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PRESS RELEASE

Enhancing building sustainability in Northern European countries with RENOLIT ALKORPLAN's cool roof synthetic membranes for high energy performance

RENOLIT ALKORPLAN's synthetic cool roof membranes, Smart and Bright, are designed to improve the energy efficiency and sustainability of modern architecture. Therefore, they offer valuable support in meeting the challenges of climate change in Northern European countries, aligning with international climate commitments. These membranes not only reduce cooling demand and integrate with green building certifications such as GREEN, LEED and BREEAM, but also set new standards for environmentally responsible construction, as demonstrated by these three innovative projects.

Sant Celoni, Barcelona, November 2024 - Energy efficiency of buildings and their sustainability is an issue of increasing importance considering climate change and sustainability commitments made at an international level. In Europe, for instance, [buildings are responsible for 40% of the final energy consumption in the EU and 36% of energy-related greenhouse gas emissions](#), as shown by the data provided by Council of the European Union. Therefore, reducing emissions requires **enhancing the energy efficiency of buildings**, which can also be achieved using more efficient materials in the renovation of existing buildings and the construction of new structures.

This sustainable transformation of buildings must take into account the **climate changes already underway** and the effects that will manifest with greater frequency and impact in the coming years. This means that **buildings must also be structured or rethought to adapt to new needs**: from increasingly hot summers to harsher winters and sudden floods. This signifies that the functions of building envelopes are shifting from simply keeping water out and heat into a more complex task. In the future, even **in Northern European countries**, it will be necessary to minimise the amount of heat passing through the building envelope into the interiors.

Alongside active cooling solutions - which, however, often contribute to building emissions - Northern Europe is beginning to see the spread of **passive, more**

RENOLIT IBÉRICA, S.A.
Ctra. del Montnegre, s/n
08470 Sant Celoni
Barcelona
www.renolit.alkorplan.com

Your contact person:
Daria Barbieri
Marketing Manager
Roof & Watercare
Mob: +34 639 34 04 43
daria.barbieri@renolit.com



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sustainable solutions, such as the use of synthetic membranes for cool roofs.

In this uncertain and challenging scenario, the Smart and Bright cool membranes by **RENOLIT** ALKORPLAN roofing products for next-generation buildings prove to be a valuable ally, as demonstrated by these three projects. In addition to their excellent performance, these membranes **support green building certifications such as VERDE, LEED, and BREEAM** by addressing multiple sustainability criteria.

BREEAM certified logistics centre in Ilvesvuori, Nurmijärvi (Finland)

The **new logistics centre in Ilvesvuori, Nurmijärvi**, which has achieved the BREEAM Good environmental certification, initially required a roofing solution capable of meeting stringent environmental and performance standards. The primary need was for a roofing system that could withstand harsh weather conditions while contributing to the building's overall sustainability goals. The centre, spanning 9,000 square metres, demanded **a solution that would ensure durability, energy efficiency, and reduced environmental impact.**

The **RENOLIT** ALKORPLAN Smart PVC waterproof membrane was chosen to fulfil these requirements because of its superior qualities. This membrane is crafted with sustainability at its core, **incorporating recycled materials to significantly cut down on the use of natural resources and water during production.** Its ability to reflect solar radiation was a critical factor in its selection, as this feature helps to lower the building's cooling requirements, leading to substantial energy savings.

The implementation process involved a meticulous installation of the **RENOLIT** ALKORPLAN Smart membrane across the entire roof area, led by Tomi Norrby, Managing Director of the roofing company Teollisuuskatot Oy. The membrane's advanced design, including integrated cool pigments, provides enhanced protection against solar degradation, which extends the roof's lifespan while maintaining its visual and functional integrity.

RENOLIT ALKORPLAN Smart membrane brought multiple advantages to the logistics centre. It not only ensured robust protection against extreme weather but also played a pivotal role in reducing the building's energy consumption, thus lowering its carbon footprint. The membrane works in harmony with other



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sustainable systems within the building, such as geothermal heating and solar panels, to create **a highly efficient and environmentally responsible facility.**

Moreover, the **membrane's long lifespan, ranging from 30 to 40 years**, and its recyclability at the end of its life cycle, further contribute to the building's sustainability credentials.

This makes the logistics centre **a model of innovation in industrial construction**, demonstrating how advanced materials can drive both performance and environmental stewardship. The **RENOLIT ALKORPLAN Smart** membrane has set a new standard for future projects, showcasing its effectiveness in meeting the complex demands of modern industrial architecture.

New Alfaroc logistics centre in Tuusula, Finland

Alfaroc's logistics centre in Tuusula of 35,000 sq.m. exemplifies how modern construction can align with stringent environmental requirements. Situated in southern Finland, just 25 km from Helsinki, this new facility was designed with a strong focus on energy efficiency. The primary challenge was to construct a building that minimised energy consumption while maintaining a comfortable internal environment. This challenge was met once again by Teollisuuskatot Oy implementing a cool roof solution using the **RENOLIT ALKORPLAN Bright membrane (RENOLIT ALKORPLAN Cool**, as it is known in Nordic countries), in conjunction with solar panels.

The **RENOLIT ALKORPLAN Cool** membrane was chosen for its exceptional ability to reflect solar radiation, which significantly reduces the building's internal cooling demands. This white PVC membrane effectively **prevents excess heat from penetrating through the roof**, ensuring that the interior air remains stable and comfortable. This feature is particularly beneficial for large properties where heat load can be substantial.

The membrane boasts a **Solar Reflectance Index (SRI) of 115, the highest on the market**, as certified by the Cool Roof Rating Council (CRRC). This high SRI value highlights the membrane's superior efficiency in reflecting solar energy, which not only reduces the cooling needs of the building but also enhances the performance of the rooftop solar panels. By keeping the double-sided solar cells cooler, the reflected sunlight increases their efficiency and **boosts renewable energy production by 20 minimum.**



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In addition, the **RENOLIT ALKORPLAN Bright** membrane offers several other benefits. Its advanced coating facilitates the runoff of water and dirt, maintaining a cleaner appearance and reducing maintenance efforts. This high-end product, white throughout its entire mass, provides a quality finish highly valued by industry professionals.

The solution effectively reduces the energy demand for climate control within the building, improves comfort in structures without air conditioning systems, and **lowers CO₂ emissions due to decreased energy consumption.**

It also **enhances air quality in urban areas** and helps mitigate the urban "heat island" effect, while increasing the efficiency of photovoltaic systems. This project is part of the COOL³ campaign in collaboration with Treadon, "Choose **RENOLIT ALKORPLAN** cool roofs, plant trees," which underscores a commitment to sustainable building practices.

The **RENOLIT ALKORPLAN Cool** membrane not only meets but exceeds the demands of modern eco-friendly construction, setting a new standard for energy-efficient building solutions.

The Innovation and Business Center (IVC) in Vilnius (Lithuania)

Due to its characteristics and countless advantages, **RENOLIT ALKORPLAN Cool** membrane was also chosen for the development of the **Innovation and Business Center (IVC) in Vilnius, Lithuania, thanks to the local distributor Moderni Izoliacija and his Managing Director Andrius Augūnas.**

This building stands as a beacon of sustainable and innovative architecture, covering an area of 32,000 square metres. Designed to cater to innovators in science, high technology, medicine, and pharmaceuticals, the centre houses state-of-the-art scientific and experimental laboratories as well as offices. The building itself mirrors its innovative purpose by being **exceptionally sustainable and energy efficient.**

A pioneering feature of the IVC is that it is **the first industrial building in Lithuania designed to produce all the electricity required for its operations.** This is achieved through an 850-kW solar power plant that envelops the facade and roof, marking it as the first building in the country to integrate such an unconventional architectural solution.



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The building operates independently of the city's heating networks, utilizing 80 geothermal wells drilled to a depth of 130 metres to fulfil its heating needs. Advanced geothermal heat pumps generate 4.5-5 kWh of heat from just 1 kWh of electricity, with cooling efficiencies reaching 4.91-5.76 kWh. Moreover, 20 ventilation systems equipped with heat exchangers guarantee the optimal indoor climate necessary for the laboratories and research areas. An energy storage system further ensures that heating, cooling, and emergency lighting can be maintained as needed.

To further enhance its energy efficiency, the IVC roof is coated with an all-white cool roof **RENOLIT** ALKORPLAN Bright membrane. This innovative solution reduces the building's cooling demands in summer by 20% and boosts the efficiency of double-sided solar modules by an additional 20%.

The IVC's commitment to sustainability is underscored by its reliance solely on renewable energy sources, making it one of Lithuania's first buildings with zero CO₂ emissions. This ambitious project, with an investment exceeding 21 million euros, sets a new standard for sustainable construction, reflecting a forward-thinking approach to modern building design and environmental responsibility.

“In the context of rising environmental challenges and the urgent need for sustainable construction solutions, **RENOLIT** ALKORPLAN roofing products offer an innovative approach to energy efficiency and environmental stewardship”, says Kenneth Witte, Managing Director at **RENOLIT Nordic** and Sales Director of **RENOLIT** ALKORPLAN roofing products. “Our Smart and Bright membranes are not only engineered to reflect solar radiation and significantly reduce cooling demands, but they also integrate seamlessly with green building certifications. These projects demonstrate our commitment to advancing building practices that meet the complex demands of modern architecture while prioritising sustainability and reducing carbon footprints.”

About RENOLIT ALKORPLAN roofing products

Part of the German **RENOLIT Group**, **RENOLIT** ALKORPLAN roofing products is one of the reference points for the production of durable, versatile, and high-quality certified synthetic membranes for waterproofing roofs and covers, swimming pools, and civil engineering works. Headquartered in Sant Celoni,



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north of Barcelona, the market unit has about 300 employees and a production of one million rolls of membranes a year.

Reliability, impeccable style, energy saving, sustainability, quick installation, and high durability are the strengths of **RENOLIT** ALKORPLAN roofing membranes.

Main characteristics of the Roofing Division are the wide range of products, a flexible customer-oriented approach, strong know-how and all-round technical assistance on site, thus providing suitable roofing solutions to each specific problem.

About the Company

The **RENOLIT Group** is a globally active specialist for high-quality plastic films, sheets and other polymer solutions. With more than thirty production sites and sales units in over twenty countries, and with annual sales of EUR 1.168 billion in fiscal year 2023, the company with headquarters in Worms – around 70 km south of Frankfurt-am-Main – is one of the world's leading plastic products manufacturers. Around 5,000 employees continue to further develop the knowledge and expertise gained from seventy-five years of business.

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