

EPD & GREEN BUILDING



WE HAVE SUBJECTED OUR PRODUCTS **EUROBATEX** AND **EUROBATEX HF** TO A LIFE CYCLE ASSESSMENT (LCA)



WE CAN OFFER THE MARKET A SUSTAINABLE PRODUCT
CERTIFIED WITH THE ENVIRONMENTAL PRODUCT
DECLARATION (EPD)



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UNION FOAM FOR SUSTAINABILITY



*“Our biggest challenge in this new century is to take an idea that seems abstract, sustainable development, and turn it into a reality for all the world’s people.”
(Kofi Annan).*

With a view to sustainable growth, Union Foam considers it fundamental to correctly assess the environmental impacts of their products throughout their life cycle, in order to be able to offer building solutions that fully respect the environment, recognizing sustainability as an ever increasing competitive factor.

Reducing energy consumption and using materials that have less impact on the environment will safeguard the well-being of people and contribute to the balance of the external environment.

To ensure this, the company has embraced an eco-friendly philosophy by adopting research and development procedures that guarantee environmental responsibility, using **high quality and certified raw materials**.

Union Foam is committed to producing reliable products that last over time and provide excellent performance.

Our commitment to environmental issues is concrete: we manage our production process with great attention and with a sustainable logic that **minimizes environmental impacts** and reduces the use of resources and raw materials.

Our mission is to present the market with **high performance and environmentally friendly products** by initiating a measurable and concrete path of sustainability.

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THE EPD CERTIFICATION

**EUROBATEX and EUROBATEX HF products are
EPD certified**

Union Foam has chosen to certify their products through the Italian Program Operator EPDIItaly, which is globally recognised and has the following advantages:

- ⊙ Recognition and international visibility of the environmental performance of products
- ⊙ Operator recognised by Accredia
- ⊙ Reference for contracting authorities and designers

The certification

The **Environmental Product Declaration (EPD)** is a document, required by the Green Public Procurement (GPP), that objectively communicates transparent and comparable information about the environmental impacts of a product or a service, in accordance with the international standard **ISO 14025**.

It is a public document, available to everyone, which highlights Union Foam's commitment to **the transparency of their data** about the environmental performances of the products and their production processes:

- ⊙ it is based on an independently verified Life Cycle Assessment (**LCA**), on the analysis of the Life Cycle Inventory (LCI) and if necessary, on further environmental information
- ⊙ the EPD certification is **managed and published by independent Program Operators** that varies depending on the country of publication, the company market or the product sector.

**EPD Certification allows to present data of a product
according to different environmental indicators**

The aim of this certification is not to compare products of the same category or to achieve certain environmental targets, but to offer the necessary knowledge to:

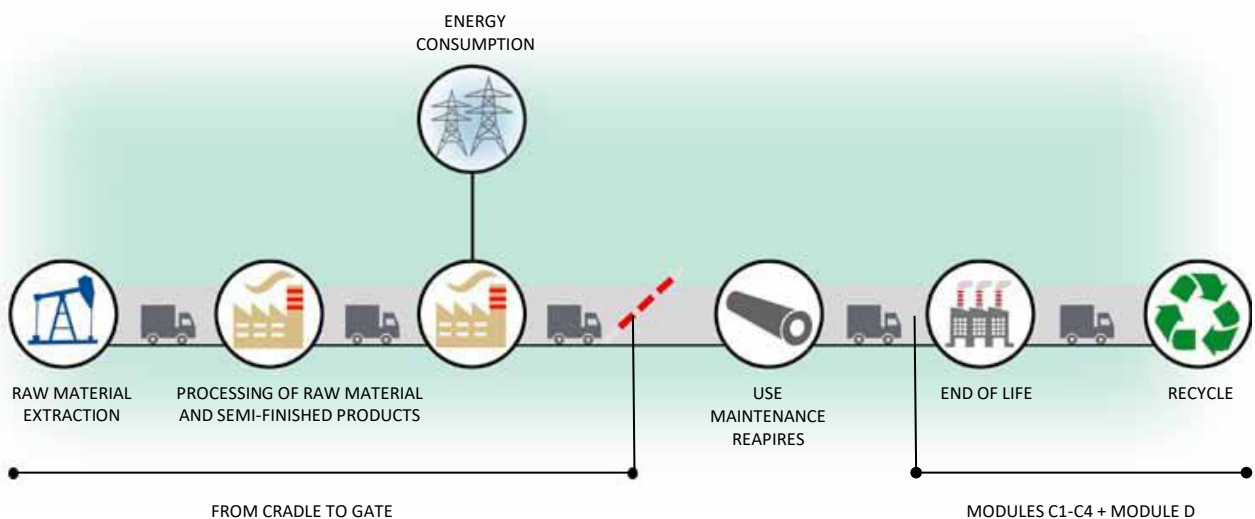
- ⊙ Reduce the environmental impacts of the product
- ⊙ Reduce management and production costs
- ⊙ Promote the use of technology and eco-compatible materials
- ⊙ Define company strategies, also in terms of product design and/or new and more sustainable processes
- ⊙ To increase the company's visibility thanks to the product's labelling, which is a powerful communication and marketing tool
- ⊙ Contribute to obtaining environmental certifications

The LCA assessment provides a double benefit:

- 🕒 **Internally:** by mapping the production process, the most critical energy and environmental issues can be identified and optimized.
- 🕒 **Externally:** it leads to the achievement of an EPD certified by an independent third party, a certification that highlights and communicates in a clear and transparent way, the company's commitment to the environment.

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EPD RESULTS



OBJECT OF THE STUDY:

1 m³ of elastomeric foam material for thermal insulation, including all products in tubes and sheets of different thicknesses.

SYSTEM BOUNDARIES:

“From cradle to gate” approach with modules C1-C4 and module D, studying all the impacts connected to the supply of the raw materials and the production process, up to the sale of the final product (modules A1-A3), to their end of life (modules C1-C4) and load and benefits beyond the system boundaries (module D).

EPD VALIDATION

CONVALIDA DELLA EPD
Validation of EPD

ATTESTATO N°

CERTIFICATE N°

ICMQ – 20104EPD

Si convalida che la seguente Dichiarazione Ambientale di Prodotto (DAP):
It validates that the follow Environmental Product Declaration (EPD):

Product EPD, Declaration "EUR001" del 12/05/2023

emessa da:
issued by:

UNION FOAM S.p.A.
Via Alessandro Manzoni, 43 - 20121 Milano (MI)

unità operativa:
operational unit:

Via dell'Industria, 11 - 20882 Bellusco (MB)

relativa ai seguenti prodotti:
relative to following products:

EUROBATEX (Tubi>Lastre)
EUROBATEX (Pipe&Slabs)

(UN CPC 36)

è conforme ai seguenti documenti:
is in compliance with the following document:

Regolamento EPDItaly rev. 5.2 del 16/02/2022
PCR ICMQ-001115 rev. 3 del 02/12/2019
ISO 14025, EN 15804

L'uso e la validità del presente attestato sono soggetti a rispetto del Regolamento ICMQ per la convalida delle Dichiarazioni Ambientali di Prodotto.
Use and validity of this statement are subject to ICMQ rules for EPD validation.

La validità del presente attestato è subordinata alla sua verifica periodica.
Validity of this statement is subject to its periodic verification.

ACCREDDIA
DAP N° 0124

PRIMA EMISSIONE
First issue
26/02/2020

EMISSIONE CORRENTE
Current issue
10/10/2023

SCADENZA
Expiry
12/05/2028

IL PRESIDENTE E DIRETTORE GENERALE
LORENZO ORSENIKO

ICMQ S.p.A. - VIA G. DE CASTILLA, 10 - 20124 MILANO - WWW.ICMQ.ORG 1/51

CONVALIDA DELLA EPD
Validation of EPD

ATTESTATO N°

CERTIFICATE N°

ICMQ – 21192EPD

Si convalida che la seguente Dichiarazione Ambientale di Prodotto (DAP):
It validates that the follow Environmental Product Declaration (EPD):

Product EPD, Declaration "EURHF001" del 12/05/2023

emessa da:
issued by:

UNION FOAM S.p.A.
Via Alessandro Manzoni, 43 - 20121 Milano (MI)

unità operativa:
operational unit:

Via dell'Industria, 11 - 20882 Bellusco (MB)

relativa ai seguenti prodotti:
relative to following products:

EUROBATEX HF (Tubi>Lastre)
EUROBATEX HF (Pipe&Slabs)

(UN CPC 36)

è conforme ai seguenti documenti:
is in compliance with the following document:

Regolamento EPDItaly rev. 5.2 del 16/02/2022
PCR ICMQ-001115 rev. 3 del 02/12/2019
ISO 14025, EN 15804

L'uso e la validità del presente attestato sono soggetti a rispetto del Regolamento ICMQ per la convalida delle Dichiarazioni Ambientali di Prodotto.
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ACCREDDIA
DAP N° 0124

PRIMA EMISSIONE
First issue
04/02/2021

EMISSIONE CORRENTE
Current issue
10/10/2023

SCADENZA
Expiry
12/05/2028

IL PRESIDENTE E DIRETTORE GENERALE
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ENERGY BALANCE (1 m³ of material)

Thanks to the installation of the **EUROBATEX** and **EUROBATEX HF** product range, it is possible to save approximately 500.000 MJ/m³ per year. Considering that the average life of a product is 25 years, the total saving amounts to about 12.500.000 MJ/m³.

We calculated that the **energy impact for the production of EUROBATEX and EUROBATEX HF products** is equal to 5,500 MJ/m³. This means that the energy impact from the production of 1 m³ of these products is **zeroed after 96 hours from their installation**.



The energy benefit obtained thanks to the installation of **EUROBATEX** and **EUROBATEX HF** products equals the amount of energy consumed by an average Italian family of 4 people in **6.5 years***.

* Residential energy consumption in Italy, year 2021 STUDIO EURISPES January 2023

CO₂ EMISSIONS (1 m³ of material)



Over the course of 1 year, thanks to the installation of **EUROBATEX** and **EUROBATEX HF** products, it is possible to avoid the release of **89.740 kgCO₂**. This value corresponds to the emissions of a car* that travels around the Earth's circumference 7 times.

* Ecoinvent 3.9.1 database: Transport, passenger car, medium size, diesel, Euro 5

MATERIAL REUSE:



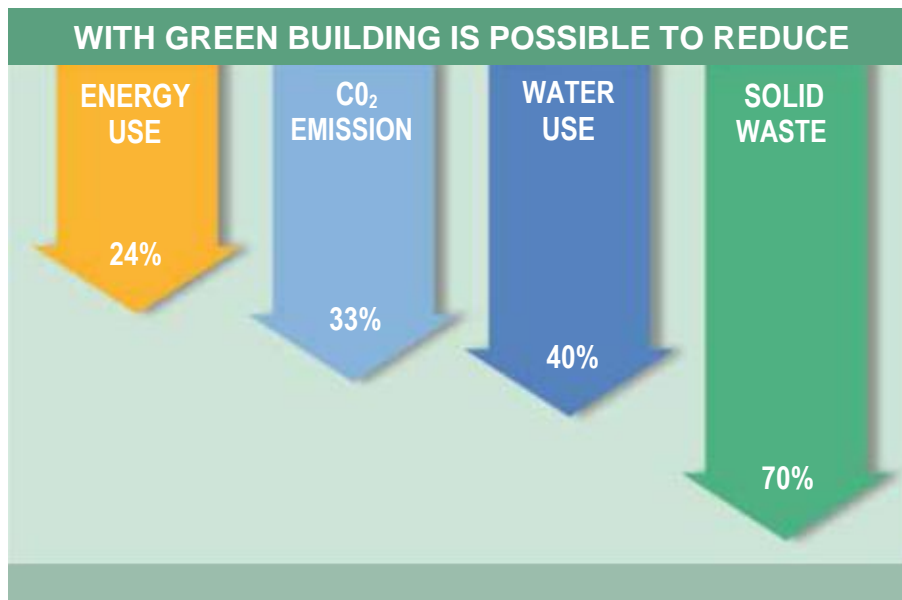
Correct waste management during the production process allows for the reuse of approximately **50,000 kg** of insulation material every year for the production of sound absorption panels.

Calculations of energy balance and CO₂ emissions performed on EUROBATEX e EUROBATEX HF products under the following conditions:
Ambient T: 20 °C; fluid T: 65 °C; thickness: 13 mm; duct surface area: 77 m²; external convection heat transfer coefficient: 9 W/m²K; internal convection heat transfer coefficient: 25 W/m²K

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GREEN BUILDING AND THE CERTIFICATION SYSTEMS

Sustainable construction, internationally called “Green Building”, is an innovative approach developed no later than a few decades ago, which today represents one of the central themes in building on a world wide scale. It doesn’t concern only energy efficiency, in fact it is a broader concept that embraces multiple topics, such as water saving, reduction of pollutant emissions, the use of recovered/recycled materials, thermal, acoustic and visual well-being of the occupants, site accessibility and alternative transport systems, sustainable management of the construction site and overall the control and reduction of all environmental impacts of a building.



*“If Nature had been comfortable,
mankind would never have invented architecture.”
(Oscar Wilde)*

Over the years, several **certification protocols** have been developed. Their aim is to **evaluate and rate the energy and environmental performance of a building**, through a series of pre-established indicators and criteria.

The first of these certification systems was **BREEAM**, Building Research Establishment Environmental Assessment Method, initiated in 1990 in England and developed by the Building Research Establishment (BRE). A few years later, the **LEED** standard was launched on the market in the United States, Leadership in Environmental and Energy Design, through the USGBC, the American section of the World Green Building Council, an international organization, created with the aim of promoting sustainable construction issues on a worldwide basis.

Afterwards, numerous other certification systems appeared on the European scene, developed in different countries, such as France (HQE), Germany (DGNB) and Italy (ITACA). Adherence to one of these certification protocols entirely guides the construction of a building, through the phases of design, construction, management and maintenance, towards the sustainability goals established in advance.

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BREEAM, LEED and DGNB

BREEAM

BREEAM (Building Research Establishment Environmental Assessment Method) is a voluntary certification system, which defines the criteria for a sustainable design, construction and management through a series of pre-established parameters and recognised standards.

The system is based on criteria divided into different categories, from the management of resources to ecologic topics, and include aspects related to the use of energy and water, the internal environment (health and well-being), pollution, transport, materials, waste, ecology and management processes.



BREEAM

The Five BREEAM Rating Levels



The BREEAM environmental protocol addresses a wide range of environmental and sustainability-related issues and allows investors and planners to guarantee the customers and the local administrators the environmental credentials of their buildings.

- ⦿ It uses a simple and clear scoring system (credits), supported by research based on experience and concrete data.
- ⦿ It has a positive influence on the project, from the construction to the management of the building when completed.
- ⦿ Establishes and maintains a valid technical standard through a strict quality control and certification system.

BREEAM aims to reduce the environmental impacts of the whole construction and management of a building not only by reducing CO2 emissions, but also taking into consideration all areas of sustainability.



LEED

LEED (Leadership in Energy and Environmental Design) is a voluntary certification program that can be applied to any type of building (both commercial and residential). It is a holistic system that focuses on all the critical building elements in order to optimise them and create the best building possible, starting from the design phase.



The LEED standard is based on a system of prerequisite and credits, divided into categories or families. The prerequisites are mandatory to obtain the certification. The credits are chosen according to the designed goals and determine the final score of the building and consequently the level of certification achieved: Certified, Silver, Gold and Platinum.

It is important to notice that a single product cannot gain the LEED or BREEAM certification. Only a complete building can obtain it.

However, companies often receive this kind of request, therefore the correct procedure is to have a specialized technician carry out an analysis of the construction characteristics, of the performance and of the materials used. They will then release a sort of “certification”, called **LEED or BREEAM Mapping**.

DGNB

Among the other protocols developed in Europe, DGNB, Deutsche Gesellschaft für Nachhaltiges Bauen (German Sustainable Building Council), has gained particular prominence in recent years.

As a planning and optimisation tool for assessing sustainable buildings, interiors and districts, the DGNB certification system helps to increase real sustainability in construction projects.

It is based on three essential paradigms:

- ① life cycle assessment
- ① holistic approach
- ① performance orientation

The certification consistently considers the entire life cycle of a project and evaluates its overall performance instead of individual measures.

The DGNB certification system is based on the three central sustainability areas: ecology, economy and socio-cultural quality, which are equally weighted in the assessment. In the sense of a **holistic approach**, the DGNB System also evaluates the location as well as the technical and process-related quality.





There is not just one DGNB System, but a multitude of variants. Depending on the project status, the DGNB System can be used as a planning, optimisation or management tool.

For buildings, for example, there are separate system variants for new construction, buildings in use or renovations. There are also specific DGNB System criteria sets for districts, interiors, the deconstruction of buildings and construction sites.

As for the other protocols, the system is based on different criteria and indicators to assess the quality of a building project, especially from a sustainable point of view.

Depending on the final score obtained by fulfilling requirements and prerequisites for each criterion or category, it is possible to obtain Platinum, Gold or Silver certification. For buildings in use or existing buildings a Bronze certification can be achieved.



As for LEED and BREEAM, it must be considered that the final DGNB certification does not concern the individual product, but the entire building.

Following a detailed analysis of their characteristics and performance and depending on their conformity to the different categories of the system, individual products may contribute to the building obtaining higher scores in the final assessment.