

Sikatherm[®] NFF INORGANIC, MULTIFUNCTIONAL FOAM TECHNOLOGY

PERFECT SOLUTION FOR FILLING CAVITIES: TAILORED, THERMALLY INSULATING, NON-FLAMMABLE, AND SUSTAINABLE



BUILDING TRUST

INORGANIC SUSTAINABLE FOAMS

Sikatherm[®] NFF

Construction chemistry has achieved an important breakthrough in concrete and insulating material technology with the development of a new product in the segment of non-flammable mineral foams (NFF). Based on the successful developmement, a new product line has been launched: Sikatherm[®] NFF.

The new portfolio of inorganic foams is designed for on-site, prefabrication and insulation in a wide variety of application areas.





What is so special about Sikatherm[®] NFF?

The driving forces behind inorganic insulating materials are their excellent properties with respect to fireproofing, insulating capability, recyclability and their sustainable production.

These unique properties of the Sikatherm® NFF product family offer many options to building designers and experts in the construction industry. For example, it is possible to produce pre-fabricated insulating boards with greater process reliability and ease. The foam can be used in all fully automated processes, such as cavity filling, board or prefabricated element production.

Both Sikatherm[®] NFF products are non-flammable, A1, and have sound-proofing / noise-proofing properties.





Sikatherm[®] NFF

MINERAL INSULATION FOR CONCRETE AND BRICK CAVITIES

The challenges in concrete and brick manufacturing

Concrete and brick manufacturers, like the entire construction industry, face major challenges. They must become more sustainable, drive digitalization forward, and counteract the skilled labor shortage caused by demographic change. Additionally, rising costs and stricter regulatory requirements put further pressure on the industry. The construction sector must therefore develop innovative solutions that enable flexible adaptation to ever-evolving challenges.



Perfect adhesion of the mineral foam in the cut stone

How Sikatherm[®] NFF can address the challenges

Sikatherm® NFF is one such innovative, highly flexible solution. This purely mineral-based foam can be processed using either chemical or mechanical foaming methods and can be precisely adjusted to target densities ranging from 50 to 150 g/L and thermal conductivities between 33 and 42 mW/mK. This makes it the ideal solution for every building material manufacturer. Thanks to its precise filling capabilities and carefully controlled foaming process, it achieves outstanding thermal insulation values while ensuring rapid cycle times.

Therefore, the product is particularly well-suited for industrial production. The foam's expansion creates strong interlocking and perfect adhesion between the mineral foam and the stone matrix.

With this technology, previously unattainable performance in thermal insulation, fire protection, and soundproofing can be achieved.

Even highly absorbent bricks can be precisely filled

WHAT DISTINGUISHES THE Sikatherm® NFF PRODUCTS?

Sikatherm[®] NFF Mineral Foam offers numerous advantages compared to conventional insulation materials:

FIRE RESISTANCE

Non-combustible, highest fire resistance class (A1), safer than materials like polystyrene and polyurethane, which can be flammable.

THERMAL INSULATION Excellent thermal insulation, unique microstructure with improved heat retention.

SOUND INSULATION Enhanced sound insulation due to the porous structure.

DURABILITY Very long-lasting and resistant to external influences.

RECYCLABILITY Completely mineral-based, fully and easily recyclable.

MECHANICAL AND CHEMICAL STABILITY Significantly improved foam stabilitythanks to patented particle stabilization technology.

SUSTAINABILITY Significantly reduced CO₂ footprint.

EASY PRODUCTION Low-energy and fully automated production process.

LOGISTICS Reduced storage, transportation, and handling.



Sikatherm® NFF INORGANIC, MULTIFUNCTIONAL FOAM TECHNOLOGY – PERFECT SOLUTION FOR FILLING CAVITIES

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ECONOMICAL – INNOVATIVE – SUSTAINABLE

Your benefits, your advantages

OPTIMIZED PORE STRUCTURE

Ideal pore size improves thermal insulation properties

INNOVATIVE TECHNOLOGY

patented particle stabilization ensures high robustness and continuity.

REDUCED COSTS

Low-energy production, reduced storage, and use of in-house recycled material

HIGH DEGREE OF AUTOMATION

Maximum efficiency through fully automated production with minimal personnel requirements

Sikatherm[®] NFF

APPLICATION CAVITY FILLING

The high robustness of Sikatherm® NFF mineral foams during curing enables outstanding technical properties. Surfactantbased foams are not stable for long during the mixing process. This problem has been solved by the particle stabilization technology used in Sikatherm® NFF.

Unlike surfactant-based foaming agents, the particles form a shell structure at the water-air interface. This shell remains stable over a longer period, allowing the binders to react more slowly and achieve lower densities.





Concrete block cavities



Fire protection profiles

Clay brick cavities

Sikatherm® NFF		
Application	Cavity insulation	Fire protection profiles
Lambda 10, 70°C mW / m*K	32	50
Lambda rated mW / m*K	35	-
Dry density kg / m³	55	200
Flammability	A1	Al
Compressive strength kPa	> 15	250

Sikatherm[®] NFF

CUSTOMER BENEFITS

Tailored solution

The modular plant concept enables a tailored adaptation to existing customer facilities, reducing investment costs. Various products can be easily manufactured using the same foaming unit by adjusting the molds and densities. This optimizes both the value chain and capacity utilization.

Low costs

Since no costly storage logistics for panel materials or cuttings are required, this further lowers costs.

Our team looks forward to supporting you in your transformation and working with you to implement innovative and sustainable solutions for the future.



Sustainable

The NFF technology sets new standards in sustainability:

- The production of mineral foam requires little energy.
- Production residues can be reused as in-house recycled material.
- Grinding dust and powders can be used as fillers.

Fully automated

Our solution allows the filling process to be fully digitalized and carried out without personnel. Manual and labor-intensive processes are automated.

A GLOBAL COMPANY BUT LOCAL PARTNER



FOR MORE INFORMATION ON Sikatherm[®] INSULATION:



WE ARE SIKA

Sika is a specialty chemicals company with a globally leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing, and protection in the building sector and industrial manufacturing. Sika has subsidiaries around the world and produces innovative technologies for customers worldwide. In doing so, it plays a crucial role in enabling the transformation of the construction and transportation sector toward greater environmental compatibility.

Any product name or reference reflects the Sika product name at the time of creation of this document and may differ from the product name or reference during past events.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use





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