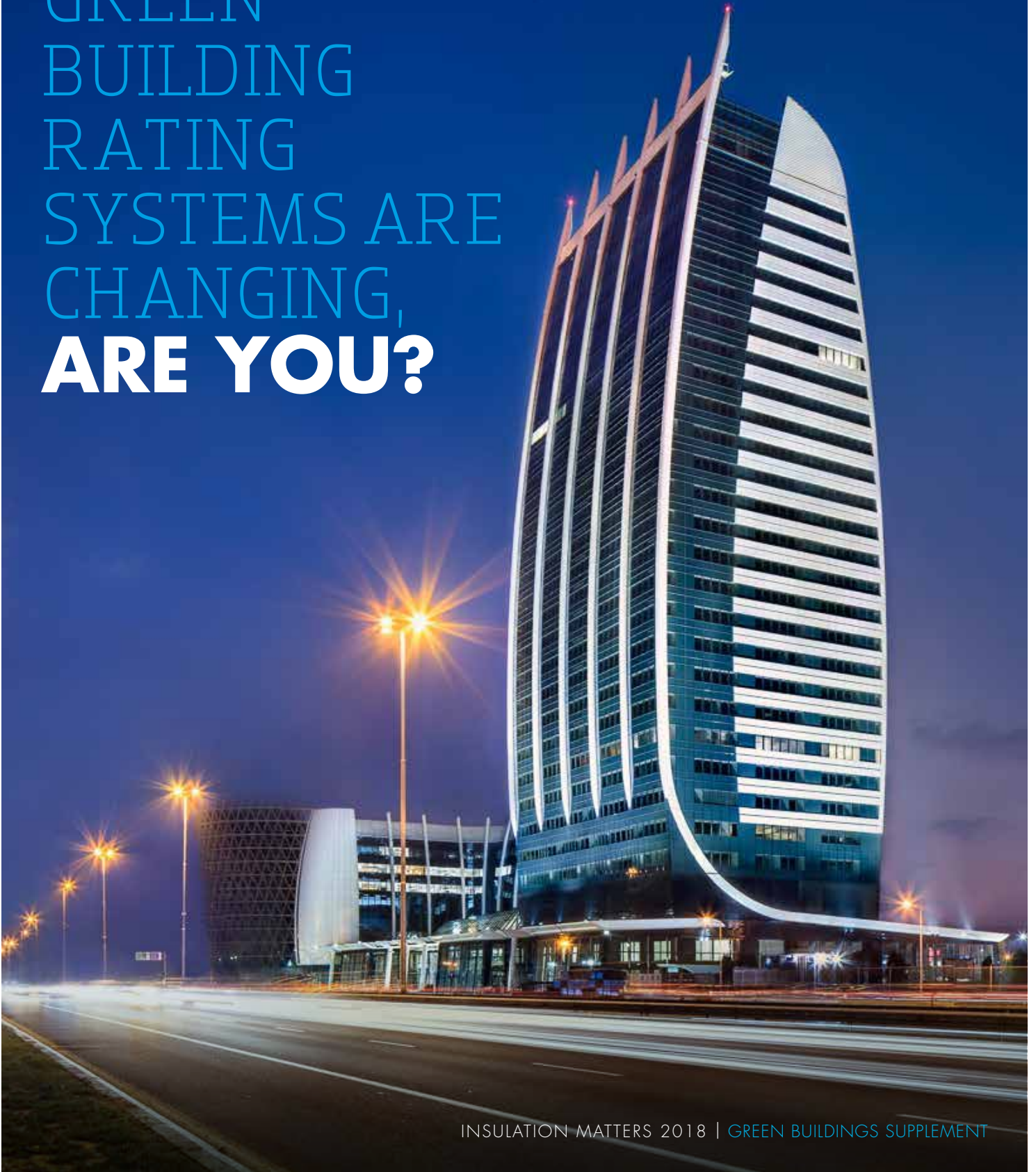


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KNAUFINSULATION

GREEN
BUILDING
RATING
SYSTEMS ARE
CHANGING,
ARE YOU?



GREEN BUILDING RATING SYSTEMS ARE CHANGING, ARE YOU?

2018 proved to be a busy year in the world of sustainable building with new rating systems gaining market momentum and established Green Building Rating Systems (GBRS) enjoying significant updates.

“We are seeing growing awareness of what actually makes a sustainable building,” says Jean-Pierre Pigeolet, our Products and Buildings Sustainability Manager.

“Schemes are placing more emphasis on the whole life cycle of buildings – and the products they use – and more importance on issues such as circular economy, well-being, life cycle costing, water use, comfort and indoor air quality.”

“Up until recently, the focus was on the use phase of a building with, for example, data about water and energy use. Now data about the environmental impact of construction products during their production, installation and future removal is absolutely essential.”

WHAT'S NEW IN GBRS?

BREEAM's UK New Construction Scheme went live in 2018 with a new emphasis on the life cycle impact of the building as a whole as well as indicators such as transport access and ecology issues.

DGNB launched an updated version in 2018 with key changes including a fresh focus on the circular economy, contributions to United Nations Sustainable Development Goals, recognition of the Eurofins standard for indoor air quality and the integration of most of the European Level(s) framework requirements.

Fitwel created in 2017 describes itself as a ‘low-cost, high-impact’ certification to optimise buildings to support the health of people who use them. It was created by the US Centers for Disease Control and Preventions and the General Services Administration.

HQE launched a new version in 2018 which included updates to sections concerning indoor air quality, visual comfort, waste evaluation and hydrothermal comfort as well as the addition of life cycle environmental impact indicators in line with national E+/C- labelling designed to show the positive energy contribution of buildings with a low carbon footprint.

LEED is working on v4.1 and has launched a beta version to deliver “new methodologies for measuring building performance by working with projects to track energy, water, waste transportation and indoor environmental quality”. The ARC platform – introduced by the USGBC – allows the performance of LEED certified buildings to be compared.

Level(s) framework is a pilot European Commission initiative started in 2018 and designed to mainstream the assessment of building sustainability by examining indicators such as full life cycle of buildings, resource efficiency, water use, acoustics and indoor air quality.

How we help specifiers maximise an exciting new Green Building Rating Schemes landscape.

Living Building Challenge (LBC) emphasises the use of healthy construction materials with a positive environmental impact. The new European Living Future Institute announced in 2018 it was pursuing European market alignment for the LBC tool. Knauf Insulation is a founding sponsor.

OsmoZ was launched in France in 2018 and focuses on environmental health, among other indicators, such as thermal and acoustic health as well as indoor air quality.

TOTEM is a Building Life Cycle Assessment Tool for Belgium and was launched in 2018 using a new Belgian Environmental Product Declaration (EPD) database. The focus, naturally, is on assessing environmental impact over full life cycles.

WELL was launched in 2014 and there are now 894 WELL projects in 34 countries. Version two was launched in 2018. The focus is on “advancing health and well-being in buildings” through issues such as thermal and acoustic comfort and good air quality.

KNAUF INSULATION GREEN CERTIFIED BUILDINGS

Our Brussels office in Belgium is certified to BREEAM Very Good, our North American headquarters in Shelbyville, our offices in Sweden and in Romania are all certified to LEED Gold while our office in Prague is certified LEED-EBOM. In Slovenia, next to our Skofja Loka plant we are building the Knauf Insulation Experience Center which is being audited by DGNB and contributing data to the European Commission's Level(s) pilot project.

Bulgaria's green-build ambition is epitomised by major developments such as the BREEAM-certified Capital Fort business centre, the highest building in the capital of Sofia at 126 metres with 80,000m² of floor space. The building was voted the Best Commercial High-Rise Architecture at the European Property Awards 2017 and features Knauf Insulation products in the façade, partition walls, suspended ceilings and underground garages.

The architect Angel Zahariev from A&A Architects, the creative force behind the centre, says easily accessible expertise such as that offered by Knauf Insulation is vital to the industry. “Certainly, information and advice from manufacturers of construction products and systems is very useful in the design and certification process. It is also important that this information is easily available so it can be used effectively.”



10 WAYS WE CAN HELP

01 Maximum points

First and foremost, Mineral Wool contributes to eight key areas – that can be achieved among others in HQE, BREEAM, DGNB, LEED and WELL in Europe. Our solutions can provide maximum points for energy and climate, thermal comfort, acoustics and air quality to life cycle costing, life cycle impact, construction waste and responsible source.

02 Red List free

The Red List is a list of chemicals that are not allowed in construction products for Living Building Challenge certification. Our products from the US are Red List free and third-party verified details can be accessed in North America via sustainableminds.com – a partnership with Knauf Insulation. We are also the founding sponsor of Living Future Institute in Europe.

03 Counting credits

Whenever there is a green scheme update, we update our site information accordingly. For the US-dominated green building schemes sustainableminds.com shows how our solutions provide credits in LEED, Living Building Challenge, WELL among others. While the sustainable building section of Knaufinsulation.com reveals how our products provide points in LEED, BREEAM, DGNB and WELL.

04 Life Cycle Assessments

LCAs matter. Already DGNB, LEED, BREEAM and Level(s) give them emphasis while new and upcoming regulation in countries such as France, Finland, Austria and The Netherlands will make them mandatory. At Knauf Insulation, we have LCAs and Environmental Performance Declarations for the majority of our products. They are just a click away at knaufinsulation.com

05 Quality air

WELL, Fitwel, LBC, OsmoZ, DGNB and many others underline the importance of a healthy environment for building users. Our Mineral Wool with our bio-based ECOSE Technology contains no added formaldehyde and has no acrylic or artificial dyes. It is also certified A+ best in class under the French VOC Label for emissions. Indoor air quality is a major focus of new GBRS and plays an important role in established schemes such as DGNB which in its 2018 version recognises the Eurofins standard for indoor air quality. Our ECOSE solutions are certified to Eurofins Indoor Air Comfort Gold standard as well as compliant with Germany's Blue Angel and Finland's M1.

Navigating the ever-changing landscape of Green Building Rating Schemes can be challenging. We can help. Here is how:

06 Sound solutions

Acoustic well-being is another important aspect of the next generation of GBRS. Our Mineral Wool solutions and Heraklith Wood Wool offer exceptional acoustic performance and our Systems Division can offer customised solutions for any building where sound is a priority.

07 Water use

Better sustainable buildings need efficient use of water resources. Our Urbanscape® Green Roof solution delivers. The system can hold 27 to 45 litres of water per square metre which helps manage stormwater in locations where heavy rain is a problem. It can also reduce water use in places such as the Middle East where irrigated resources are precious.

08 Resource use

The circular economy is a vital factor in most of the Green Building Rating Systems. It is also important to us. Our Glass Mineral Wool with ECOSE uses up to 80% recycled glass. In a UK partnership with resource management company Veolia, we have created a recycling facility next to our St Helens plant that transforms 350 million waste bottles into insulation every year.

09 Team support

At Knauf Insulation our team of technical specialists can provide a wide range of expertise from WELL, DGNB, LCB, and BREEAM to LEED, HQE and Level(s) among many. We are always happy to help.

10 Knauf Insulation green-certified buildings

Our Brussels office in Belgium is certified to BREEAM Very Good, our North American headquarters in Shelbyville and our offices in Sweden are both certified to LEED Gold while our office in Prague is certified LEED-EBOM.

In Slovenia, next to our Skofja Loka plant we are building the Knauf Insulation Experience Center which is being audited by DGNB and also contributing data to the European Commission's Level(s) pilot project to read more visit the website www.experiencecenter.knaufinsulation.com



CASE STORIES



HERON HALL, NORTH AMERICA

PROJECT:

Heron Hall Bainbridge Island, Washington State, North America, the 303m² show home of Jason McLennan, founder of The International Living Future Institute and the Living Building Challenge (LBC). Construction materials must feature a Declare label and be free of chemicals on the Declare Red List in line with Living Building Challenge criteria.

INSULATION SOLUTION:

Knauf Insulation's Insulation Board EcoSeal+, EcoBatt and JetStream Ultra were installed in the building. The solutions deliver the transparency, sustainability and performance needed in a sustainable net zero design and are free of the 700 chemicals on the Declare Red List.

FEEDBACK:

"Knauf Insulation has proven to be a world class partner on what is arguably the greenest home in the United States. The company has pioneered high performance insulation products that are also healthier to install and live with. Doing the right thing for energy should not come at the cost of human health. I've greatly appreciated Knauf Insulation's leadership in product transparency and their commitment to being the first insulation manufacturer to disclose ingredients through the Declare programme."

Jason McLennan founder of the International Living Future Institute and Living Building Challenge.

CAMP GLENORCHY, NEW ZEALAND



PROJECT:

The camp is designed to offer the "most sustainable tourism accommodation" in New Zealand in line with the Living Building Challenge (LBC).

INSULATION SOLUTION:

Our Jet Steam[®] MAX was used to fill deep wall cavities to ensure compliance with LBC certification and provide exceptional thermal performance.

FEEDBACK:

"Knauf Jet Stream MAX enabled us to achieve the required high level of thermal performance in the largest structure while keeping the wall thickness to a minimum. This contributes to our aim in achieving LBC Zero Energy certification for the project."

Tricia Love, Sustainability and LBC consultant, Tricia Love Consultants Ltd



EXPERT INSIGHT FROM FRANCE

Hervé Moal, is the director in charge of strategy for ARP Astrance in Paris. The 25-year-old company of 80 consultants – including a wide range of Green Building Rating Systems assessors – focuses on building sustainability, health and well-being, digital connectivity as well as the role the urban environment can play in social transformation.

WHAT GREEN BUILDING TRENDS ARE YOU SEEING?

Real estate is in revolution. In the past, sustainable building used to be just about saving energy, but now there is a greater focus on well-being and health and these aspects are being emphasised by new schemes such as WELL, Fitwel or OsmoZ.

WHY IS THAT?

We spend 90% of our time in buildings so it is important to have a healthy indoor environment. Our awareness of this has grown over the years with numerous studies linking productivity to a good working environment. Additionally, we are rethinking the way we work – with more co-working spaces for example – and new ways of looking at the urban landscape such as car-free inner cities.

We are demanding that our built environments enhance well-being.

WHAT FUTURE ROLE SHOULD CONSTRUCTION PRODUCTS PLAY?

More and more is being demanded of products such as how they contribute to the circular economy, how they impact air quality or their effect on the life cycle of a building. Manufacturers have to consider these factors because they will become mainstream.

HOW CAN KNAUF INSULATION HELP?

Energy efficiency is obviously at the heart of any sustainable building even if other factors are also gaining significance. Knauf Insulation products provide highly advanced environmentally-friendly solutions that save building energy.



SUSTAINABILITY IS NOW PART OF EVERYDAY CONVERSATION

Emmanuel Pauwels is an expert in LEED, WELL and Living Building Challenge. He works for Green Living Projects and Green Living Education in Spain.

HOW LONG HAVE YOU BEEN ASSESSING FOR GREEN BUILDING RATING SYSTEMS?

I have been active as a green building consultant and trainer since 2009. I am based in Barcelona and most of my projects are located in Spain although I also work in Latin America and the Mediterranean.

WHICH OF YOUR PROJECTS ARE PARTICULARLY SIGNIFICANT?

The most notable project we are working on is a new Campus for the Government of Catalonia. This project is aiming for both LEED Platinum and WELL certification. Another exciting project is a residential project that aims for LEED for Homes Platinum in combination with Living Building Challenge Certification.

WHAT HAVE BEEN THE BIGGEST CHANGES YOU HAVE SEEN IN THE SUSTAINABILITY INDUSTRY?

In the last decade sustainability and green building certification have become part of everyday conversation and the number of projects that require certification is increasing.

WHAT NEW TRENDS ARE YOU SEEING?

Building well-being and comfort are increasingly important.

TO WHAT EXTENT ARE ENERGY SAVINGS STILL IMPORTANT ISSUE?

Energy savings and renewable energy generation are financial common sense. Over its lifetime, a well-designed, energy efficient building will almost always be the lowest cost building. Unfortunately, the industry is struggling with the creation of innovative financial tools to link investment to savings.

WHAT FUTURE TRENDS DO YOU ANTICIPATE?

For energy there is a clear path towards Zero Energy. As far as water is concerned, I see a change in regulation allowing projects to use more non-potable water. For products and materials, trends are circularity and transparency as well as better end of lifecycle use. The market is also demanding more transparency about what ingredients are in products.

HOW DOES KNAUF INSULATION HELP?

Insulation is essential to achieve low energy buildings. What Knauf Insulation is offering in addition are products without toxic substances.

DO YOU FIND IT EASY TO OBTAIN INFORMATION ABOUT KNAUF INSULATION PRODUCTS FOR ASSESSMENTS?

Knauf Insulation has a clear section on their website providing information about how their products contribute to different green building certifications.



EXPERT INSIGHT FROM BELGIUM

Sébastien Breels is a BREEAM Accredited Professional. He has been with MATRIciel SA in Belgium for 10 years. At present he is working on the development of three eco-districts totalling more than 50 hectares.

WHAT ARE THE BIGGEST CHANGES YOU HAVE SEEN?

First, a significant evolution of the regulatory framework and understanding of environmental issues by authorities.

Second, an increased interest by investors, public or private owners, visionaries, for buildings that offer real transversal environmental performance. Finally, a growing concern of manufacturers regarding the environmental impact of their products.

WHAT NEW TRENDS ARE YOU SEEING IN SUSTAINABLE BUILDING?

A focus on well-being, comfort and health. People want a healthy place to live; they want healthy work environments that improve performance and they want products that are ecologically responsible. This is a trend confirmed by Green Building Rating Systems such as WELL – which is compatible with BREEAM certification – places people at the centre of buildings.

AND A TREND FOR ENTIRE BUILDING LCAS?

Yes. We are also seeing a greater focus on the environmental impact of buildings over their entire lifecycle. This is a trend confirmed by the arrival of new evaluation tools for designers. Regulations are also evolving and some European Union countries have an ambition to impose a binding framework on this subject.

TO WHAT EXTENT ARE ENERGY SAVINGS STILL IMPORTANT ISSUE?

Reducing energy consumption remains a priority, mainly for existing building stock that needs to be renovated. Energy performance is no longer economical but environmental. A project's performance is no longer measured by reducing operating costs, but by reducing primary energy consumption and CO₂ emissions. Energy performance remains a focus, but it must be viewed in a comprehensive manner and take into account both energy consumption and resource depletion.

WHAT FUTURE TRENDS DO YOU ANTICIPATE?

The concept of Circular Economy is the next major revolution in the construction sector. It consists of rethinking how buildings are designed to make them adaptable and upgradable. It raises the question of new ways of constructing buildings; the choice of materials which must offer long lifetimes; the capability to dismantle and reuse and the possibility to be '100% recyclable'. Circular Economy is a starting point for new business models both in the real estate sector and in industry (manufacturers). Now you lease wall partitions, floor carpets or lifts with a maintenance service and replacement... which enlarges the responsibility of manufacturers regarding their products.

HOW DOES KNAUF INSULATION HELP?

The diversity of products and their technical performance make it possible to respond to current challenges. Knauf insulation also implements concrete actions that contribute to reducing the impact on the environment such as ISO14001, EPDs and recycled components. Some of these actions can also be valorized as part of the BREEAM certification.

DO YOU FIND IT EASY TO OBTAIN INFORMATION ABOUT KNAUF INSULATION PRODUCTS FOR YOUR ASSESSMENT?

With Knauf Insulation, we have always enjoyed a constructive dialogue of information and ideas. The company provides good feedback to our questions and makes available the data required for environmental certifications including BREEAM on its website.



EXPERT INSIGHT FROM **ITALY**

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Paola Moschini founded Marco Design Studio (MDS) with the aim of assist clients through the certification process with the main national and international recognised rating systems: LEED, Living Building Challenge, WELL, Fitwel, BREEAM, throughout Europe as well as Italy.
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WHAT KEY PROJECTS HAVE YOU WORKED ON?

In 2012, I took part in the Romarzollo di Arco school project which was the first school to be certified LEED Platinum. With MDS we worked on commercial interior projects across Europe using the pilot version of LEEDv4 ID+C, helping to test the update and solve problems. We registered Palazzo Novecento, the first LEEDv4 for Homes project in Italy and now have registered three LEEDv4 for Homes residential projects, two large condominiums and a smaller tourist residence.

WHAT HAVE BEEN THE BIGGEST CHANGES YOU HAVE SEEN IN BUILDING SUSTAINABILITY?

The harmonisation of regulations in major international protocols. They are no longer bound by American regulations. Now all major protocols give designers the possibility to use local – in our case – European regulations. Increasingly, protocols require more disclosure about the impact of products on the environment and on health and we are seeing protocols such as LBC and WELL only issuing certification after a year of site evaluation.

WHAT NEW TRENDS ARE YOU SEEING?

The new frontier of certification is focused on building users not just buildings themselves. In WELL or LBC, for example, parameters are not just about performance regarding issues such as air quality, daylight simulation or VOC content, but also topics such as social connection, beauty and social equity.

WHAT FUTURE TRENDS DO YOU ANTICIPATE?

Choosing products that are proven not to contain toxic elements will be an important step towards greater building sustainability. Secondly, social equity through programmes such as JUST promoted by the International Living Future Institute. This allows the assessment of corporate transparency by analysing social indicators such as diversity, gender, equity, worker benefits. MDS was the first company in Europe to obtain the JUST label.

HOW DOES KNAUF INSULATION HELP?

The company offers quality products, great technical expertise and it is easy to find specifications and declarations about products on their website. Knauf Insulation is also always on top of sustainability trends. They are the main sponsor of the International Living Future Institute in Europe and one of the first companies to take part in the European Commission's Level(s) pilot initiative with their Experience Centre in Slovenia.



Knauf Insulation Manufacturing Facilities

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