Technical Data Sheet | May 2026

Styropor® F 15 R

We create chemistry

This technical data sheet is also applicable for
Styropor® F 15 R BMB and Styropor® F 15 R Ccycled®

Application

Styropor® F 15 R is an expandable polystyrene granulate and is used for the production of flame-retardant foams with good insulation properties.

Styropor® F 215 R	For the production of blocks and loose bead applications
Styropor® F 215 R-L	For the production of blocks and loose bead applications with particularly low density
Styropor® F 315 R	For the production of blocks and shape mouldings
Styropor® F 315 R-L	For the production of low-density blocks and shape mouldings
Styropor® F 415 R	For the production of thin-walled shape mouldings

Product description

Expandable polystyrene with polymeric flame retardant in uniform distribution.
Blowing agent: pentane.

The fire behavior of foams made of Styropor® F 15 R corresponds:

- DIN 4102-B1
- EN 13501-1 Class E

To comply with these classifications, Styropor® F 15 R must not be mixed with other raw materials.

For further information on fire behavior, please contact your local BASF representative.

Circular economy

- **Biomass balance – Styropor® BMB**

100 % of the fossil-based raw materials required for the manufacturing of this product were replaced by certified sustainable biomass according to the mass balance approach.

- **ChemCycling – Styropor® Ccycled®**

100 % of the fossil-based raw materials required for the manufacturing of this product were replaced by certified sustainable recycled materials according to the mass balance approach.

Both the BMB and the Ccycled® products have absolutely identical properties to conventional Styropor® F 15 R in every respect.

Regarding the availability of BMB or Ccycled® products, please always contact your BASF representative.

Food contact regulations

Foams made from Styropor® raw materials are not suitable for direct contact with foodstuffs.

Delivery form

Styropor® F 15 R is supplied as spherical granules in cardboard containers (octabins) containing 1050 kg material.

Storage

Octabins must be protected from the effects of weather (rain, rising damp, snow, frost, sun) and from damage.

To maintain the desired properties of Styropor® F 15 R, the raw material should always be stored in a dry and cool location (below 20 °C) and processed within three months.

The contents of opened containers should be processed within a short time. In the meantime, the plastic bag in the container should be kept well closed.

Stacking of octabins is generally not recommended. In case of stacking octabins under controlled conditions, a strong plywood board must always be placed between the stacked containers.

Octabins that are covered with a plastic hood or shrink-wrapped should never be stacked.

Safety instructions

It should be noted that during storage and processing of Styropor® and the foams made from it, ignitable propellant-air mixtures can arise due to the diffusing propellant (pentane, LEL of 1.3 vol%). Therefore, adequate ventilation must be provided at all times.

All conceivable sources of ignition (naked flames, welding sparks, electrical sparks, etc.) must be kept away. Likewise, electrostatic charging must be avoided.
A smoking ban must be observed at all costs!

Transport of Styropor® or freshly produced foams in unventilated or closed transport vehicles is not permitted. Further information can be found in the safety data sheet for the respective product.

Biological effects

Pentane escapes during storage and processing of Styropor®. Particularly when cutting the foams with heated wires, care must be taken to remove the resulting vapors, since they contain small amounts of styrene in addition to the pentane.

The regionally applicable occupational exposure limits for styrene and pentane must be observed.

Processing

Styropor® F 15 R is processed into foam in three stages. Further information can be found under **Product details**.

Pre-expansion

Styropor® F 15 R can be pre-expanded without difficulty using discontinuously operating, state of the art pre-expansion equipment.
For the production of particularly low bulk densities, double pre-expansion is recommended, with a conditioning time of 3-5 hours between the first and second pre-expansion steps.

Intermediate aging

The intermediate aging time must be selected depending on the bulk density and the prevailing ambient conditions. In general, the higher the bulk density, the longer the intermediate aging time.

Moulding

Depending on the bead size, Styropor® F 15 R can be moulded in commercially available block moulds or shape moulding machines. If regrind is added, make sure that the regrind density is as close as possible to the prepuff density to avoid separation of the regrind during further processing. It is recommended that the regrind be purified in advance in a dedusting system.

For further information on processing please contact your local BASF representative.

Product details

Product	Bead size class	Typical bead size	Typical pentane content	Typical application density
Styropor® F 215 R	1.0 - 2.0 mm	0.8 - 2.1 mm (≥ 94 %)	ca. 5.3 %	≤ 12** - 25 kg/m³
Styropor® F 215 R-L	1.0 - 2.0 mm	0.8 - 2.1 mm (≥ 94 %)	ca. 5.3 %	≤ 11** - max. 15 kg/m³
Styropor® F 315 R	0.7 - 1.0 mm	0.6 - 1.2 mm (≥ 92 %)	ca. 5.3 %	16 - 30 kg/m³
Styropor® F 315 R-L	0.7 - 1.0 mm	0.6 - 1.2 mm (≥ 92 %)	approx. 5.3 %	15 - 25 kg/m³
Styropor® F 415 R	0.4 - 0.7 mm	0.3 - 0.8 mm (≥ 91 %)	ca. 5.3 %	20 - 30 kg/m³

Product	Achievable bulk density*	Usual intermediate aging time	Typical applications
Styropor® F 215 R	15 kg/m³	8 - 48 h	External insulation (ETICS), roof, wall and floor insulation, sloped roof insulation, blocks for cuttings
Styropor® F 215 R-L	15 kg/m³	6 - 24 h	Only for applications in the lowdensity range (such as foot-step sound insulation, concrete displacers in light-weight construction components or beanbag fillings)
Styropor® F 315 R	16 kg/m³	8 - 48 h	Roof, wall and floor insulation, insulating concrete forms (ICF), foam cut-outs and contour cutting
Styropor® F 315 R-L	15 kg/m³	8 - 48 h	Roof, wall and floor insulation; foam cut-outs and contour cutting
Styropor® F 415 R	18 kg/m³	8 - 48 h	Decorative elements, technical shape mouldings, transport boxes, load carriers

* Density usually achievable by single pre-expansion in discontinuous, state of the art pre-expanders
** by double pre-expansion

Further information on product properties and application of Styropor® can be found at www.styropor.com.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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