

Constructing Tomorrow

ELASTOSPRAY[®], SKYTITE[®] AND ENERTITE[®]:

**The advanced and flexible way to install
spray foam insulation**

 **BASF**

We create chemistry

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WHAT IS SPRAY FOAM?

Polyurethane rigid foam is created by an exothermic reaction between a polyol component and an isocyanate. In the case of spray foam, the liquid reaction mixture is sprayed directly onto the dry and dust-free surface to be insulated by means of a spray gun.

Within only a few seconds, the mixture expands to become a hard and robust polyurethane foam. After curing, a continuous insulation layer without joints and gaps is obtained. Spray foam is applied in several layers until it achieves the desired insulation thickness.



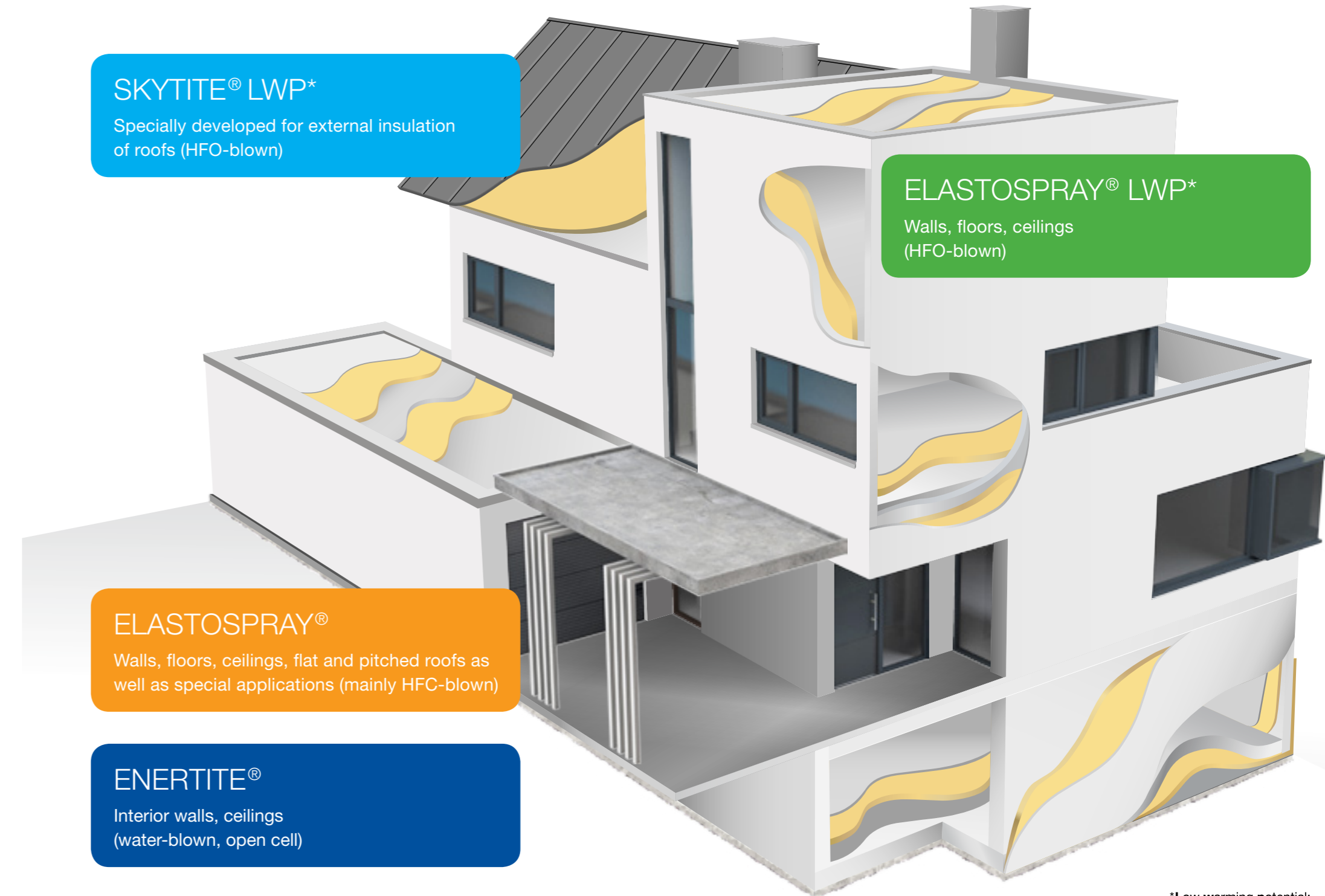
APPLICATION:

One fits all

Whether you are insulating new buildings or renovating old buildings to make them more energy-efficient, **BASF's spray foam systems** offer ideal solutions for the insulation of almost any building part and type. Since polyurethane spray foam adheres perfectly to the substrate and adapts to any profile, it is suitable for a variety of surfaces and geometries.

The product lines **Elastospray®** and **Skytite®** have a **closed cell structure**, so that water can hardly penetrate into the foam. This property means that the products can be used indoors as well as outdoors. The areas of application include the insulation of walls, floors and ceilings or roofs. The application procedure is identical inside and outside.

Enertite® is a particularly light spray foam with an **open cell structure**, which is only suitable for the interior insulation of walls and attics. As moisture can penetrate the foam more easily through the open cells, an additional vapour barrier may have to be installed, depending on local building regulations. Since Enertite® expands rapidly, one or a maximum of two layers is often sufficient to achieve the desired insulation thickness.



ELASTOSPRAY®:

A tried-and-tested solution for airtight insulation and living comfort

The classic Elastospray® system is a proven, versatile spray foam that has been successfully used in Europe for many years. A continuous insulation free of thermal bridges is created within a very short time by spraying on evenly. Even areas that are difficult to access can be insulated quickly and easily with Elastospray®. These properties combined with a particularly low thermal conductivity make Elastospray® a cost-effective alternative to conventional insulation materials.

Thanks to its closed cell structure, Elastospray® forms an airtight and water-repellent insulating layer that seals the building envelope against weather and temperature influences. The applied foam is durable and helps to improve the structure and durability of buildings.

The residents of buildings insulated with Elastospray® benefit from an improved indoor climate and living comfort. In addition, the jointless insulation with Elastospray® prevents dirt, allergens and radon gas from entering the home, thus improving the indoor air quality.

As the thermal insulation of buildings plays a crucial role in terms of energy saving and climate protection, we use our entire innovative strength to continuously improve our product portfolio. In addition to the high-performance, classic Elastospray® systems, which will be available in the European Union until the end of 2022, BASF launched the new, even more environmentally friendly Elastospray® LWP systems in 2017.



SKYTITE®:

The specialist for roofs

The insulation of flat and pitched roofs in new buildings as well as existing properties is the main area of application for the polyurethane spray foam Skytite®. The insulation of roofs places high demands on the insulation material, since roof areas have to withstand very tough conditions such as extreme variations in temperature and exposure to snow, wind and rain. Skytite® is a particularly lightweight insulation material that can be sprayed directly onto the dust-free and dry surface. It cures quickly and can be walked on after a few minutes.

In addition, Skytite® offers significant time savings in application and lower investment costs compared to conventional insulation methods. The system is easy to apply even in hard-to-treat areas such as light domes or balustrades and easily adapts to the shape of the surface.

If the polyurethane foam is directly exposed to UV light – for example in case of flat roof insulation – the insulation must be covered with an additional UV protective layer.



ELASTOSPRAY® AND SKYTITE® LWP:

The new generation of eco-friendly spray foam

HFO
BLOWN

The Elastospray® LWP and Skytite® LWP systems represent BASF's latest developments in the field of closed cell spray foams. By using the latest generation of blowing agents (hydrofluoroolefins, HFO), they set new standards in terms of environmental compatibility while offering superb insulating properties thanks to their closed cell structure.

The product lines do not contain any ingredients that notably contribute to global warming due to the greenhouse effect or deplete the ozone layer.

Curb climate change and its consequences

In its bid to curb climate change, the European Union aims to drastically reduce the use of fluorinated gases (F-gases) with high global warming potential (GWP). The associated EU Regulation aims to cut F-gas emissions across Europe by two-thirds by 2030. For industry, this means that hydrofluorocarbons (HFCs), which have been conventionally used as blowing agents in spray foam, must be substituted by eco-friendlier alternatives. From 2023 onwards, the use of HFCs as blowing agents in spray foam is prohibited.

With the rapid development and market launch of the Elastospray® LWP product line in 2017, BASF ranks among the front runners in the industry with regards to the change in blowing technology. We invest our traditionally strong innovative capabilities not only in improving the performance of our products, but also in enhancing their environmental profile. The launch of the Skytite® LWP product line, which was specifically developed for the external insulation of roofs, followed in early 2019.

Built from shipping containers: the Grillagh Water House, County Derry, Northern Ireland, has been insulated with spray foam from BASF

ENERTITE®:

The affordable option for excellent insulation

Enertite® is a low to medium density, open cell spray foam that can be a cost-effective alternative to closed cell spray foam insulation in certain applications. Although Enertite® also forms an airtight, thermal-bridge-free insulation layer without joints or gaps, it is permeable to water vapour due to its open cell structure. For this reason, depending on the application and local building regulations, an additional vapour barrier might be required. The higher thermal conductivity of Enertite® compared to Elastospray® can be easily compensated by applying a thicker foam layer.

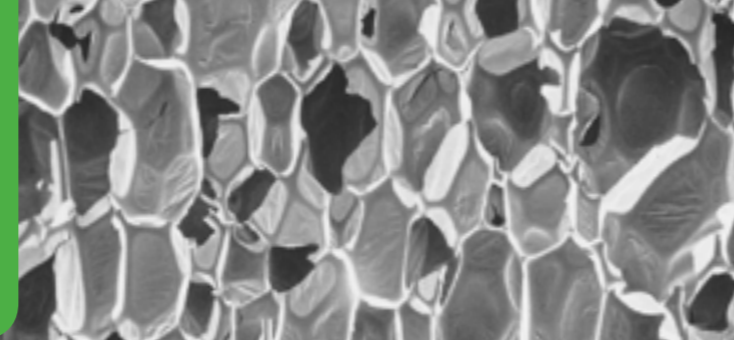
Enertite® is a cost-effective alternative to closed cell spray foam wherever indoor insulation is not exposed to any particular mechanical stress and where an extra layer of insulation is not a problem. Enertite® also offers further advantages: it not only improves energy efficiency but also provides effective sound insulation. In addition, the use of water as a blowing agent makes it particularly environmentally friendly.

When you insulate with Enertite®, you are choosing an affordable solution for improved energy efficiency, increased living comfort and effective sound control with a high level of environmental compatibility.










SPRAY FOAM BY BASF:

A solution for every requirement



Protecting the climate and saving energy are the major challenges of our society. Industry, science, government and society are called upon to reduce the increasing emissions of climate-damaging gases and to use existing resources more efficiently. Improving the thermal insulation of buildings can make an important contribution to this. BASF is aware of its responsibility and is committed to the development of continually improved insulating materials. With its three product lines Elastospray®, Skytite® and Enertite®, BASF has developed a comprehensive range of different polyurethane spray foams for the interior and exterior insulation of buildings. Spray foam made by BASF is an efficient, simple and modern way to bring houses up to the latest energy standards.

With our new HFO-blown Elastospray® LWP and Skytite® LWP systems in particular, we offer our customers first-class solutions in terms of insulation performance and environmental compatibility.

	Spray foam at a glance	Open cell spray foam, e.g. Enertite®	Closed cell spray foam, e.g. Elastospray® LWP and Skytite® LWP
	Field of application	Interior insulation	Interior and exterior insulation
	Declared thermal conductivity (λ_D)	0.033–0.041 W/m·K	≤ 0.028 W/m·K
	Global warming potential (GWP)	1	< 3*
	Water vapour diffusion resistance factor (μ)	$\mu \leq 20$	$60 < \mu < 150$
	Watertightness	Not watertight	watertight
	Compressive strength	< 130 kPa	> 200 kPa
	Ø number of layers needed to reach the desired insulation thickness	1–3	3–6

Values for individual products are displayed in the respective technical data sheet.
* HFO-blown spray foam

ELASTOSPRAY® LWP, SKYTITE® LWP and ENERTITE®:

- ✓ Extremely low global warming potential (GWP <3)
- ✓ No ozone depletion potential (ODP)
- ✓ Closed cell spray foam offers maximum insulation performance at minimum thickness due to low thermal conductivity
- ✓ Airtightness due to jointless insulation without thermal bridges
- ✓ Good mechanical properties
- ✓ Fibre-free insulation
- ✓ Easy insulation of complex geometries and hard-to-treat areas
- ✓ Excellent adhesion to the substrate and fast installation
- ✓ Acts as a barrier to radon gas penetration
- ✓ Prolongs the life of buildings
- ✓ Increases the living comfort



Case study: Cambridge Terrace, London

Find out more:

BASF Performance Materials Construction
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www.polyurethanes.basf.com



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