UNION FOAM

INSULATION MATERIALS.
OUR WORLD.
FOR A BETTER WORLD.

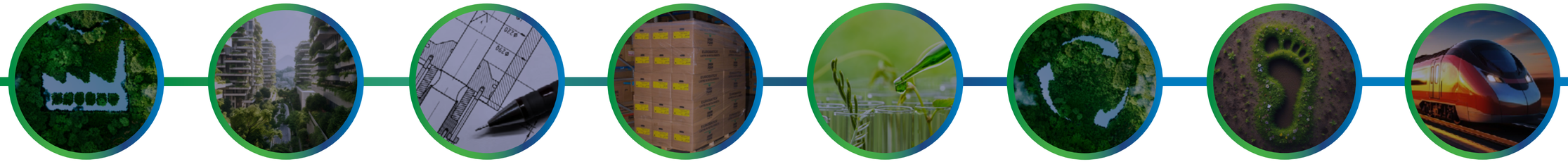
UNION FOAM FOR A SUSTAINABLE DEVELOPMENT

PLANET • PEOPLE • PROFIT

EPD & LCA • GREEN BUILDING • BIM

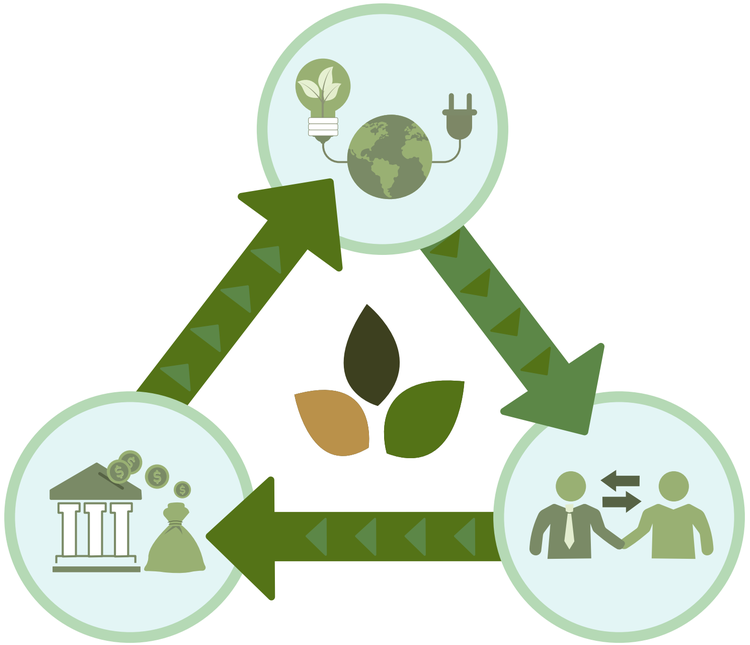
PACKAGING • BIO-BASED RAW MATERIALS

CIRCULAR ECONOMY • CFO • INTERMODAL TRANSPORT



THE MEANING OF SUSTAINABILITY

The most comprehensive and universally recognised definition of sustainability, or more precisely, sustainable development, is found in the 1987 Brundtland Report, where it is defined as the ***"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"***.



There is often a tendency to restrict the concept of sustainability to the environmental field alone. Instead, it is important to consider that it embraces and is based on three fundamental principles, three pillars (also called the 3Ps of sustainability or 'triple bottom line'): **Planet, People, Profit**.

The three concepts are interdependent, and it is the harmonisation of these that makes sustainable development truly possible.

Following these three principles, we can also identify the fundamental fields in which it is necessary, at company level, to operate and improve with a view to **Corporate Social Responsibility**, the so-called ESG: **Environment, Social and Governance.**
More specifically, the three pillars are outlined as follows:

PLANET - *ENVIRONMENT*:
PROTECTION OF THE ENVIRONMENT

It is about the impact of a company on the natural environment and ecological systems. Despite being historically the largest contributors to climate change, companies can have the greatest influence to achieve positive change.
This can encourage initiatives such as product life cycle assessment, more effective strategies to reduce greenhouse gas emissions, techniques to reduce waste and use recycle materials wherever possible, optimising shipping procedures and using ethically sourced materials.

PEOPLE - *SOCIAL*:
SOCIAL INCLUSION

This principle reflects an organisation's impact on community and social engagement. In a world with a population of billions, prioritising concern for inclusion makes a system sustainable for future generations. Companies that are most damaging in this perspective undermine the foundations of value in local and foreign communities. Therefore, goals of gender equality and decent working conditions with fair wages, empowerment of marginalised sectors with disabilities and protection of women are proposed, helping to reduce violence and discrimination.

PROFIT - *GOVERNANCE*:
ECONOMIC GROWTH

Organisations mainly use financial results as an indicator of performance. They often focus on a company's revenue-generating operations, such as strategic planning, performance measures and cost-cutting techniques. Today, it is becoming apparent that it is possible to have a positive impact on the world through one's activities, without affecting financial results.
It has often been shown that adopting sustainability measures can even help promote business success.

Sustainability arises from the prospect of allowing future generations a quality of life that is not inferior to the present one. It is a very broad concept that implies well-being (which must be at the same time environmental, social and economic well-being) that is steady and growing over time.

THE 2030 AGENDA
SUSTAINABLE DEVELOPMENT GOALS (SDGs)

The **2030 Agenda for Sustainable Development** is an action plan for people, planet and prosperity signed in September 2015 by the governments of the **193 UN member states**.

It incorporates 17 Sustainable Development Goals (SDGs) that countries have committed to achieve by 2030.

THE CONTRIBUTION OF THE BUILDING SECTOR

Sustainable building can contribute to as many as 9 of the 17 Goals promoting environmental, social and economic well-being:

Read more here: ***Green Building***

The 17 goals are interconnected and represent common objectives on a set of issues relevant to the three dimensions of sustainable development.

They include, to name a few, the fight against poverty and war, hunger eradication, the right to health and education, gender equality, fight against climate change, environmental protection and economic growth.

'Common Goals' means that **they affect all countries and all individuals**, equally, without exclusion and without anyone being left behind on the path to a more sustainable world.

The overarching Goal is **to support inclusive and sustainable economic growth** especially for developing countries, while ensuring compliance with **existing international standards and commitments.**

OUR COMMITMENT
TO SUSTAINABLE DEVELOPMENT

EPD & LCA

The **Environmental Product Declaration (EPD)** is a Type III environmental certification (ISO 14025), an eco-label that provides declarations based on established parameters and contains a quantification of the environmental impacts associated with the life cycle of the product, calculated through an **LCA** scheme.

It is a third-party verified document for communicating the environmental impacts of a product or service in an objective and credible manner.
It is public and available to all and underlines the commitment to transparency of its data concerning the environmental performance of products and their production processes.

With a view to sustainable growth, **Union Foam considers it essential to properly assess the environmental impacts of its products throughout their life cycle** to be able to develop more ecological building solutions.
This is why two of our products have undergone a Life Cycle Assessment (LCA) with subsequent EPD certification.

A third product is currently being analysed and our intention is to proceed with further products in our range.

The study was carried out on 1 m3 of elastomeric foam material for thermal insulation, including, for both products, all versions in pipes and sheets of different thicknesses.

For the analysis, was considered a ‘cradle-to-gate’ approach with modules C1-C4 and module D, studying all impacts related to the procurement of raw materials and the production process, up to the sale of the final product (modules A1-A3), its end-of-life (modules C1-C4) and loads and benefits beyond the system boundaries (module D).

Thanks to this study, we have been able to **measure the impact of our products in terms of CO2, but also the energy savings and emission reductions resulting from their use.**

THE FOLLOWING PRODUCTS ARE EPD CERTIFIED:

EUROBATEX

EUROBATEX HF

CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

Read more here: ***EPD e LCA***

GREEN BUILDING

The term ‘sustainable building’ is most often associated with the concept of energy efficiency. **Green building**, or sustainable building indeed, is however a much broader concept: it embraces issues such as water saving, reduction of pollutant emissions, use of recovered/recycled materials, thermal, acoustic and visual wellbeing of the occupants, and in general the control and reduction of all environmental impacts of a building.

A green building, therefore, is a building designed to **be high-performing and sustainable, both environmentally and in terms of the well-being of its occupants.**

The characteristic aspects of green buildings also provide benefits recognised by the real estate market and guaranteed by sustainability certifications.

Over the years, many **certification protocols** have been developed on a voluntary basis with the aim of assessing and certifying a building not only from an energy point of view, but also in relation to its impact on the environment and the health and well-being of the occupants.
The most important protocols include **BREEAM®** (Building Research Estabilishment Environmental Assessment Method), **LEED®** (Leadership in Environmental and Energy Design) and **DGNB** (Deutsche Gesellschaft für Nachhaltiges Bauen).

CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

Read more here: ***Green Building***

Adherence to one of these certification systems guides the realisation of a building entirely, through the stages of design, choice of materials, construction, operation and maintenance, towards the established sustainability goals.

To participate to a more sustainable vision of construction, **Union Foam** has subjected some of its products to a mapping process to define their **contribution to obtaining specific credits in the above-mentioned certification protocols.**

It is important to consider that it is not possible to 'certify' a product by LEED, BREEAM or DGNB, as only a building as a whole can achieve the actual certification.
However, following a detailed analysis of its characteristics and performance, and depending on its compliance with the different protocol categories, single products can contribute to the building obtaining higher scores in the final assessment.

SCORECARD LEED, BREEAM AND DGNB ARE AVAILABLE FOR THE FOLLOWING PRODUCTS:

EUROBATEX

EUROBATEX HF

EUROBATEX SC

BIM

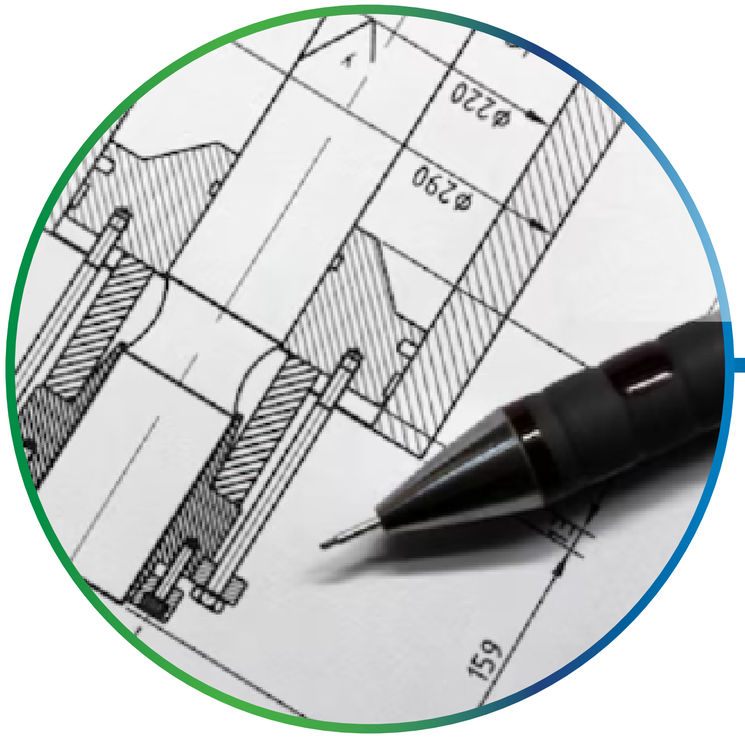
BIM stands for Building Information Modeling and indicates the digital building information system consisting of the 3D model integrated with the physical, performance and functional data of the building.
The real power of BIM lies in the possibility of generating a **dynamic, interdisciplinary and shared information model that contains information on the entire lifecycle of the building**, from design to construction up to its demolition and decommissioning.

The main objectives pursued through digital evolution in building design are the following:

- process control
- design reliability
- search for greater efficiency and environmental sustainability

Union Foam, through Autodesk Revit® and in collaboration with industry experts, has developed and makes available to architecture, engineering and construction professionals (AEC) **digital libraries of its products for use in digital project models realised in BIM.**

BIM design is increasingly present and used for projects that make environmental sustainability a point of focus, as a BIM-designed building model can be used to carry out energy and acoustic assessments and correspondence to LEED, BREEAM and DGNB criteria and prerequisites.



The digital objects collected within the libraries allow the entry and subsequent sharing of technical and informative data related to our insulators.

PLUG-IN DOWNLOADS ARE AVAILABLE FOR THE FOLLOWING PRODUCTS:

EUROBATEX*

EUROBATEX AT

EUROBATEX HF

EUROBATEX SC

EUROBATEX ISOLTEC

CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

* also including EUROBATEX R, EUROBATEX TRIPLEX, EUROBATEX DUCT ALU NET

PACKAGING

Nowadays, packaging is also a strategic element for the economy of companies on one side and for environmental sustainability policies on the other.

Packaging is often considered **one of the main obstacles in the fight for the environmental sustainability** of our planet, as it inevitably turns into waste after use.

It is a **linear process**, which produces a great deal of waste and pollution. Over time, this model needs to be replaced with a **circular system** that reduces waste and makes more efficient use of available resources.

Sustainable packaging was created with this purpose.
It is packaging designed to create as little environmental impact as possible while fulfilling its functions in the best possible way. Savings in raw materials, simplification of packaging, use of recycled material, facilitation of recycling are just some of the **points of connection between sustainability and product logic.**

CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

At Union Foam, with a view to monitoring and optimising the energy impacts of our entire process, we have reviewed the **number of tubes contained in the packaging** for each of our product lines.

More bars per box means a reduction in the volume transported, as well as an advantage for our customers due to less space required for storage and less packaging to dispose of.

In addition, we are paying more and more attention to the materials that make up the packaging itself:

- the cardboard of our packaging contains a percentage of **recycled material** and is **itself 100% recyclable;**
- we commit to purchase only cardboard packaging that falls within the **FSC®** (Forest Stewardship Council) forestry certification system;
- all the plastic bags used for our sheet packaging are produced entirely with **100% post-industrial recycled material.**

BIO-BASED RAW MATERIALS

A raw material is defined as bio-based if it is composed, at least in part, of materials that derive from biomass (substances of organic origin that have not undergone the fossilization process) and if it is therefore of **renewable and non-fossil origin.**

A raw material is said to be of renewable origin when it is derived from a source that is regenerated and whose production therefore does not involve the energy consumption and CO2 emissions typical of oil refining.

As a result, the production of items containing bio-based raw materials has s**ignificant carbon dioxide savings** compared to a product with components of petrochemical origin and an important contribution to the **reduction of issues related to the depletion of primary resources.**

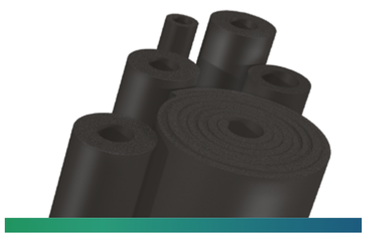
Bio-based raw materials also include "bio-plastics." This term refers specifically to a compound that derives from and is formed in part or in its entirety from molecules of plant nature.
The major advantage derived from their use is certainly a lower ecological impact and, consequently, a less polluted ecosystem, as these materials are more easily and more rapidly reabsorbed by the environment.

With the aim of placing an increasing focus on this issue, thanks in part to constant research work to produce items of safe reliability and high performance, we have introduced raw materials of non-fossil origin into some of our formulations.

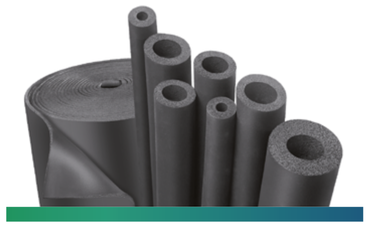
More specifically, **a plasticizer of a bio-based nature has been introduced for all productions in the Eurobatex range** to replace medium-chain chloroparaffin, a raw material with plasticizer function that is, moreover, included according to the REACH regulation among the substances of very high concern (SVHC - substances that could have serious and irreversible effects on human health and the environment).

The introduction of this raw materials made it possible to keep the quality of our product high and unchanged, improving at the same time the environmental quality on one side and the quality of human health on the other.

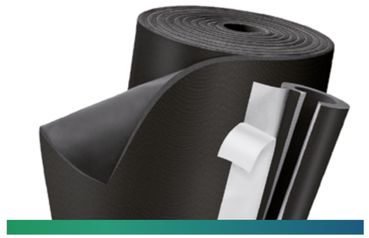
THE FOLLOWING PRODUCTS CONTAIN BIO-BASED RAW MATERIALS:



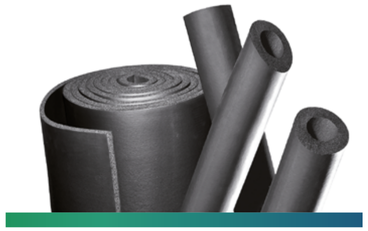
EUROBATEX (and coated)



EUROBATEX HF



EUROBATEX HIGH TECHNOLOGY



EUROBATEX AT

EUROBATEX SC

CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

CIRCULAR ECONOMY

A circular economy system funds on three simple principles: less raw materials, less waste, less emissions; in contrast to the traditional linear economy model, based on the typical “extract, produce, use and dispose” pattern.

It is a system of production and consumption which in fact implies reusing, repairing, reconditioning and recycling materials and products, delaying their disposal for as long as possible.

This extends the life cycle of products, helping to minimize waste.
There are several methods for applying a circular economy model to a manufacture activity. One of them involves turning outputs into inputs (a processing waste becomes a secondary raw material). Union Foam has committed to this by producing acoustic insulation products (Eurobatex OC) from previous foam waste.

Reusing and recycling products slows down the use of natural resources, reduces the destruction of landscapes and habitats and helps limit the loss of biodiversity.

At Union Foam **we recover about 50% of our production waste** to produce acoustic insulation panels, thanks also to the partnership we have established with companies that process and transform this material.

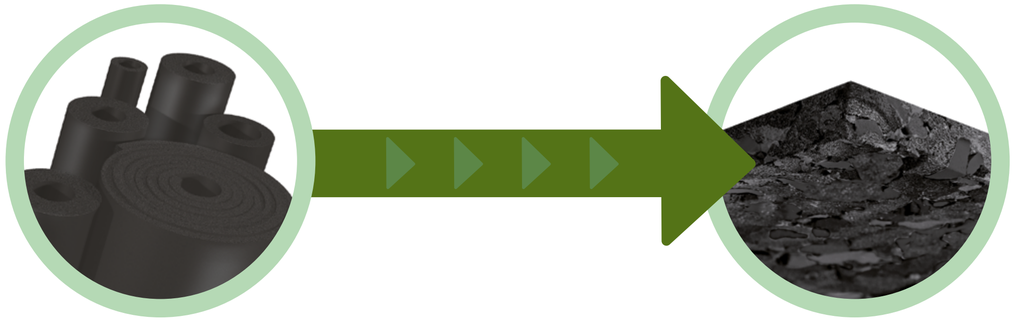
CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

An additional benefit of the circular economy is the reduction of total greenhouse gas emissions. According to the European Environment Agency, industrial processes and product use account for 9.10% of annual greenhouse gas emissions in the EU, while waste management accounts for 3.32%.

Creating more efficient and sustainable products from the start would help reduce energy and resource consumption, as it is estimated that more than 80% of a product's environmental impact is determined during the design phase.

Our waste recovery and valorization process allows us to significantly reduce our impact on the environment, **since about 50,000 kg of raw materials are reused.** As a result, no energy is consumed (about 5,500,000 MJ) and there are no CO_2 emissions to produce the same.

WASTE FROM EUROBATEX BECOMES RAW MATERIAL FOR EUROBATEX OC:



CARBON FOOTPRINT

A Carbon Footprint of Organization is a parameter used to measure and quantify greenhouse gas emissions from a company's activities and assess its climate impact in terms of kilos of CO_2 equivalent ($kgCO_{2eq}$).
It is the Kyoto Protocol that establishes which climate-changing gases are to be considered in the calculation, each with a different impact in relation to its Global Warming Potential (GWP), a standardised index that allows absolute GHG emissions to be converted into CO_{2eq} terms.
This conversion parameter allows to compare the impact of different gases on climate change to the impact of the reference gas, carbon dioxide, which has a GWP of 1.

GREENHOUSE GAS	GWP[1]
Carbon dioxide	1
Methane	29,8
Nitrous oxide	273
Hydrofluorocarbons	variabile a seconda del gas
Perfluorocarbons	variabile a seconda del gas
Sulphur hexafluoride	24.300

[1] Updated with IPCC AR6 values

Emissions calculation is therefore a powerful scientific tool that allows a company to recognise its responsibility in terms of GHG emissions and consequently act to improve it.

The study of the Carbon Footprint is regulated by the UNI EN ISO 14064 standard, which establishes the requirements and measurement parameters in accordance with the LCA methodology, or by the GHG Protocol, an internationally known standard.

To increase its awareness of the impact of its activities on the climate and the environment and with the aim of reducing it, Union Foam carried out an analysis of its Carbon Footprint, reporting emissions of Scope 1 (direct emissions) and Scope 2 (indirect emissions from energy consumption).

From this first analysis on, the reduction of greenhouse gas emissions related to our production activity will be a persistent goal for our organisation in the years to come.

CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

INTERMODAL TRANSPORT SYSTEM

For a more efficient use of energy and a reduction of complex emissions along the entire transport chain, we are committed to using an intermodal transport system, whereby **several means of transport**, such as ships, trains and trucks, **are used and combined to complete a single freight transport.**

Among the major benefits of intermodal transportation are the following:

- **Reduction in road traffic:** combined transport can help reduce congestion of vehicle flow on roads, improving safety and reducing the environmental impact of shipments.
- **Cost reduction:** costs can be as much as 25% lower than road-only transport.
- **Safety:** using standardized containers, goods are protected during transport and there is less risk of damage or loss.
- **Flexibility:** combined transport allows adaptation to the specific needs of each shipment, offering different transport options according to the characteristics of the goods and the customer's needs.
- **Sustainability:** through the combination of different means of transport, intermodal transport exploits the advantages of each of them while reducing their disadvantages, helping to mitigate environmental impact and supporting the local economy.

Intermodal transportation encourages planning and optimization of transportation chains to make the best use of available resources and reduce waste.

Diversification of means can also increase the resilience of the transportation system, making it less vulnerable to disruptions or problems that might exist in a single mode.

CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS:

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