WHAT IS A GREEN BUILDING AND HOW DO KNauf INSULATION’S SOLUTIONS CONTRIBUTE?

A GREEN BUILDING...

- Takes an intelligent approach to energy
  - Minimising energy use in all stages of a building’s life cycle, making new and renovated buildings more comfortable, less expensive to run and helping building users learn to be efficient too.
  - Integrating renewable and low-carbon technologies to supply buildings’ energy needs, once design has maximised inherent and natural efficiencies.

HOW KNAUF INSULATION CONTRIBUTES

- Our products reduce building thermal energy by up to 80% and our Glass Mineral Wool product can save more than 500 times the energy used in its manufacture. Regarding low carbon technologies, we supply to leading European flat thermal collector producers. Designing to its thermal insulation, Knauf’s high temperature stability and non-combustible, non-organic compound emissions our rock and glass mineral wool are an integral part of flat thermal solar collectors.

CASE IN POINT

- In a recent renovation of a terraced Victorian house in the UK, the owners were able to improve the thermal performance of the property by almost 80% through a combination of Knauf Insulation solutions. The overall refurbishment resulted in a reduction in carbon emissions from the house by 107 tonnes per annum and financial savings through reduced energy bills of £235 per year.

SAFEGUARDS OUR WATER RESOURCES

- Exploring ways to improve drinking and wastewater efficiency and management, harvesting water for safe indoor use in innovative ways and generally minimizing water use in the sector.
- Considering the impact of the built environment on drainage ensuring it is not put under stress.

- Our UrbanScapes green roof solution is an innovative and easy-to-install system with high water retention capacity designed specifically for green roofs as well as landscaping such as residential quarters, golf courses, commercial spaces, cemeteries and public parks. A major advantage of green roofs is that a reduction of storm water run off also decreases the burden on sewer systems by between 70-90% in the summer.

- An UrbanScapes Green Roof System using two-centimetre UrbanScapes growing media was recently installed in a residence in the Dutch town of Hoornardijk. The system provides good storm water management, reduces CO₂, offers excellent sound insulation, extends the life expectancy of the roof and inevitably provides a great energy saving performance. It looks good too.

MINIMISES WASTE AND MAXIMISES REUSE

- Using fewer, more durable materials and generating less waste, as well as accounting for a building’s end of life stage by designing for demolition waste recovery and reuse.
- Engaging building users in reuse and recycling.

- Through life-cycle assessment we better understand the impacts of manufacturing our products and can manage these impacts by substituting for more durable, readily available, lower impact materials. Regarding the waste on product through manufacturing, we have achieved zero waste to landfill in our Northern European manufacturing sites. Knauf Insulation has also piloted a take-back initiative of pallets.

- Through LCA we saw binder in our Wood Wool had an impact on global warming potential, ‘adjective deprivation potential’ (which measures resource extraction) as well as on non-renewable energy. So, we are substituting our binder to reduce negative environmental impact. This has also had a positive impact on other indicators, so there is no burden shifting.

- Knauf Insulation has consistently achieved internationally recognised high standards of certification for its products including: Indoor Air Comfort Gold (Europe), Blau Angel in Germany for Wood Wool and Glass Mineral Wool as well as the French product emissions labelling regulation A+ for Glass Mineral Wool and 8 for Rock Mineral Wool.

- Knauf Insulation’s HeraKlor® range offers multilayer boards with minimal combustibility, as well as non-combustible boards (both AZ class). They do not melt or produce burning droplets, and are rated best in class in terms of smoke. Our new DRI FIRE BOARD 2D & 3D, meanwhile, are supreme fire-resistant cores for doors.

- Our unfaced mineral wool products achieve AI Euroclass for fire reaction.

- An UrbanScapes Modular Green Roof System with a four-centimetre UrbanScapes growing media has been installed in a car park roof in the Slovenian town of Škofja Loka. Green roofs such as this can capture airborne particles including smog, cut CO₂, provide a mini eco-habitat, reduce storm drainage runoff that can place a burden on sewerage systems and they are more attractive than acres of concrete.

- Our recent life-cycle assessment tool enables us to characterise all our product environmental impact. Knauf Insulation’s fire retardant mineral wool products to produce software that will make LCAs available within a few clicks.

- While our products cannot directly influence this aspect of green buildings, a total of 109 credits are available of which less than 30 a kéli, a good 45%, very good 55, excellent 70 and outstanding over 85.

- LEED
  - LEED or Leadership in Energy and Environmental Design started in 1993 in the US and is now popular worldwide as well as in North America. It covers new, existing, commercial and residential property and is concerned with energy, atmosphere, water efficiency, materials, resources and indoor environmental quality. There are a hundred points to achieve to be certified you need 40-49, to get silver 50-59, gold is 60-79 and platinum is 80 points or above.

- HQE
  - HQE or Haute Qualité Environnementale (High Quality Standard) is a French initiative that started in 1996. Not as widely adopted as LEED or BREAM, HQE is still committed to common aims including reducing energy and water use, minimal environmental impact on surroundings, a healthy indoor environment and the full life cycle of a building. It covers new and existing buildings from commercial properties to multi-family housing.

- DGNB
  - The Certification system by DGNB (Deutsche Gesellschaft für nachhaltigen Bau, or German Sustainable Building Council) was founded in 2000 and focuses on around 50 criteria ranging from environmental, economic, technological and work process aspects to architectural and functional dimensions. A holistic approach is taken meaning the system assesses the sustainability of the entire life cycle of the building. Buildings are awarded DGNB certificates in bronze, silver or gold with addition there is the option of simple pre-certification in the planning phase.

Most popular green building ratings initiatives

Quick guide to Green Building Assessment initiatives

BREAM
- BREAM or Building Research Establishment Environmental Assessment Method started in the UK in 1990 where it is now a voluntary initiative in the private sector and compulsory in the public sector. Points are awarded in line with sustainable approaches to energy and water use, internal environment, pollution, transport, materials, waste, ecology, management processes and the life-cycle of buildings. A total of 109 credits are available of which less than 30 a kéli, a good 45%, very good 55, excellent 70 and outstanding over 85.

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