

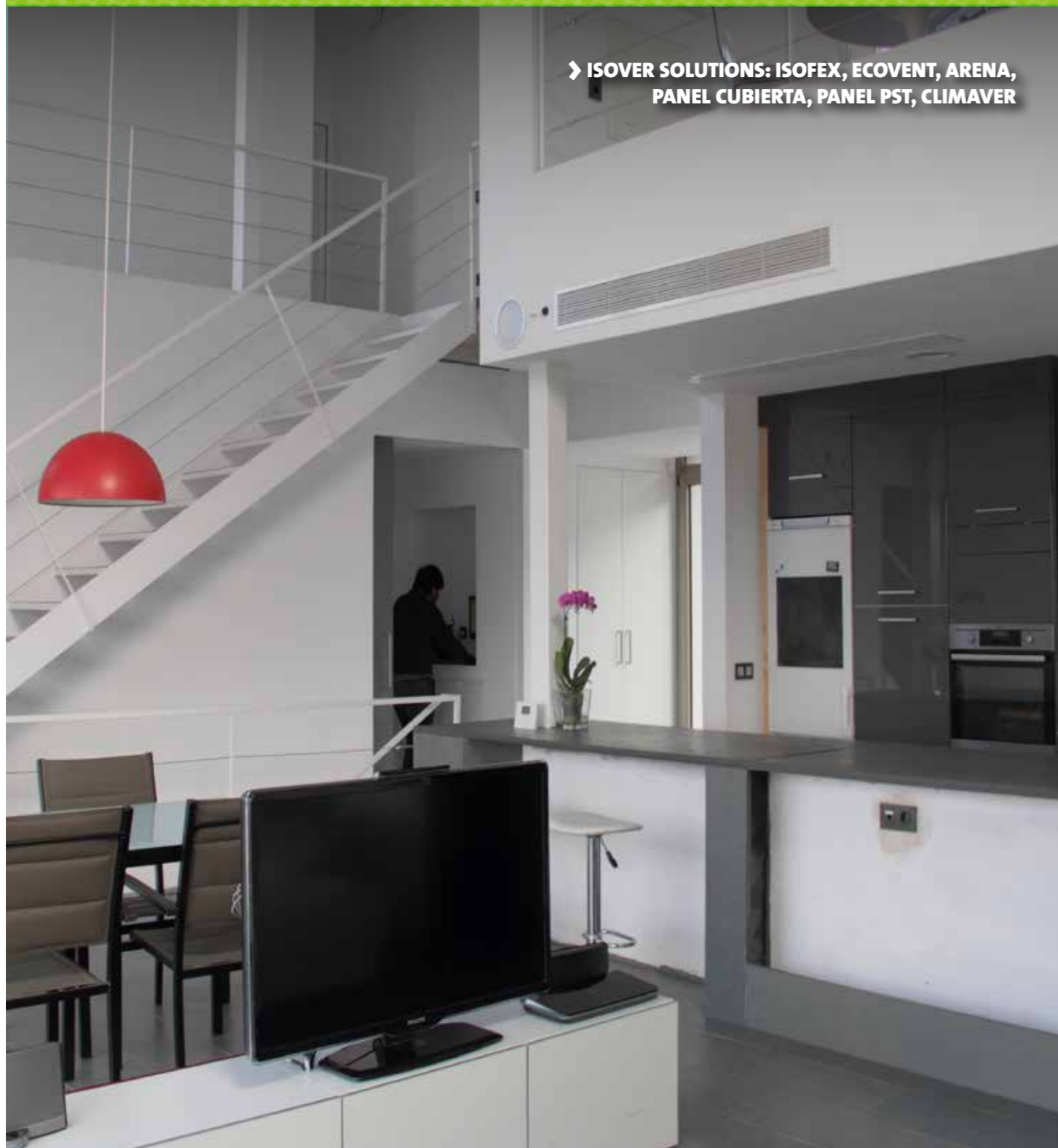


BREEAM®
with ISOVER insulation solutions
For a Sustainable Habitat

ISOVER
SAINT-GOBAIN

PROJET CERTIFIED BREEAM VERY GOOD

» ISOVER SOLUTIONS: ISOFEX, ECOVENT, ARENA,
PANEL CUBIERTA, PANEL PST, CLIMAVER



» EDITORIAL

The building sector has a strong potential to help protect the environment and increase life comfort and well-being.

Sustainable buildings meet the challenges of the three sustainability pillars (People, Planet, Profit) throughout their entire lifecycle. At every stage, a building designed, built or renovated in a sustainable way helps to improve comfort and well-being, minimise the consumption of natural resources including energy, reduces the environmental footprint and improves the project's financial viability.

Buildings and construction work have the largest single share in global resource use and pollution emission. In OECD countries the built environment is responsible for around 25-40% of total energy use, 30% of raw material use, 30-40% of global greenhouse gas emissions and for 30 to 40% of solid waste generation.

Demand for sustainable buildings is rising and this can notably be seen through the development of building ecolabels all over the world. The number of certified m² has been increasing a lot over the past 10 years. Standards, policies and regulations are developing with an **increasing emphasis on the "lifecycle approach"** designed to take into account the whole building lifecycle: from the raw material extraction to deconstruction and recycling.

The building industry as a whole is moving towards more sustainable construction. A majority of architects, engineers, contractors, owners and consultants worldwide anticipate that a huge proportion of their work will be "sustainable" in the future, and this is

not restricted to a geographic area or level of development. Stakeholders have numerous expectations and the market demands evidence of alleged "sustainable" performance. **In ISOVER, we are committed to foster sustainable construction.**

ISOVER is the world leading supplier of sustainable insulation solutions for all major application areas in both residential and non-residential buildings. Our activities are fully aligned with the objectives of the Saint-Gobain CSR policy, and in particular of its first area: **"invent sustainable buildings"**.



Together with other Saint-Gobain businesses, we demonstrate with the **Multi-Comfort** program that it is possible to design, build and renovate sustainable buildings using our solutions. This program aims at minimising the environmental footprint of a building, and focuses on comfort and well-being (thermal and acoustic comfort, indoor air quality, visual comfort, safety...).

ISOVER trains and supports its customers to achieve best ratings for their projects in the different **building labelling schemes** (LEED, BREEAM, HQE, DGNB...). This brochure contributes to this education effort.

Pascal EVEILLARD
Director, public affairs
& sustainable construction

ISOVER: A WORLDWIDE LEADER IN INSULATION SOLUTIONS

INTRODUCTION BREEAM® with ISOVER insulation solutions

>> A GLOBAL STRATEGY, BASED ON OUR STRONG LOCAL PRESENCE

Saint-Gobain ISOVER creates efficient thermal and acoustical insulation solutions to design energy efficient constructions, to provide safe comfort for users and to help protect the environment. Our ambition is to be recognised as the leader for sustainable insulation insulations.

Key figures:

- More than 9,000 employees worldwide, in 39 countries;
- 50 consolidated companies;
- 67 production sites, in 28 countries;
- 10 licensees with their own production sites.

>> A BROAD RANGE OF INSULATION SOLUTIONS

We target excellence in 3 areas:

- **Solutions:** for every problem, we offer the best solution. We continuously upgrade our catalogue of solutions. We design systems, accessories and services to best fulfill our customers' needs;
- **Energy efficiency:** we advocate for increasing the requirements for energy efficiency in building regulations. We develop and offer cost-effective solutions to reduce the greenhouse gas emissions and lower the energy bills;
- **Sustainable construction:** we contribute actively in educating the market and developing best practices. We want to provide safe solutions with a limited impact on the environment.

Our solutions offer comfort and well-being. We train and support our customers to achieve best ratings for their projects in the different building labelling schemes (LEED, BREEAM, HQE, DGNB...).

We continuously invest in research & development to improve our solutions. We offer:

- proven expertise in **mineral wool products**;
- complementary insulation solutions with **foam products**;
- innovative **air-tightness systems**;
- insulation solutions for more **sustainable constructions**.

Mineral wool	Foams	Air-tightness systems
Glass wool Stone wool Ultimate	Expended polystyrene Extruded polystyrene Polyurethane	Membranes Accessories



> WHAT IS BREEAM®?

BREEAM (Building Research Establishment's Environmental Assessment Method) is an environmental certification scheme for buildings created in the UK in 1990. In terms of the number of buildings certified, BREEAM is the biggest certification scheme in the world, with over a quarter of a million buildings certified and over one million registered. BREEAM is now active in more than 50 countries around the world.

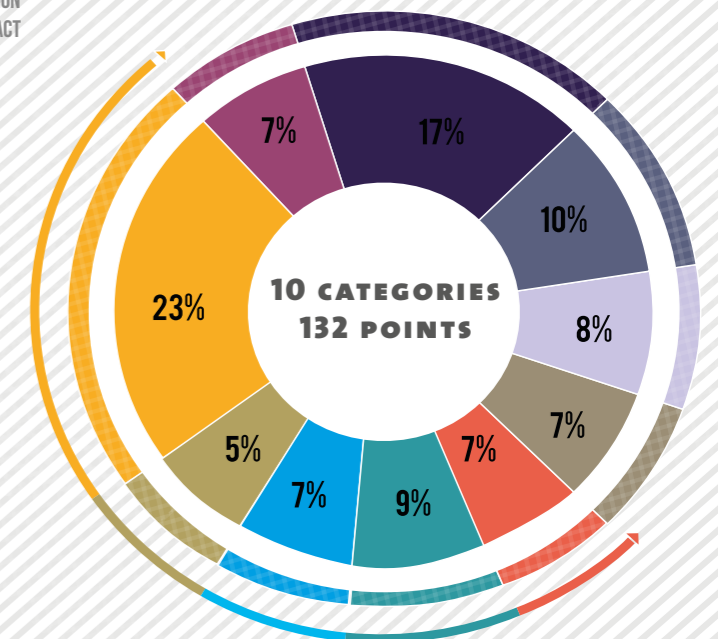
BREEAM's certification schemes vary according to the country, type of building (office building, retail, residential...) and type of construction (new, refurbishment, operation...). This brochure is based on "BREEAM international New Construction" scheme, issued in June 2013.

The "BREEAM International New Construction 2013" rating system features 10 major areas, 5 of which may be boosted by using ISOVER insulation solutions in the building design. For some, the contribution is quite obvious, but for others, using ISOVER insulation solutions may not necessarily come first to mind. Let's discover together how our sustainable insulation solutions can help for this certification.

BREEAM®

> TEN CATEGORIES FOR A SUSTAINABLE BUILDING

BREEAM CATEGORIES	POSSIBLE POINTS	ISOVER INSULATION SOLUTIONS IMPACT
HEALTH & WELL-BEING	10	YES
ENERGY	30	YES
MATERIAL	12	YES
WASTE	7	YES
INNOVATION	10	YES
MANAGEMENT	22	NO
TRANSPORT	9	NO
WATER	9	NO
LAND USE & ECOLOGY	10	NO
POLLUTION	13	NO
TOTAL	132	



» **BREEAM® RATING**

BREEAM projects can achieve a total of credits depending on the building type and location. The minimum % of credits to be BREEAM certified is 30%. Higher levels of compliance are possible leading to different rating, as shown in the table on the right.

BREEAM RATING	% SCORE
UNCLASSIFIED	< 30%
PASS	≥ 30 %
GOOD	≥ 45 %
VERY GOOD	≥ 55%
EXCELLENT	≥ 70%
OUTSTANDING	≥ 85 %

» **CONTENTS OF THE BROCHURE**

BREEAM® does not certify a specific product, but a building as a whole. The use of ISOVER sustainable insulation solutions can **contribute to your future BREEAM project** (BREEAM International New Construction 2013) **on 8 criteria and be worth up to 43 credits**. This brochure is designed to show how ISOVER solutions can contribute to these BREEAM criteria.

CATEGORIES	CRITERIA	TOTAL CREDITS AVAILABLE
HEALTH & WELL-BEING	HEA 02 INDOOR AIR QUALITY	4
	HEA 03 THERMAL COMFORT	2
	HEA 05A ACOUSTIC PERFORMANCE	2
ENERGY	ENE 01 ENERGY EFFICIENCY	15
MATERIAL	MAT 01 LIFE CYCLE IMPACTS	6
	MAT 04 INSULATION	1
WASTE	WST 01 CONSTRUCTION WASTE MANAGEMENT	3
INNOVATION	INNOVATION	10
		43 CREDITS

For each criterion, full details on requirements and prerequisites can be found by clicking on the following pictogram that will automatically redirect you to the corresponding BREEAM® webpage: **BREEAM®**

PROJECT CERTIFIED BREEAM EXCELLENT
(FIRST BREEAM COMMUNITY PROJECT IN THE WORLD)

» **ISOVER SOLUTIONS:**
ACOUSTIC PARTITION ROLL (APR 1200)





HEALTH & WELL-BEING

HEA 02 INDOOR AIR QUALITY



BREEAM®

HEALTH & WELL-BEING

> AIM

To recognise and encourage a healthy internal environment through the specification and installation of appropriate ventilation, equipment and finishes.

> REQUIREMENTS

- This criterion is based on the following requirements:
- Minimise sources of air pollution, with three credits available:
 - Develop an Indoor air quality plan and ventilation;

- Minimise the Volatile organic Compounds (VOC) at product levels;
- Measure and respect threshold for the Volatile organic Compounds (VOC) levels post production.
- Enhance potential for natural ventilation.

> OUR CONTRIBUTION

The importance of good air quality in a building has long been recognised in terms of its contribution to general health and well-being. The best way of providing the comfort associated with good indoor air quality is to reduce pollution from source, while also improving ventilation and purifying the air. The first step is removing or minimising emissions of primary and secondary pollutants at source. ISOVER is continuously improving its products to reduce formaldehyde and VOCs emissions to the lowest possible levels.

Tested according to ISO 16000 standards, ISOVER glass wool products release a very low amount of formaldehyde and VOCs. In several countries, ISOVER glass wool products are certified by independent institutes according to low VOC emission rating schemes such as Eurofins in Europe or GreenGuard in North America.



> OUR SOLUTIONS

- **ISOVER G3 glass wool products:** volatile organic compound (VOC) emissions have been significantly reduced thanks to a new organic and plant-based binder. **ISOVER G3** has been launched in France in 2008 and has been progressively rolled out in the other countries.
- **ISOVER 4+ glass wool products:** thanks to an innovative plant-based binder free from formaldehyde, phenols or acrylics, the release of formaldehyde into the indoor air



environment from **ISOVER 4+** products are close to zero; **ISOVER 4+** glass wool products meet the industry's most stringent standards related to Indoor Air Quality. **ISOVER 4+** has been launched in Italy in 2014 and will be progressively rolled out in the other countries.

- In accordance with the French regulation on VOCs & construction products (introduced in April 2011), ISOVER insulation solutions rank highest, scoring an A+.



> DOCUMENTATION AVAILABLE

- Greenguard and Eurofins certificates



HEALTH & WELL-BEING

HEA 03 THERMAL COMFORT



BREEAM®

› AIM

To ensure that appropriate thermal comfort levels are achieved through design, and controls are selected to maintain a thermally comfortable environment for occupants within the building.

› REQUIREMENTS

A thermal modelling of the building has to be carried out, setting local comfort criteria in line with ISO 7730:2005. It needs to include both winter and summer comfort. This modelling is analysed to define the temperature control strategy of the building (heating, cooling systems): zoning, level of occupant control, interaction within the different systems, and information of users...

› OUR CONTRIBUTION

People are spending more and more time indoor and they expect to experience a level of thermal comfort that enables them to perform their daily tasks efficiently and ensures their good health and well-being. Although thermal sensitivity naturally varies from one person to another, the basic principles behind thermal comfort are largely universal. The design of an efficient building envelope is key, as it acts as a filter between the exterior and indoor climates. Insulating the building envelop reduces heat loss in winter and heat gain in summer. It also reduces the “cold wall effect” that can be

experienced radiating from poorly insulating walls. Insulation keeps walls’ surfaces warmer in winter, reduces condensation on the sides and improves the temperature feeling in rooms (homogeneous temperature in the living space). It helps to keep and maintain a comfortable temperature in all points of the building. Besides adequate thermal insulation, the building shell must be airtight to prevent the uncontrolled flow of air, as leaky cracks and joints will invariably cause uncomfortable draughts.

› OUR SOLUTIONS

ISOVER offers a large range of thermal insulation solutions meeting all the technical requirements of the different applications in residential and non-residential buildings, for new build and renovation. Our solutions are adapted for metallic or massive construction buildings, wooden or steel frame constructions. With the VARIO System, ISOVER has the ideal range of products to make the building shell perfectly airtight and protected against moisture. The VARIO airtightness membranes help regulate moisture in the construction: they adapt to the climate conditions in order

to protect the building fabrics: in winter, the membranes block the moisture generated inside the rooms and prevent it from penetrating into building’s structure; in summer, they allow the moisture to escape outside the building structure. In many countries, ISOVER facilitates the thermal modelling through Building Information Modelling (BIM) available files.





HEALTH & WELL-BEING

HEA 05A ACOUSTIC PERFORMANCE



BREEAM®

› AIM

To ensure that the building's acoustic performance, including sound insulation, meets the appropriate standards for its purpose.

› REQUIREMENTS

All unoccupied spaces must comply with defined indoor ambient noise level (either national regulation, or good practice standards, or BREEAM levels). The ambient noise is measured on site by a suitably qualified acoustician to ensure that the relevant spaces achieve the required levels. The sound insulation between "acoustically sensitive rooms" (offices, meeting rooms, rooms used for public speaking or seminars ...) and other occupied areas comply with the privacy index. For rooms/areas used for speech, a reverberation time level has to be respected.

› OUR CONTRIBUTION

Today's world can be a noisy place. The sound environment in which we live, work and play is busy and often even disruptive. Good acoustics can make living indoors easier and more enjoyable. And there are health and well-being benefits for our bodies and minds too... In order to block out environmental noise the envelope must be effectively sound insulated.

Carefully designed internal walls, floors and ceilings prevent noise transmission within the building. An efficient and carefully installed sound insulation solution will protect against noise over the entire life time of the building. For many years the acoustic performance of a construction was linked directly to density, in line with the mass law. This is no longer the case for insulation solutions based on the

mass-spring-mass principle. Using the mass-spring-mass principle we can obtain optimum acoustic protection using lighter, thinner constructions that are both quicker to install and less expensive.

Besides having an environment free of sound pollution, there are spaces (like classrooms, conference rooms or opera halls) where it is important to be able to hear sound clearly. Each of these room types, therefore, requires a special interior acoustic treatment to prevent unwanted effects (such as echoes) and to create the right acoustic environment for the activity taking place. The easiest way to achieve this is to decrease the reverberation time using sound absorbing materials.



› OUR SOLUTIONS

The high performance of the ISOVER lightweight mineral wool products (glass wool and Ultimate products) makes them ideally suited for use in mass-spring-mass systems or for use as sound absorbing materials, thus achieving outstanding acoustic results. In the phase of construction planning special attention must be paid to the heating and ventilation system. By using ducts made of reinforced mineral wool, such as ISOVER CLIMAVER or by insulating the metal ducts with mineral wool, sound comfort can be significantly improved.



› AIM

To recognise and encourage buildings that minimise their operational energy consumption through good design.

› REQUIREMENTS

➔ OPTION 1: (UP TO 15 CREDITS)

The energy performance of the building is calculated from design information using approved energy calculation (modelling) software and the number of credits achieved is based on the predicted energy performance of the assessed building compared to the performance of an equivalent theoretical building. This leads to the calculation of the “EPRINC” (Energy Performance Ratio for International New Construction) which takes account of the following parameters: the building’s operational energy demand, the building’s primary energy consumption and the total resulting

CO₂ emissions. This “EPRINC” ratio is calculated with a specific BREEAM tool, and defines the number of credits awarded (from 1 credit for a 0.06 ratio, to 15 credits for a 0.9 ratio).

➔ OPTION 2: (UP TO 10 CREDITS)

Where Option 1 is not available or feasible in the country of assessment, the energy performance of the building is determined using a list of energy efficient design features (e.g. lighting control, water heat generator efficiency, use of low and zero carbon technology ...).

› OUR CONTRIBUTION

Buildings account for some 40% of our energy use in the industrialised world: there is a huge savings potential in making them more energy efficient. Heating and cooling account for two thirds of buildings total energy consumption. A large amount of this energy is wasted due to a poorly insulated building envelope lacking air-tightness.

Insulation is the most cost effective way to reduce energy consumption in buildings and

cut associated greenhouse gas emissions. The most inexpensive energy is the one that is not consumed in the first place. It does not need to be generated, imported, or paid for. Naturally, this also doesn’t have any harmful effects, neither on human beings nor the environment.

Compared to an uninsulated building, an insulated construction ensures up to 80% reduction in energy consumption.

› OUR SOLUTIONS

ISOVER insulation solutions help reducing energy demand for heating and cooling and reducing CO₂ emissions.

ISOVER offers a large range of thermal insulation solutions meeting all the technical requirements of the different applications in residential and non-residential buildings, for new build and renovation. Our solutions are adapted for metallic or massive construction buildings, wooden or steel frame constructions.

When combined with ISOVER high-performance mineral wool insulation, the VARIO membranes create a perfectly airtight envelope that guarantees the building’s high energy performance.

ISOVER provides mineral wool solutions for HVAC ducts and pipes, offering the best combination of energy efficiency, thermal and acoustic comfort and safety. In many countries, ISOVER facilitates the energy modelling through Building Information Modeling (BIM) available files.



» AIM

To recognise and encourage the use of robust and appropriate life cycle assessment tools and consequently the specification of

» REQUIREMENTS

The project uses a life cycle assessment (LCA) tool to measure the life cycle environmental impact of the building elements. The “BREEAM International Mat 01 calculator” determines a score based on the robustness of the LCA tool used and the scope of the assessment in terms of elements considered. The number of credits awarded is function of the “BREEAM Mat 01 calculator” points achieved.

This calculator takes into account:

- The indicators used in the LCA (best option: at least embodied carbon, embodied water or waste processing, and two other indicators);
- The life cycle stage(s) available (best option: Cradle to grave assessment with sepa-

» OUR CONTRIBUTION

Transparency on construction products’ environmental performances is a growing expectation in the building chain. LCAs enable to avoid green washing and to communicate credible, fact-based information about products’ environmental performances. LCAs are the best science-based tools to assess the environmental impacts of construction products and buildings. A LCA means a Life Cycle Assessment. It is considered the state-of-the-art methodology for assessing all relevant environmental impacts of a construction product, of a system

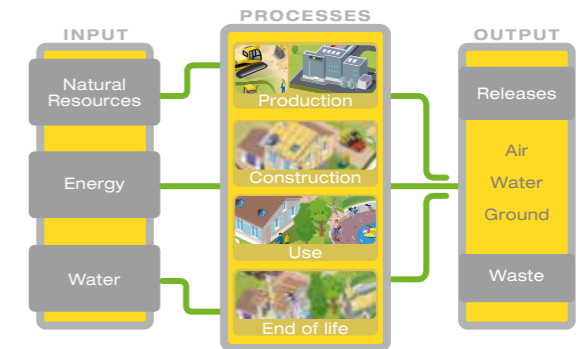
BREEAM®

construction materials with a low environmental impact (including embodied carbon) over the full life cycle of the building.

- rate life stage reporting to product stage, Construction process stage, Use stage and end of life);
- Source LCA data quality - Geographic applicability (best option: using LCA data that has been compensated to local conditions; e.g. energy-mix; OR Using data no older than 10 years for generic data or 5 years for manufacturer specific data;
- Source LCA data quality - Methodologies (best option : EN 15804 standard);
- Source LCA data quality - Verification (best option: Verified EPD data to ISO 14025, ISO 21930 or EN 15804);
- The building elements that are taken into account in the LCA.

or of a building over its entire life cycle. Following international standards (EN 15804 and ISO 21930), a LCA calculates in a rigorous and scientific manner the use of energy, water and natural resources, the emissions and releases into the air, ground and water, and the waste generation. These inputs and outputs are calculated at each stage of the building life cycle. Results of LCAs for different construction products can be consolidated to assess the environmental impacts of a whole building.

LCAs are a powerful tool to help improving the environmental features of products through eco-innovation. Considering multiple indicators over the entire life cycle allows avoiding impact shifting (reducing one impact but increasing another) and a biased assessment.



» OUR SOLUTIONS

The principles of LCA are embedded in ISOVER DNA. We have carried out our first LCAs in the early 90’s. We are committed to promote the use of LCAs in the building industry, to carry out cradle to grave LCAs and EPDs according to ISO 21930 or EN 15804 standards for all our products, to use them in our eco-innovation policy and to communicate actively on the results. The results of our Life Cycle Assessments are presented in the form of an Environmental Product Declaration (EPD). To give confidence in our communicated LCA results, we commit to have our EPDs verified by an independent

third party. You can recognise ISOVER commitments for Life Cycle Assessments and verified Environmental Product Declarations with the “EPD verified” pictogram. This pictogram lets you identify products with LCA results available through 3rd party verified EPDs. Our EPDs are product specific and made at national level, taking into account the local conditions, and are renewed every 5 years.



» DOCUMENTATION AVAILABLE

- EPDs for ISOVER products can be obtained by contacting the local marketing departments;
- Video “Sustainable insulation solutions – a life cycle perspective” available at: http://cdnapi.kaltura.com/index.php/extwidget/openGraph/wid/1_og51z1uj



MATERIAL

MAT 04 INSULATION (RESPONSIBLE SOURCING)



BREEAM®

> AIM

To recognise and encourage the use of thermal insulation which has been responsibly sourced.

> REQUIREMENTS

At least 80% (by volume) of the thermal insulation used in the assessed building elements (external walls, ground floor, roof and building services) must be responsibly sourced.

> OUR CONTRIBUTION

ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) (CERTIFIED)

- 90% of ISOVER mineral wool plants have been certified ISO 14001 (an environmental management system) by an independent third party;
- Most ISOVER raw material suppliers are certified ISO 14001.

It is ISOVER policy to encourage the sourcing of raw materials extracted or made in sites certified ISO 14001 (or the equivalent).

RECYCLED MATERIAL

As for the recycled content, the values for ISOVER glass wool are globally more than 50% in pre and post consumer waste stream.

> DOCUMENTATION AVAILABLE

- The ISO 14 001 certificates for our plants;
- Recycled content attestations.



WASTE

Wst 01 CONSTRUCTION WASTE MANAGEMENT



BREEAM®

> AIM

To promote resource efficiency via the effective and appropriate management of construction waste.

> REQUIREMENTS

This issue is split into two parts:

- Construction resource efficiency (2 credits): the objective is to minimize the amount of waste from the very beginning;
- Diversion of resources from landfill (1 credit): procedures are in place for sorting, reusing and recycling construction waste.

> OUR CONTRIBUTION

ISOVER works to reduce the amount of waste by offering bespoke solutions to the installers, in order to minimize the construction waste and cut-off during the installation stage:

Glass wool products have a very low wastage rate (less than 2% for rolled products, around 5% for panels).

Regarding the packaging waste:

- Pallets are untreated wood and can be recycled;
- Plastic packaging can be recycled if they are not contaminated with other substances such as waste paint, glue, etc.

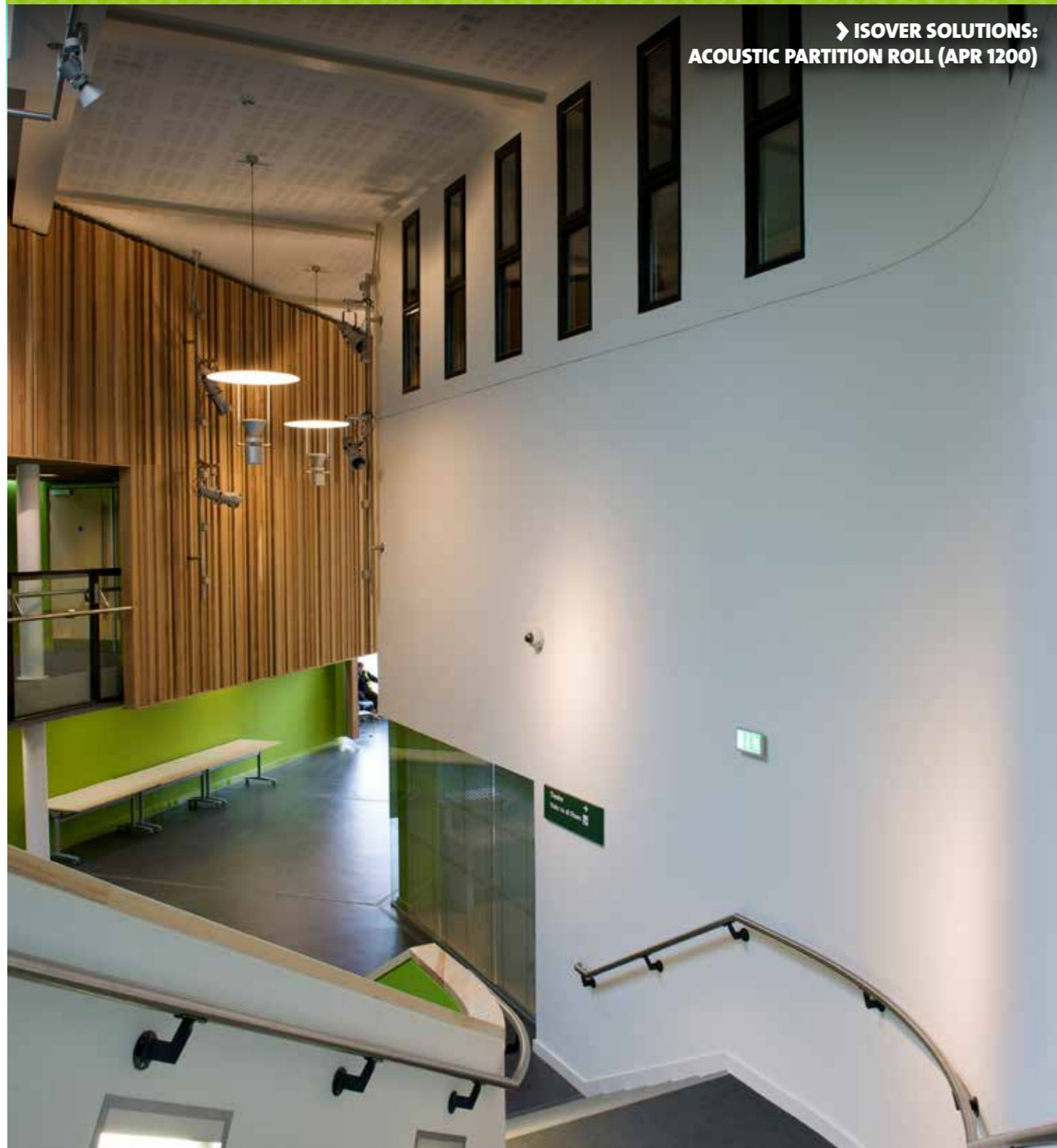
Off-cuts during installation are limited and can be shipped back for recycling.

ISOVER insulation products are recyclable: ISOVER develops waste management schemes to properly collect, sort out and process the end-of-life waste to become new insulation or to manufacture other useful products such as bricks.



**RENOVATION PROJECT CERTIFIED
BREEAM VERY GOOD**

➤ **ISOVER SOLUTIONS:
ACOUSTIC PARTITION ROLL (APR 1200)**



BREEAM®

➤ **AIM**

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

➤ **REQUIREMENTS**

There are two ways to benefit from the Innovation credits:

1. By meeting the exemplary level of building performance defined for one or more of following BREEAM issues:
 - Man 01 Sustainable procurement
 - Man 02 Responsible construction practices
 - Hea 02 Indoor air quality
 - Ene 01 Energy efficiency
 - Tra 03a&b Alternative modes of transport
 - Wat 01 Water consumption
 - Mat 01 Life cycle impacts
 - Mat 03 Responsible sourcing of materials
 - Wst 01 Construction site waste management
2. By using an “approved innovation”: any technology, method or process that can be shown to improve the sustainability performance of a building’s design, construction, operation, maintenance or demolition, and which is approved as innovative by BRE Global.

One innovation credit can be awarded for each innovation application approved by BRE Global.

One innovation credit can be awarded for each individual BREEAM issue exemplary performance level complied with.

➤ **OUR CONTRIBUTION**

ISOVER solutions, thanks to their performances, can contribute to achieve the exemplary levels of performance for the following BREEAM issues (see associated chapters):

- Wst 02 Recycled aggregates;
- Hea 02 Indoor Air Quality;
- Ene 01 Energy Efficiency;
- Mat 01 Life Cycle Impacts;
- Wst 01 Construction Site Waste Management.

Research & Innovation are at the heart of Saint-Gobain ISOVER’s strategy. Since its foundation in 1937, Saint-Gobain ISOVER has

made regular investments in R&D. Our efforts focus both on breakthrough innovations and on continuous improvements, open and attentive to customer needs.

Our R&D teams innovate in particular in the following areas:

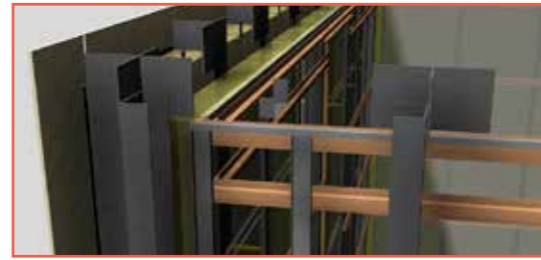
- **Insulation materials:** we constantly improve the performances of our existing materials (glass and stone mineral wool, insulation foams) and develop new high performance insulation such as vacuum insulation panels or aerogels.

- **Sustainable insulation:** we find new solutions to reduce the environmental impacts of our products over their whole life cycle: for instance by developing formaldehyde free binders, by reducing water and energy consumption as well as air emissions in our processes and by recycling waste.
- **Systems and solutions:** our strong competencies in building physics (thermal, acous-

tics, air tightness, moisture management, air quality, fire behaviour...) help to design new systems and new solutions, easier to install and better delivering the designed performances. ISOVER develops complete insulation systems which include laying and fixing accessories as well as implementation recommendations and specifications.

Here are recent examples of innovations by ISOVER:

Façade F4 is a high performance facade solution developed for low energy buildings. It can be used for both new and renovation projects. It combines an external and internal insulation, with an airtightness system to provide the maximum comfort to the occupants, in the minimum of space.



The **CLIMAVER** self-bearing insulated air-conditioning duct systems are quick and easy to install. They perfectly replace conventional insulated metal ducts. They provide excellent thermal, fire, acoustic and air quality performance.



The ISOVER **Multimax** Lambda 030 glass wool is the mineral wool product with the best thermal performance on the market. It offers the same thermal resistance as the other mineral wools, but with a lower thickness.



Xtra simple. Xtra safe. Vario Xtra. The new airtight and moisture control Vario Xtra system expands design possibilities and offers improved safety from moisture. The new Vario Xtra range offers a wide variety of efficient solutions for pitched roofs, timber frame walls and flat roofs.



13 AVENUE DE SAXE FRANCE

> FACADE F4

>> ARCHITECT: ECDM
EMMANUEL COMBAREL
DOMINIQUE MARREC



» SAINT-GOBAIN, A KEY PARTNER FOR SUSTAINABLE CONSTRUCTION

For many years now, Saint-Gobain has been involved in local efforts to promote sustainable buildings by joining Green Building Councils (GBCs). Today we are actively involved, both locally and globally:

- Member of the Corporate Advisory Board of the World GBC;
- Partner of the European Regional Network;
- Platinum member of the US GBC;
- Member of more than 30 national GBCs worldwide.



WORLD GREEN BUILDING COUNCIL

Disclaimer

This brochure only provides an indication on the possible credits which our insulation products could yield in relation to a LEED rating system. It is intended as a guide in the choice of appropriate insulation solutions in relation to the LEED credit rating system and has no binding value. The LEED credit rating of a project is influenced by a variety of factors, such as the type of building, configuration of all the other elements of the building in addition to the insulation, final configuration of the insulation itself, etc... The final rating is subject to the performance of a LEED assessment as per the LEED methods and procedures available on their site. It is the user's responsibility to choose the appropriate building environmental assessments methods destined to ensure that the building meets regulatory requirements at national, local or regional level.

SAINT-GOBAIN

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