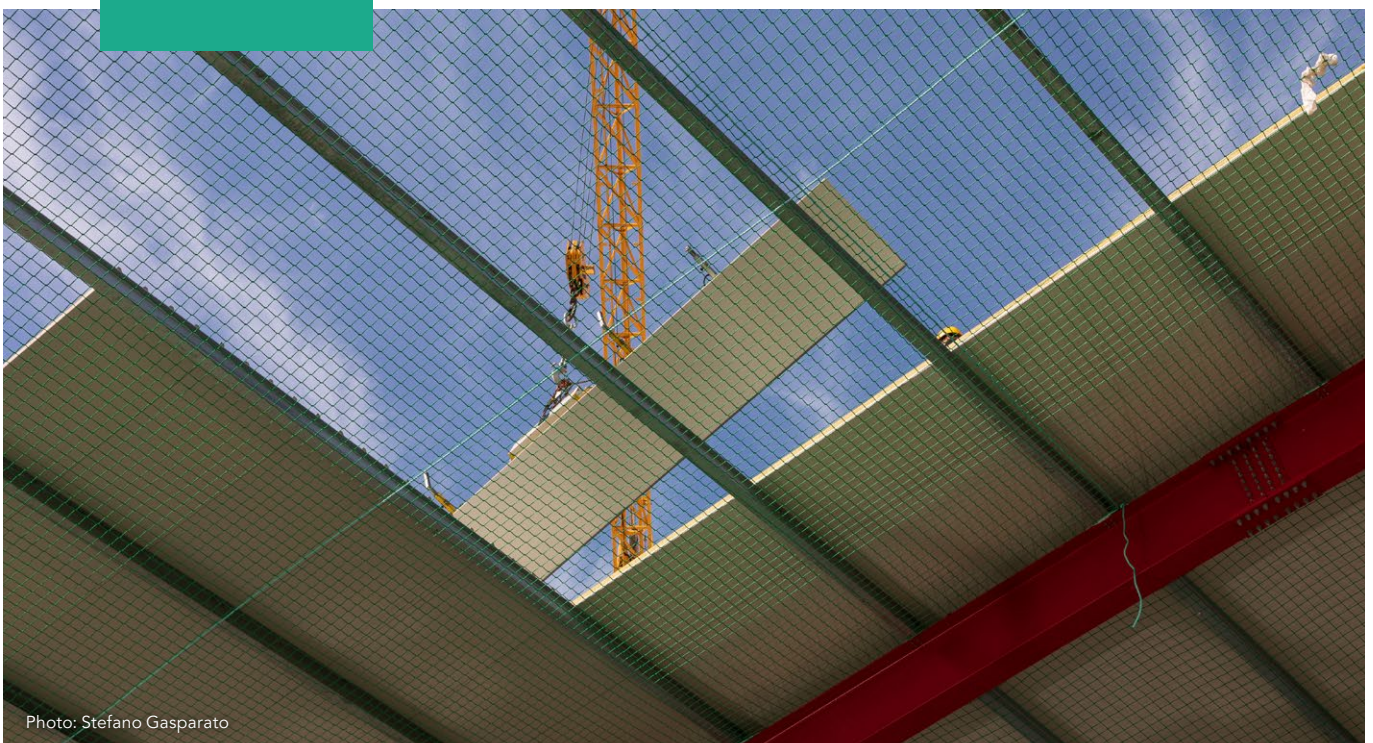


Photo: Stefano Gasparato



Advancing excellence at our factory in Saint Éloi les Mines (FR)

To deliver LC Spanrock at scale, ROCKWOOL Core Solutions drew on the strengths of its Saint Éloi-les-Mines facility in France, a site with a long history of high-performance stone wool production. This was a targeted development programme designed to harness the unique capabilities of the plant's electrically powered Production Line 3, to meet specific low-carbon performance and quality requirements.

The Saint Éloi teams worked closely with Core Solutions experts to adapt and ensure the reproducibility needed for LC-grade production. The result was a consistent output of LC Spanrock boards that achieve a substantially lower GWP compared to conventional stone wool.

Enhanced Factory Production Control (FPC) systems supported this effort, with rigorous monitoring of binder dosing, distribution uniformity, and compliance with thermal and mechanical specifications. The work both met the technical demands of the Manni Sipre project and also expanded ROCKWOOL's capability to supply more LC cores for future applications.





Photo: Flavio Chiesa

Cutting carbon, not corners

By integrating LC Spanrock into Isopan's sandwich panels, the Verona project achieved a 20% reduction in Global Warming Potential (A1–A3) relative to panels using standard stone wool cores, all while maintaining benchmark performance in fire safety, durability, and thermal efficiency.

The forthcoming Environmental Product Declaration (EPD) for LC Spanrock will provide further transparency and data to support project certification under leading sustainability frameworks.

As Europe's building stock transitions under evolving regulatory frameworks and climate commitments, projects like Manni Sipre demonstrate a pragmatic path for industries to make measurable progress on their Scope 2 and 3 emission reductions.

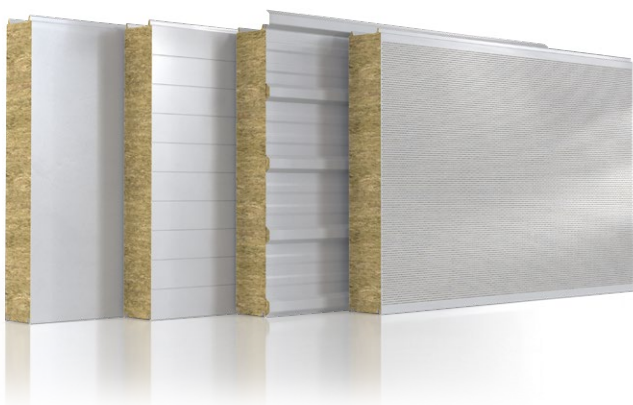
Ultimately, the shift to low carbon construction is driven by people: designers, engineers, and manufacturers re-imagining what's possible when sustainability becomes part of every decision.



Photo: Flavio Chiesa



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Project: Manni Sipre Low Carbon Warehouse
Province of Verona, Italy

Building area: 13,800 m²

Products used:

- **LC Spanrock** low carbon stone wool core
- **Isoparete Fire Evo** 120 mm façade panels – 4,500 m²
- **Isofire Roof** 80 mm roof panels – 9,300 m²
- **Low CO₂ steel profiles** for structural framework (by Steelior)

Stakeholders:

- ROCKWOOL Core Solutions
- Isopan (sandwich panel supplier)
- Manni Sipre / Manni Group (client and steel supplier)
- Steelior (framework supplier)
- C.T.&N. 2000 Service (installer)
- Design completed internally by Manni Sipre

Project Timeline:

- Project start: June 2024
- Construction: July 2024 – January 2025
- Scheduled completion: July 2025

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