

SUPAFIL[®]

AROUND THE WORLD

CASE STUDIES

WELCOME TO THE WORLD OF SUPAFIL®

challenge.
create.
care.

WHAT TO EXPECT

SUPAFIL® is our glass blowing wool and is one of the most flexible and high performing insulation materials.

Discover the multiple insulation applications for new-built and retrofitting buildings where SUPAFIL® is the perfect fit due to its multifaceted benefits.

SUPAFIL® makes your living space more comfortable, saves energy and costs, is environmental friendly, matches health and safety requirements and increases the value of your housing.

Find out more about it by reading through our interesting case studies of how SUPAFIL® can provide a solution for almost every insulation challenge.

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Senior residence Building - France - Everest Isolation



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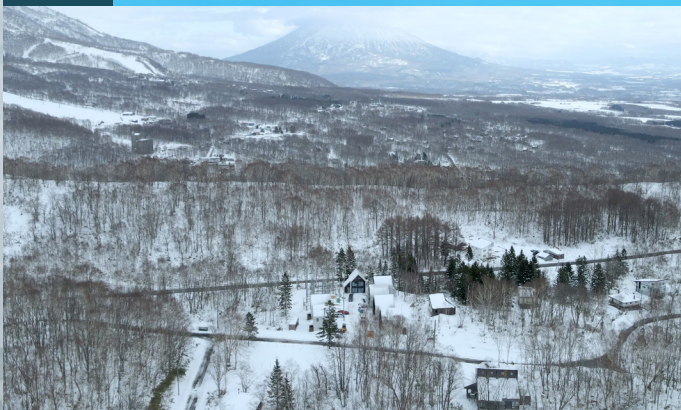
Offsite House Manufacturing Building - Finland - FM-Haus



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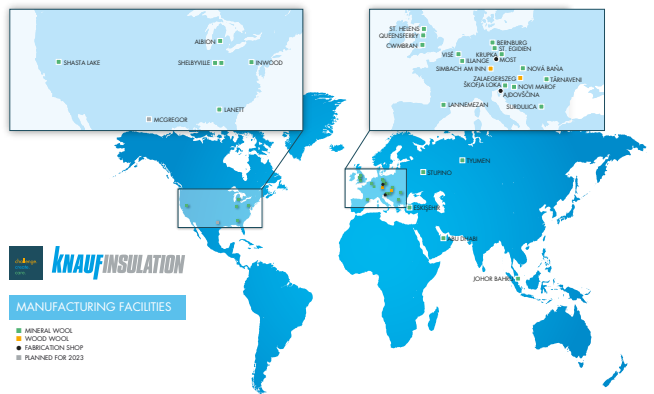
Residential Building - Japan - Onnetsu Kankyo Kaihatsu



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SENIOR RESIDENCE BUILDING FRANCE - EVEREST ISOLATION

GENERAL INFORMATION

Type of project:	Non residential new build
KI product:	SUPAFIL® Loft 045
Application:	Loft insulation
Insulated area:	1500 m ²
Main contractor:	AEGIDE
Installer:	Everest Isolation
Country:	France
Town:	Uzès



WHAT OUR CUSTOMERS SAY...

"Since our partnership with Knauf Insulation in 2007, we've been blowing glass wool with far greater success," says Mr Philippe Million, president at Everest Isolation.



"SUPAFIL® is easy to install well and when insulation is easy to install, we save time," says Mr Clément Westrelin, delegated project manager at BE Westrelin Engineering Consultancy.



DEEP DIVE INTO OUR FULL CONVERSATION

KNAUF INSULATION: First off, could you give us some background on your companies?

MR WESTRELIN (delegated project manager at BE Westrelin Engineering Consultancy): Of course, Westrelin is a family-run company founded by my father almost 40 years ago. I'm in charge of managing the organisation, planning and coordination of our building projects. We have a design office in Uzès, and from there we streamline and economise our projects. We work in both the public and private sectors all over France. We're currently working on a construction project that will house 106 rooms and require 16 different trade disciplines to ensure its timely completion, for example. We tend to construct big properties, and as such require efficient work practices to reduce labour time and costs.

MR MILLION (president at Everest Isolation): And I'm Phillipe Million, manager of Everest Isolation. We are an insulation company which I founded in 1999 after returning from a trip to Nepal, bringing home the values learned while away; namely, passion for our craft and above all, showing humanity. We're located in Vaucluse, in the south of France, and have a workforce of around 50 employees with two subsidiaries; one in Marseille and one in the middle of Orgon called K2 and BS Isolation. We got to partner with Westrelin a while ago and haven't looked back since; we share the same passion for our work and enjoy the solution-focused nature of our partnership.

KNAUF INSULATION: Can you tell us about the benefits of SUPAFIL®?

MR WESTRELIN: So, Knauf Insulation's blown-in wool has multiple advantages for us in the construction process. Ultimately, it's easy to install properly, and when insulation is easy to install, we save time. Let's take this project, for example. Our workforce will be able to install almost 1500 m² in a single day. With the help of Knauf Insulations' bespoke, user-friendly installation machinery, we're able to eliminate thermal bridges and circumvent quality control issues relating to poor installation caused by human error. We're able to complete our projects knowing full well that the insulation has been installed to a high standard, which is really pleasing.

MR MILLION: I'd like to add that, in addition to user friendliness, SUPAFIL® offers a higher performance insulation. In 1999, we were using blowing stone wool because it was the only product on the market which, as anyone who's used it will testify, is altogether more dense and difficult to use. Since our partnership with Knauf Insulation in 2007, we've been blowing glass wool with far greater success and we've not looked back since.

KNAUF INSULATION: And do you foresee a continued partnership with Knauf Insulation?

MR WESTRELIN: Absolutely. In fact, all of our building sites have reported back that SUPAFIL® has helped to make the insulation process both smoother, easier and more comfortable. Workers used to suffer from skin irritation caused by traditional insulation materials, but with SUPAFIL®, this isn't an issue. We also commit wholeheartedly to the pursuit of sustainability. The team at Knauf Insulation have taken it upon themselves to create a product and installation process that's both ecologically made and reduces waste materials, creating a more sustainable process from start to finish. It's a question of doing what's best for the future of the planet, and we hope that our continued partnership with Knauf Insulation helps to protect it.

MR MILLION: The quality of the wool is also very important, because it must be malleable in order to work effectively. SUPAFIL® offers a much higher degree of flexibility over traditional wool, meaning that additional layers can be added to the original insulation further down the line. We also need to have high-performance machines, and Knauf Insulation recognises that fully. Behind the machines, we have a conscientious team supporting us along the way. The point about sustainability is essential. We know that resources are running out, so the use of recyclable glass wool whilst reducing material waste is really important to us. We've found that, with Knauf Insulation, there's a whole chain of sustainable development in place and that's really gratifying to see.

RESIDENTIAL BUILDING GERMANY - NEESEN / GERKEN

GENERAL INFORMATION

Type of project:	Residential new build
KI product:	SUPAFIL® Loft Plus
Application:	Loft, timber frame insulation
Insulated area:	115 m ²
Main contractor:	Neesen Schlüsselfertigbau GmbH
Installer:	Gerken Innenausbau GmbH
Country:	Germany
Town:	Paderborn



WHAT OUR CUSTOMERS SAY...

"Fortunately, the conscientious customers of today can rest easy in the knowledge that their home or building's insulation is free of hazardous materials. And with 80% waste glass, that's no small victory," says Frank Gerken, drywaller and CEO at Gerken Innenausbau GmbH.



"It's quicker than it ever was historically and we're now handling more construction sites with fewer employees," says Maximilian Böddeker, construction manager at Neesen Schlüsselfertigbau GmbH.

DEEP DIVE INTO OUR FULL CONVERSATION

KNAUF INSULATION: First off, could you tell me a little about your process when it comes to a new project?

MR BÖDDECKER (construction manager at Neesen Schlüsselfertigbau GmbH): Of course, we specialise in building turnkey properties. That means delivering single and multi-family houses, office buildings and commercial real estate. By completing the holistic engineering work, we're able to pare down to our clients' needs throughout the finishing phase. With a turnover of around 80-100 houses/buildings per year, we're pleased to have a seamless workflow partnership from start to finish, and our results speak for themselves. There's a great level of respect and cooperation between our teams, too.

MR GERKEN (drywaller and CEO at Gerken Innenausbau GmbH): My work really begins with drawing and ordering all the necessary materials. Naturally, we coordinate everything with the site manager and the developer well in advance. That takes place on the construction site. After the preparatory work is out of the way and we're comfortable with the plan, we just arrive with our vehicles and machinery, lay the hose and we're ready to start filling the roof slopes and collar beam layers.

KNAUF INSULATION: How did you end up incorporating SUPAFIL® into your insulation process?

MR GERKEN: Actually, Knauf Insulation introduced us to the SUPAFIL® product. They kindly helped us with the purchase and fine-tuning of the machinery. We self-certified online with Knauf Insulation's guidance and were personally accompanied by their employee during the first four-to-five construction sites. They've been very helpful during and beyond the onboarding process, I must say.

MR BÖDDECKER: In addition, it really helps us to streamline the process of insulating our buildings. It's quicker than it ever was historically and we're now handling more construction sites with fewer employees. I'd also add that the sustainability aspect of SUPAFIL® plays an important role in our decision to use it. It's good to know that the product we're using reduces harmful waste in the building process.

KNAUF INSULATION: And how does it compare to other insulation types?

MR GERKEN: So, there's a few key differences here, but they ultimately boil down to one main advantage; installation time is radically cut down. Where previously we'd have to lie upside down, make perfectly precise cuts and have direct contact with the material; we can now achieve that pristine, airtight, gapless filling with none of those previous hindrances.

MR BÖDDECKER: Agreed. I think a great advantage is simply the speed with which we're now able to complete

our projects. Secondly, the material used offers a wholly improved experience for the Gerken fitters. We all know the feeling or irritated, itchy skin after doing some renovation work at home, taking away the old glass wool between the rafters. This is not the case with the SUPAFIL®.

KNAUF INSULATION: So, presumably quicker (and less painful) insulation means more area covered?

MR GERKEN: Exactly. We're now completing 100 square meters of insulation surface with just two employees in four hours. Before SUPAFIL®, the three of us would've needed eight hours or so with the clamping felt for the same area - so it's actually not just about the time and area covered; we're saving on manpower, too. With these kinds of savings, I can manage one or more construction site efficiently.

MR BÖDDECKER: This is it: we're cutting down on labour costs while increasing capacity. It's very encouraging to see.

KNAUF INSULATION: Any other benefits you can think of?

MR GERKEN: Our customers are becoming increasingly conscious of sustainability; they want to know which ingredients are used in the products we use and their long-term impacts on the environment. Fortunately, the conscientious customers of today can rest easy in the knowledge that their home or building's insulation is free of hazardous materials. And with 80% waste glass, that's no small victory.

MR BÖDDECKER: To add to that, the sustainability of SUPAFIL® is a big plus point for us because raw materials are becoming increasingly scarce over the world. There are increasing problems in supply chains, and traditional insulation materials are diminishing. If we can recycle our building materials sustainably, that helps our future selves to continue constructing our buildings at the same rate and high standard in which we are currently building them.

KNAUF INSULATION: Brilliant. Finally, do you foresee more SUPAFIL® use in the future?

MR GERKEN: We definitely see our future providing flawless finishes being accompanied by SUPAFIL®. And thanks to the dependable cooperation of the Neesen company, we're now taking on more drawings and orders than we can handle.

MR BÖDDECKER: Without a doubt. In addition to some excellent tuition and guidance, your product hits the mark. It's rare to find a product in this market that drastically cuts down on expense, installation time and man hours - which, in turn, increases our capacity for more work. We look forward to a long partnership.

OFFSITE HOUSE MANUFACTURING BUILDING - FINLAND - FM-HAUS

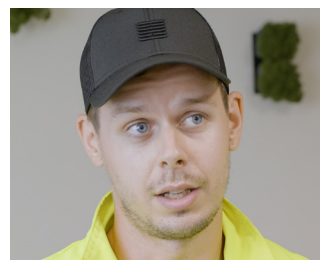
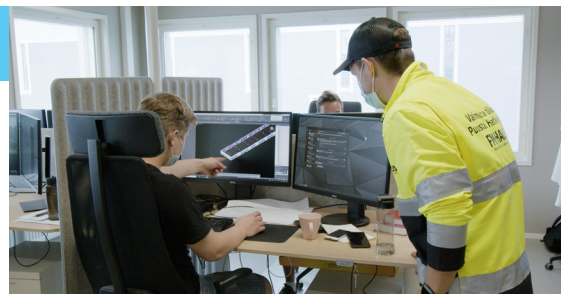
GENERAL INFORMATION

Type of project:	Non residential and residential new build
KI product:	SUPAFIL® Max Frame
Application:	Offsite insulation
Manufacturer:	FM-Haus
Country:	Finland
Town:	Jokioinen



WHAT OUR CUSTOMERS SAY...

"Ultimately, we aim to pair our customers' structural solutions with our own environmentally friendly solutions. It's one of the reasons for incorporating SUPAFIL® into our building methods. We are finally able to fulfill our international scope in a growing insulation market as a result of partnering with such a strong international player," says Toni Sjöman, technical manager at FM-Haus Oy.



DEEP DIVE INTO OUR FULL CONVERSATION

KNAUF INSULATION: Mr Sjöman, as a Technical Manager at FM-Haus, could you give me some background on your company?

MR SJÖMAN (technical manager at FM-Haus Oy): Of course. So, FM-Haus was founded in 1994 in the wake of the recession. A small group of us here in Jokioinen began thinking about exporting pre-cut buildings to Germany. While that aspect of the business never took off, we noticed a gap in the Finnish market for the fabrication of sustainable timber industrial and agricultural buildings. We feel fortunate to have seen more and more interest in the sustainability of our builds as we've grown.

KNAUF INSULATION: Sustainability is important to you, then?

MR SJÖMAN: Absolutely. We're proud to put environmental impact at the top of our list of priorities. Ultimately, we aim to pair our customers' structural solutions with our own environmentally friendly solutions. It's one of the reasons for incorporating SUPAFIL® into our building methods.

KNAUF INSULATION: Could you tell me a bit more about your insulation requirements?

MR SJÖMAN: So, internationality and sustainability have always informed our goals and therefore any insulation partner we choose needs to be able to manage our supply needs. Our business is underpinned by three core benefits for our customers: flexibility, punctuality and expertise. Knauf Insulation and SUPAFIL® have helped us to uphold these principles by not only delivering on time, but also providing a product that dramatically reduces waste, both in terms of materials and time. They've also assisted with the use of equipment and finding the perfect products for our - and our customers' - specific needs.

KNAUF INSULATION: And how are you finding the partnership with Knauf Insulation?

MR SJÖMAN: We've increased our competitiveness in the market tenfold since partnering with Knauf Insulation. Our insulation costs have been cut by 30% since we teamed up, we're able to take on more projects, both domestically and internationally, and we're finally able to fulfil our international scope in a growing insulation market as a result of partnering with such a strong international player. We're also receiving a great deal of technical support.

KNAUF INSULATION: That's great to hear. And how does the future look for your company?

MR SJÖMAN: The future looks very bright. We're feeling incredibly positive about the growing market and our ability to supply its needs alongside Knauf Insulation's products and team. We're seeing a rise in customers requiring wooden, modular buildings made in factory conditions free of growth hazards and material wastage as a result of a renewed focus on environmental impacts. We're delighted to be able to offer these solutions.

RESIDENTIAL BUILDING JAPAN - ONNETSU KANKYO KAIHATSU

GENERAL INFORMATION

Type of project:	Residential new build
KI product:	SUPAFIL® Loft
Application:	Loft insulation
Insulated area:	31 m ²
Number of insulated houses:	120
Main contractor:	Onnetsu Kankyo Kaihatsu Inc.
Installer:	Onnetsu Kankyo Kaihatsu Inc.
Country:	Japan
Region:	Niseko, Hokkaido



WHAT OUR CUSTOMERS SAY...

"By contrast, Knauf Insulation's SUPAFIL(r) has exceptional thermal performance, and we've found it to be superior to other blow-in insulation products. In addition, we believe that SUPAFIL(r) is a key player in the movement towards sustainability, providing the best solution on the market," says *Masahiro Mitsuboshi, president at Onnetsu Kankyo Kaihatsu Inc.*



DEEP DIVE INTO OUR FULL CONVERSATION

KNAUF INSULATION: Firstly, could you tell us a bit about yourself and your company?

MR MITSUBOSHI (president at Onnetsu Kankyo Kaihatsu Inc.): Of course. My name's Masahiro Mitsuboshi, and I'm President of Onnetsu Kankyo Kaihatsu. We were established in 1993 and we specialise in blow-in insulation for residential housing. We're based in Sapporo, a big city with a population of 2.4 million, covering 70% of Hokkaido (including Niseko), which is famous for its resort development. We're a small and friendly company with 19 employees across the board.

KNAUF INSULATION: What installation challenges do you normally face during the construction process?

MR MITSUBOSHI: Primarily, we need to ensure that we're correctly managing the thickness and density of the insulation so as to guarantee that our products' insulation performance isn't compromised. We've found that the performance of the blowing machines can vary greatly depending on the insulation materials used. This can also occur when using the same materials, but under different weather conditions. That's why we make fine-tuning adjustments as each project progresses to ensure product consistency.

KNAUF INSULATION: And how has SUPAFIL® helped?

MR MITSUBOSHI: So, compared to other products available in Japan, SUPAFIL® provides a far superior thermal performance. The only blow-in insulation that was previously available in Japan had no noticeable improvements in thermal performance and, in truth, no major benefits to be noted. By contrast, Knauf Insulation's SUPAFIL® has exceptional thermal performance, and we've found it to be superior to other blow-in insulation products.

KNAUF INSULATION: So, would you say your competitiveness has increased in the market?

MR MITSUBOSHI: Exactly. Since Knauf Insulation launched their SUPAFIL® product in Japan, our customers have been able to choose the best possible insulation for their homes. You have to bear in mind that in Hokkaido, where the average temperature in January falls below zero degrees Celsius, residential homes need to be built to better withstand the cold of winter. That's why the limited product options before SUPAFIL® were such a major issue. Now, we're able to build homes that fight heat loss, aligning with our customers' needs. Not only that, our partnership with Knauf Insulation has also improved our profitability, which contributes to our increasing strength in the market.

KNAUF INSULATION: Fantastic. Could you tell us a bit about your future plans with SUPAFIL®?

MR MITSUBOSHI: Yes, so the way of work differs when it comes to ceilings and walls. Regarding blow-in insulation, the majority application is Loft, with 93%. Knauf Insulation's high-performing thermal insulation products enable us to grow our business by reducing cost during ceiling insulation, making life for our builders easier (due to simpler installation methods), and our future homeowners happier (because they end up with homes designed to effectively reduce heat loss). By contrast, wall application blow-in insulation takes up just 7% of the market share of the blow-in insulation market. Most of the installation work is therefore typically done by untrained workers, which means that installation defects are quite common. These installation defects can impede the thermal performance of the building. By installing SUPAFIL®, however, we hope to improve the thermal performance of houses, creating homes with less heat loss and improved energy consumption overall.

KNAUF INSULATION: And is energy loss important for you?

MR MITSUBOSHI: Absolutely. In fact, Japan is making efforts to reduce the amount of energy emitted from households to help push towards carbon neutrality. With this in mind, it's important to install high-performing insulation products and to choose the best installation methods so as to reduce energy loss. In short, then, we believe that SUPAFIL® is a key player in the movement towards sustainability, providing the best solution on the market.

WHERE TO FIND US

If you need assistance regarding Knauf Insulation SUPAFIL® Blowing Wool, contact our local entities representatives.

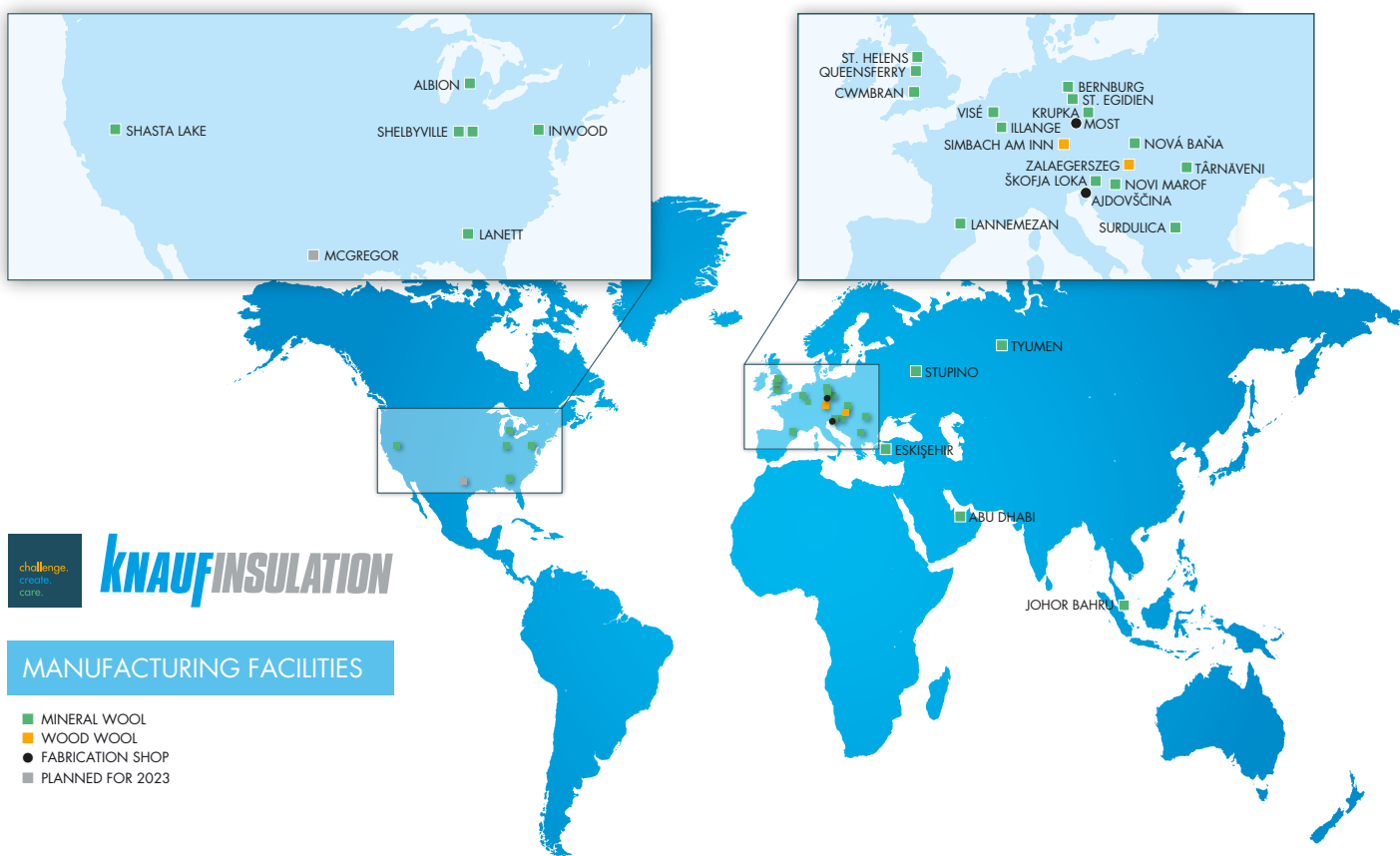
We are one of the world's largest manufacturers of insulation products and solution. With more than 40 years of experience in the industry, we represent one of the fastest growing and most respected names in insulation worldwide. Knauf Insulation is present in more than 40 countries and has 30 manufacturing sites in 16 countries.

OUR MISSION

Our mission is to challenge conventional thinking and create innovative insulation solutions that shape the way we live and build in the future, with care for the people who make them, the people who use them and the world we all depend on.

OUR VISION

We lead the change in smarter insulation solutions for a better world.



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