

# CUSTOMER MAGAZINE

## 02/2019

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Johan Prior-Knock

## FERTILISING GROWTH

**At Knauf Insulation we are determined to build on the position it has attained over the last decade as the fastest growing company in the mineral wool insulation business. This requires new capacities, being able to challenge conventional thinking and strong partnerships with our customers.**

### NEW CAPACITY

The countdown has begun to the official opening of our new rock mineral wool factory in Illange, France. The investment exceeds 100 million euros and the factory has a capacity of more than 110,000 tons per year. The factory is equipped with state-of-the-art technology and will bring significant benefits to our customers. Not only in terms of service levels and lead times, but also in terms of new products and solutions with the aim of enhancing our customers' experience. Within Systems Division especially, our customers producing sandwich panels in France, Germany and Benelux will be supplied by Illange, and the new factory will enable us to develop our customer base.

### CHALLENGE

The investment in Illange underlines our commitment to expand in rock mineral wool, but Knauf possesses a unique position. It is a leading player, not only in rock mineral wool technology, but also in glass mineral wool technology.

This enables us to offer products from a unique platform of both technologies where each one offers the best "fit for purpose" for individual applications. The market for OEM and HVAC have so far been dominated by rock mineral wool, but Knauf is now bringing a number of new products and solutions to the market based on glass mineral wool, allowing us to offer the most suitable technology for both OEM and Technical applications.

After the introduction of the new ECOSE binder without added formaldehyde in glass mineral wool almost a decade ago, we made an important step one year ago towards bringing sustainable products to market by introducing ECOSE into Technical Insulation. The feedback from contractors and installers has been very positive; they report a much softer touch when installing it compared to conventional rock mineral wool. Building owners and specifiers have highlighted better indoor air quality and sustainability.

### PARTNERSHIP

**Superior technology and products are an important platform for growth. But growth should be fertilised by delivering the best customer experience, responding quickly to market dynamics, and acting as a reliable partner to our customers. If we are both successful, we can build long-term partnerships and grow together.**

**I am looking forward to our mutual journey as true partners.**

# TIGR4SMART: SUSTAINABLE AND INNOVATIVE CONSTRUCTION FOR SMART BUILDINGS



**Knauf Insulation was a development partner in the European TIGR4smart programme, with the objective of developing products, solutions and technologies for the market that will provide healthy living and working environments. The idea was to interconnect the development potential of companies and economies as well as research organisations and institutes.**

Within the programme, we have (together with sandwich panel manufacturer Trimo Group and the Slovenian National Building and Civil Engineering Institute) developed two entirely new sandwich panel types: **the SILENT and VARIOFACE insulation panels.**

The technologies and products within the programme are classified into **three groups of interconnected products:**

1. Wooden building systems
2. Smart controllers and components and intelligent building management
3. **Building envelope** – In this category, **Knauf Insulation** collaborated with sandwich panel manufacturer **Trimo Group** (the project leader and at the same time our vital business and development partner), and the **Slovenian National Building and Civil Engineering Institute**

**Together we have developed two entirely new sandwich panel types:**

## SILENT INSULATION PANEL

The SILENT panel has a unique structure that enables excellent sound insulation. It drastically reduces the sound pressure that passes through the panel and represents enormous potential for a marked increase in the acoustic comfort of buildings.

The key step was the development of the **composite insulation core**, based on rock mineral wool and other recycled materials. The result is an extremely dense insulation material that provides major noise reduction – the **PBE SOUND SUPREME BOARD F**. By including different materials, we achieved efficient sound suppression across the entire frequency range. Through additional 3D

modelling with the AcouSYS software, we optimised the panel composition and subjected it to realistic testing.



## The results are outstanding...

The final SILENT panel sound insulation certification in a real-life setting, including bonding between two panels, in the acoustic lab at the Slovenian National Building and Civil Engineering Institute in Ljubljana yielded outstanding results.

**The sound insulation of the insulation panel SILENT equals 55dB** which, compared to existing solutions (32dB), represents a big step forward in sound insulation of sandwich panels. The PBE Sound Supreme Board F composite material also exhibits excellent fire resistance and is certified in the **reaction to fire class B under EN 13501-1**, making its installation in the insulation panel also feasible from the viewpoint of fire safety.

## VARIOFACE INSULATION PANEL

The VARIOFACE insulation panel has a structure that enables the installation of traditional external cladding onto the outer visible layer.

The panel's insulating core consists of our **PBE BOARD THERMAL** material. This has the required, tested and certified mechanical properties and the durability

and durability to ensure the necessary rigidity for installing and fixing various types of external cladding (such as bricks, glass, PV panels etc.) onto the VARIOFACE insulation panels. This opened up new architectural segments where traditional insulation panels, due to their industrial aesthetics, were unable to be used until now.

**From here ...**



**... to here.**



The project will not end with the demonstration building. Together with our development partner, Trimo Group, we have already started activities for the successful launch of the new SILENT and VARIOFACE panels.

(more on next page ☺)

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## All products and technologies, developed within the scope of the programme, are integrated into a joint demonstration building.

The so-called **PLUG & PLAY MODULAR RESIDENTIAL UNIT**, the result of integrating all the products, is based on an extremely high prefabrication rate with the option of fully adjusting to the floor plan. The construction of a building composed of modular units follows



the "Plug & Play" principle. This means that one unit is delivered to the desired location, placed at the correct spot, and then integrated into a building via advanced connecting systems.

The key characteristics of the unit are its self-supporting wooden construction and nearly zero-energy and emission-free installation with the required embedded information structure, which among other things, monitors various building parameters (temperature, relative humidity, CO/CO<sub>2</sub>/VOC concentrations, wood moisture etc.). All these parameters can be tracked via apps on smart devices.

At the end of March 2019 the programme was officially concluded. The first external audit was carried out on 16 April 2019 by Prof. Paolo Mattavelli from the University of Padova and representatives

of the Slovenian Ministry of Education, Science and Sport, who were all very impressed by the innovative approach, co-operation between the project partners and the solutions integrated into the demonstration building.

The programme was partly financed by the **European Union (Regional Development Fund) and the Slovenian Ministry of Education, Science and Sport** as part of the "Operational Programme for the Implementation of the EU Cohesion Policy" for the 2014–2020 period at a total of **€5,913,345.12**.

Good relations and improved co-operation between all 16 project partners are already yielding results.

These include not only new R&D projects but also additional sales opportunities, making the programme even more successful.



## FOCUS ON ROBOTIZATION IN PARTNERSHIP WITH CONSTRUCTA

To add value to our products and services, Knauf Insulation DAP team has managed to attract an automation partner, the Constructa company, which focuses on white goods manufacturers.



Constructa has successfully automated two white goods factories, where the greatest progress has been made in insulation assembly. Together with Constructa, we will further focus on development of insulation assembly tools/grippers in order to be able to offer it to our clients.

In our experience, customers perceive our efforts as very innovative, and procurement and technology departments are inviting us to advise them. This activity is helping us to deepen our relationships and **shape our customers' factories according to our future insulation product portfolio**.

Italian company Constructa has been operating in the factory automation industry since 1984 and they soon became a leader in the production of robotic silicone gluing systems.



## ISO-WIKI:

### MAXIMUM SERVICE TEMPERATURE (MST)



**Andreas Regel (Dipl.-Ing.)**  
Head of specifications Manager  
Europe and Senior TipCHECK  
Engineer

Maximum service temperature is the declared value of the temperature resistance of an insulation material without any change to its declared performance characteristics. In mineral wool products, MST is linked to density – the higher the density, the higher the MST (normally). Mineral wool products reach their physical limits at the MST of around 700 °C. MST and the melting point of fibres are two different parameters and have nothing to do with each other.

MST is part of the designation code according to EN 14303 for mineral wool industry products (but not EN 13162 for mineral wool for buildings), which has to be visible on the label and which Knauf Insulation includes in the Technical Data Sheets as well.

**EXAMPLE OF POWER-TEK® WM 640:**  
MW EN 14303-T2-**ST(+)**640-WS1-CL10  
**ST(+)**640 stands for a MST of 640 °C

MST is measured according to EN 14706 (flat products, e.g. wired mats, boards) and EN 14707 (preformed products, e.g. pipe sections). A specific load is placed atop the product to be tested (load depends on the product family) as shown in figure 1. The product will remain in the test equipment for 72 hours at the MST; by that time, it should have lost no more than 5% of its starting thickness of 100 mm.

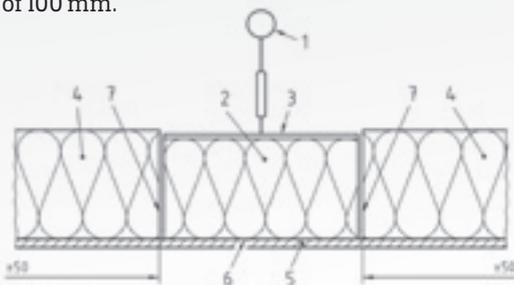


Figure 1: Example of an apparatus for determining maximum service temperature according to EN 14706 for flat products

## KNAUF INSULATION SEGMENTS OF TECHNICAL INSULATION

### How and why has Knauf Insulation defined categories for its Technical Solutions product portfolio?

To provide external and internal stakeholders with more orientation and guidance so they can more easily evaluate the functionality and intended purpose of Technical Insulation products, Knauf Insulation decided to split its product portfolio into defined product segments:

#### THERMO-TEK



#### POWER-TEK®



#### SEA-TEK®



Customers, specifiers and wholesalers can find the right product for the right application given the easy-to-understand product names.

All Thermo-teK products are mainly dedicated as solutions for HVAC-type applications, such as water supply lines, heating pipework or air handling systems – basically to insulate any type of technical equipment that is used inside the shell of a building. This environment calls for products of the Fire-teK® and Sound-teK® subgroups; their product names underline their key features: passive fire protection and sound insulation, respectively.

In general, Power-teK® products come with a much higher maximum service temperature, as they are intended predominantly for use in high-temperature applications such as processing or power plants; equipment in the food and beverage industry as well as any kind of chemical or pharmaceutical machinery should be insulated with Power-teK® products.

Finally, our Sea-teK® range is specially developed and certified for use aboard ships and offshore platforms. Depending on the application, the Sea-teK product portfolio also includes some high-temperature products as well as special 'building' or fire protection solutions that serve the specific needs of the marine sector. This segmentation provides for easy sorting and reporting and will help to shorten decision processes when it comes to deciding which product to use for what kind of application.

Of course, the professional end user can always choose based on product features as described in data sheets and/or declarations of performance (DoPs) as well as particular technical necessities or personal preferences. Our segments give you a recommendation, but ultimately individual expertise is crucial in choosing the right product for a special application.

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## NEW: UNIQUE, DOUBLE-FACED INSULATION BOARDS FOR HIGH-END ACOUSTIC APPLICATIONS MCH BOARD GVNW/GVB

Knauf Insulation MCH BOARD GVNW/GVB is a board made of glass mineral wool. Due to its acoustic and thermal properties, it is used as a core element in applications with high sound absorption requirements (such as meeting rooms, libraries, courts etc.).

Boards are one side faced with **white glass fleece (GVNW)** and with **black glass fleece facing (GVB)** on the other side of the board; the position of the facing can be adapted based on the customer needs.

Black and white glass fleece facings protect glass mineral wool boards from degradation caused by airflow, protect the internal environment from fiber contamination and give required aesthetic appearance. Final products are developed in cooperation with the customer as its composition and design may vary – depending on the final application and system configuration. Knauf Insulation MCH Board GS.5 GVNW/

GVB is produced with ECOSE® Technology, a patented binder system, where natural raw materials replace the chemicals used in traditional binders.

### APPLICATION

This product is used in various applications that require high sound absorption (such as high-performing acoustic panels, where sound reverberation problems and noise, acoustic and frequency regulation are taken into consideration) in combination with thermal insulation and flexibility of the core material.



### MAIN BENEFITS

- ✓ Euroclass A1
- ✓ Excellent sound absorption
- ✓ Optimum thermal insulation ( $\lambda_d = 0.032 \text{ W/mK}$ )
- ✓ Mechanical stability throughout the product's lifetime
- ✓ Lightweight and flexible

## ECOSE® EXPERIENCE: THE WINNER

Since we really love our mineral wool products with ECOSE® Technology we invited installers from across Europe to test and experience it on their own. And by sharing their photos & statements about their experience, they had the chance to win some great prizes. After voting, it was clear that 1st prize – a very

special Weber Grill to make the summer even better – should go to the **company IZOLACIJE HIT, DENI SMONKAR s.p. from Slovenia**. Congratulations! The award is in great hands!





## KNAUF INSULATION THERMO-TEK LAMELLA MAT AIR ALU

LAMELLA MATS FOR A PERFECT FIT ON  
AIR HANDLING DUCTS (CIRCULAR AND  
RECTANGULAR) AND ON PIPEWORK



**SOFT  
TOUCH\***



\* Out of 788 interviewed insulators, 95% judged mineral wool with ECOSE® Technology to be less itchy compared to traditional mineral wool insulation material

### MULTIPLE BENEFITS:

- ✓ 30% lighter than similar mineral wool products (only 1 kg/m<sup>2</sup> at 30 mm thickness)
- ✓ Optimal compressive strength
- ✓ ECOSE® Technology
- ✓ Durable and robust, yet not too rigid
- ✓ Professional visual appearance on finished installations
- ✓ Re-usable poly-bag packaging
- ✓ Easy to handle, cut and install around different shapes (perfect edge fit on rectangular ducts, perfect bending, stays solid / excellent forming even on small-diameter pipes)

Thermo-teK Lamella Mat LM Air ALU is an innovative, lightweight product from Knauf Insulation, consisting of individual mineral wool lamellas with vertical orientation, which are bonded on one side with reinforced multi-layer aluminium foil.



Advanced product features assure universal fit for high-quality insulation of all types of air ducts (circular and rectangular) and excellent forming even on small pipes. Fast and user-friendly handling, cutting and installation all contribute to cost savings along the entire process chain.

Thermo-teK Lamella Mat LM Air ALU are packed in a poly bag that offers excellent protection from dirt, dust and moisture, is easy to carry, handle and store, and can be further used as a waste bag during and after the installation process.

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## WE GO VERTICAL: URBANSCAPE® GREEN WALL

Plants have been growing on building façades since the first stone was laid – but living / green walls represent the next generation. The first to patent the idea of a green wall was Stanley Hart White back in 1938. However, it was Patrick

Blanc who created the most famous green wall at the Musee du quai Branly in Paris. Since then he has been recognised as the godfather of the 'vegetal wall'.



**Urbanscape® Green Wall** is an innovative solution for many urban problems, such as urban heating, climate change, noise and air pollution. These walls enhance urban spaces and improve natural surroundings for both humans and animals, both indoors and outdoors.

A green wall accents the overall beauty of the space. It brings the outdoors indoors, creating an open and pleasant environment.

### MAIN GREEN WALL BENEFITS

- Air purification
- Ambient temperature reduction
- Biodiversity increase
- Extension of façade service life
- Fire retardant layer
- Ambient noise reduction
- Healthy indoor climate
- Positive effect on well-being
- Increase in working productivity

Thanks to this unique system, plant loss is reduced to a minimum and replacement is unnecessary. The quality of life in cities clearly depends considerably on environmental conditions in the surroundings and beyond. Why not implement green walls to make our lives better?

### MAIN COMPONENT

#### GREEN WALL PANEL

The Urbanscape® Green Wall Panel is a modular, lightweight (45 kg/m<sup>2</sup>) and highly flexible system for all types of walls, corners and curved surfaces. It is filled with a growth medium made of natural rock mineral wool fibres with superior water absorption and water retention properties. The system also works to promote better root distribution, which in turn encourages good plant growth and development. Due to the TPO layer, the walls are safe from water damage.



Urbanscape® Green Wall Panel



## HOME ARTIST CENTRE, MANCHESTER, UK

**HOME** is a multi-disciplinary art centre designed by Architect's Mecanoo. It is the largest art centre outside the UK's capital city of London, and also Manchester's new centre for international contemporary art, theatre and film.

Designed by architect Ernst ter Horst, the building's exterior is stunning from all angles – its triangular shape captures the eye and provides a strong focal point for the area. The façade specification was quite challenging from a design perspective, requiring clever and innovative thinking by world-renowned Slovenian façade manufacturer Trimo. To create this complicated façade measuring 7,600 m<sup>2</sup>, Trimo turned to its own highly cost-effective prefabricated metal modular wall system, called Qbiss One.

It is a much higher quality construction solution compared to conventional built-up wall systems (structural wall and ventilated façade). Self-supporting, insulated and fireproof, the Qbiss One metal wall system combines pure, minimalistic elements and architectural features to present a complete technical solution for off-site construction. To ensure excellent thermal, fire, acoustic and mechanical properties of the Qbiss One system, Trimo used Knauf Insulation mineral wool **PBE Boards**, produced in the Škofja Loka plant, which are especially suitable for sandwich panel production.



## STADTHAFENQUARTIER BERLIN, GERMANY



Stadthafenquartier, a contemporary Berlin housing project, is located close to Berlin Central Train Station in the city's Mitte district.

Covering a total area of approx. 26,000 m<sup>2</sup> with 736 new apartments, it is the first building block of the residential areas in Europacity.

Gastronomic offers, retail, commercial spaces, offices and a day-care centre are also a part of the lively new district. Knauf Insulation products, featuring ECOSE® Technology and superior properties and quality, were chosen for thermal insulation of the pipes.

A full 670 m<sup>2</sup> of Thermo-teK Lamela mat LM Eco ALU and 9,900 m of Pipe Section Thermo-teK PS Pro ALU were installed.

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# COMMERCIAL BUILDING IN RETAIL PARK 2, ZAC DES MONTAGNES, OUEST À CHAMPNIERS, FRANCE

Urbanscape® Green Roof System

Products used: Urbanscape® Green Roll



We are delighted to announce the unveiling of our biggest Urbanscape® green roof in France, with a 8,300 m<sup>2</sup> installation, which will save almost two Olympic-sized swimming pools of stormwater every year. Urbanscape's unique Performance Evaluation Tool (PET) was used to ensure the precise calculation of the roof's water retention potential. PET analyses complex local weather data, the area's climate history and the dimensions of the installation to produce reliable final figures. This Urbanscape system will store more than 4,800 m<sup>3</sup> of stormwater every year — the equivalent of almost two 2,500 m<sup>3</sup> Olympic swimming pools. Such a high level of absorption of the new 8,300 m<sup>2</sup> roof, carried out by Urbanscape® Green Rolls, will make a major contribution to the local environment and have a

huge impact on cooling the building during the summer months as well as reducing the "heat island" effect — where the urban environment is much hotter than the surrounding countryside.

Green roofs such as Urbanscape can also contribute to better urban biodiversity and help absorb air pollution, which is good news in the light of the European Commission's review of key environmental issues facing France. The giant green roof features vegetation by the Sempergreen Group and is more than 11 times bigger than our previous Urbanscape record holder, which covers an area of 700 m<sup>2</sup>.



Lektar customers team from Finland at Novi Marof Plant



»A customer is the most important visitor on our premises. He is not dependent on us. We are dependent on him. He is not an interruption in our work. He is the purpose of it. He is not an outsider in our business. He is part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so.« MAHATMA GANDHI

## PLANT VISIT: NOVI MAROF STRENGTHENING BUSINESS RELATIONSHIPS

Many great relationships have been established during all the years of working with our customers. As much as we try to stay in touch and aim to satisfy both sides, there is always room for improvement – a chance to be even more open, to earn trust and build firm business relationships.

The plant visits are a great opportunity to bond with our customers, show how we function and exchange knowledge and ideas. During one-day visits at our Novi Marof plant in Croatia, our colleagues introduce our company and show visitors the production and warehouse processes.

We organise about 2 visits per month, always hosting small groups with up to 10 people. So far we have hosted customers from all over Europe: France, Poland, Sweden, the Netherlands, Germany, etc.

Many of the visitors see the production of technical insulation products for the first time and enjoy the experience of learning more about stone wool production. It's important that, after they see all that needs to be done and how many steps it takes to create one single product, their perception of the value of our products should increase strongly.

Mr. Petzold (Petzold Isoliertechnik), for example, was fascinated by ECOSE® Technology, as he wasn't really aware of its meaning and impact before visiting the Novi Marof plant.

David Börjesson was also very satisfied with the visit: "Hosting our Finnish partner distributor Lektar OY and their most valued customers over two days at our Skofja Loka and Novi Marof plants has



been an interesting and most valuable experience, both for Knauf Insulation and the guests. Sharing experiences, product training and discussions about possible future projects, mixed with social activities, goes a long way in strengthening ties, increasing understanding about each other's pain points in the customer journey and developing the business relationship."

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8–10 October

## INDUSTRIAL HEAT & POWER 2019 THE NETHERLANDS

In October you can find us at Industrial Heat & Power, a B2B platform and trade show, covering industrial energy provision in the Netherlands from A to Z. We will offer some practical knowledge and Power-teK® solutions, such as RL 150 and PB Sys WM1.



SOURCE: HEES DE VRIES

25 October

## FUTURESCAPE AFRICA 2019 CAPE TOWN

Futurescape Africa is a very important event in exterior design, building and maintenance. It is a great opportunity to make contacts, see the latest products and technologies, and stay updated with all key industry developments. Knauf Insulation Green Solutions/ Urbanscape team will show their solutions at the Bera stand.

4 & 5 December

## ARCHITECT@WORK 2019 DÜSSELDORF, GERMANY

Knauf Insulation Green Solutions/ Urbanscape will take a part in this unique fair concept, thought up entirely by architects, and present the solutions at their own stand.

## ONGOING WHOLE YEAR

Our Technical Solutions team is organising several one-day customer visits to the plant in Novi Marof, Croatia, which include a short presentation plus a production and warehouse tour. This is an excellent opportunity for our clients to exchange ideas and expand their knowledge.

ALL INFORMATION ABOUT OUR PRODUCTS  
& APPLICATIONS IS AVAILABLE AT:

[WWW.KI-TS.COM](http://WWW.KI-TS.COM)

[WWW.OEM.KNAUFINSULATION.COM](http://WWW.OEM.KNAUFINSULATION.COM)

[WWW.URBANSCAPE-ARCHITECTURE.COM](http://WWW.URBANSCAPE-ARCHITECTURE.COM)



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