

Styropor[®], Neopor[®] and Peripor[®] from BASF

The Product Portfolio with the
Most EPS Experience



BASF's EPS experience goes back more than 65 years: as early as 1951, the Company patented Styropor[®], the classic white expandable polystyrene, thereby setting the standard for many insulation and packaging applications. In 1997, BASF took a major step forward with regard to EPS: the material was enriched with particles of graphite and the insulation properties of the foam were therefore significantly improved. This became the powerful Neopor[®].

 **BASF**

We create chemistry

A Complete Product Range for All Construction and Packaging Applications

For conventional EPS insulating applications, BASF's range includes the Styropor® F 15 E product types. Optimized cycle times and lower block molding times are achieved with the Styropor® F 95 E series. Peripor® rounds out BASF's offering for the construction segment. With its short cycle times during processing and its low water absorption, the product fulfills the most demanding requirements.

In addition, BASF serves the packaging industry with its EPS product range: The products of the Styropor® P 26 series are characterized by their mechanical strength.

Product	Flame retardant	Block	Mold-ing	Loose filling	Insulation performance	Bead size range (mm)	Typical application density (kg/m³)	Typical applications
Styropor® F 15 E Pentane content: ~6.0%								
Styropor® F 215 E	✓	✓		✓	+	1.0 - 2.0	10* - 25	Exterior insulation (ETICS), wall and floor insulation
Styropor® F 215 E-L	✓	✓		✓	+	1.0 - 2.0	9* - 12*	Only for low density applications (e.g. impact sound insulation, low density spacers in construction elements, loose beads)
Styropor® F 315 E	✓	✓	✓		+	0.7 - 1.0	16 - 30	Roof, wall and floor insulation, insulating concrete forms (ICF)
Styropor® F 415 E	✓		✓			0.4 - 0.7	20 - 30	Decorative ceiling panels, technical moldings
Styropor® F 95 E Pentane content: ~4.5%								
Styropor® F 295 E	✓	✓			○	1.1 - 2.0	15 - 30	Roof, wall and floor insulation
Styropor® F 395 E	✓	✓	✓		○	0.7 - 1.1	18 - 35	Roof, wall and floor insulation, technical moldings, insulating concrete forms (ICF)
Styropor® F 495 E	✓		✓		○	0.4 - 0.7	22 - 35	Decorative ceiling panels, technical moldings, transport boxes, load carriers
Peripor® E Pentane content: ~4.5%								
Peripor® 200 E	✓	✓	✓		○	1.1 - 2.0	22 - 35	Perimeter insulation, flat roof insulation, sanitary components
Peripor® 300 E	✓		✓		○	0.7 - 1.1	25 - 35	Perimeter insulation, flat roof insulation, sanitary components
Styropor® P 26 Pentane content: ~6.0%								
Styropor® P 226 C		✓	✓		○	0.9 - 1.3	10* - 30	Insulation without flame-retardant requirement, packaging, blocks for contour cutting
Styropor® P 326			✓		○	0.7 - 0.9	16 - 30	Packaging, insulated containers (e.g. fish boxes)
Styropor® P 326 C			✓		○	0.7 - 0.9	18 - 50	For thin-walled moldings
Styropor® P 426			✓		○	0.4 - 0.7	18 - 30	For thin-walled moldings
Styropor® P 426 C			✓		○	0.4 - 0.7	20 - 50	For cycletime-optimized production of thin-walled moldings.
Styropor® P 656				✓	○	0.2 - 0.4	12 - 25	Aggregate for lightweight plaster and bitumen sealing compounds.

* by double pass expansion

BASF's Neopor® brand features the broadest product portfolio in the grey EPS segment and thus supplements the traditional Styropor® range. It stands out with its improved product characteristics and therefore enables more efficient insulation solutions, resulting in a better ratio between cost and insulation value.

Neopor® is produced using two technologies: polymerization and extrusion. The product range comprises the Neopor® F 2000 series and the Neopor® F 5000 series.

Neopor® F 2000:

- Produced by polymerization
- In the market since 1998
- Characterized by a silver-grey color and spherical particles

Neopor® F 5000:

- Produced by extrusion
- In the market since 2009
- Characterized by good processing properties
- Neopor® F 5200/5300 Plus and Neopor® P 5200 with optimized insulation performance
- Neopor® F 5 PRO with optimized cycle time and water uptake

Product	Flame retardant	Block	Molding	Loose filling	Insulation performance	Bead size range (mm)	Typical application density (kg/m³)	Typical applications
Polymerization – Neopor® 2000 Pentane content: ~5.3%								
Neopor® F 2200	✓	✓		✓	++	1.4 - 2.5	12* - 25	Exterior insulation (ETICS), cavity wall insulation
Neopor® F 2300	✓	✓	✓	✓	++	0.8 - 1.4	12* - 25	Exterior insulation (ETICS), flat roof insulation, cavity wall insulation, attic insulation, ceiling insulation, steep roof insulation
Neopor® F 2400	✓		✓		++	0.5 - 0.8	16 - 24	Insulating concrete forms (ICF), technical moldings, insulation containers
Neopor® F 4 Speed	✓	(✓)	✓		++	0.5 - 0.8	22 - 30	For cycletime-optimized production of blocks and moldings in the medium and high density range
Extrusion – Neopor® 5000								
Pentane content: ~5.3%								
Neopor® P 5200		✓		✓	+++	1.2 - 1.6	10* - 20	Interior insulation, cavity wall insulation, applications without flame-retardant requirements
Neopor® F 5300 Plus	✓	✓	(✓)	✓	+++	0.9 - 1.4	12* - 20	Exterior insulation (ETICS), flat roof insulation, attic insulation, cavity wall insulation
Pentane content: ~5.5%								
Neopor® F 5200	✓	✓		✓	++	1.2 - 1.6	12* - 25	Exterior insulation (ETICS), interior insulation, attic insulation, ceiling insulation, steep roof insulation, cavity wall insulation
Neopor® F 5200 Plus	✓	✓		✓	+++	1.2 - 1.6	12* - 20	Exterior insulation (ETICS), cavity wall insulation
Pentane content: ~4.5%								
Neopor® F 5 PRO	✓	(✓)	✓		++	0.9 - 1.4	25 - 35	Perimeter insulation, flat roof insulation

* by double pass expansion



Product groups	Key properties
Styropor® P 26 (not flame retardant)	<ul style="list-style-type: none"> ■ Particularly energy-efficient operation, short cycle times, close density distribution ■ Foam suitable for direct contact with food (except for Styropor® P 656)
Styropor® F 15 E (flame retardant)	<ul style="list-style-type: none"> ■ Universally applicable, optimal expandability, low densities, close density distribution ■ Foams with favorable thermal insulation properties ■ Foams producible in building material classification E (EN 13501-1)
Styropor® F 95 E (flame retardant)	<ul style="list-style-type: none"> ■ Short cycle times, for medium to high densities, close density distribution ■ Reduced blowing agent content ■ Foams with favorable thermal insulation properties ■ Foams producible in building material classification E (EN 13501-1)
Peripor® E (flame retardant)	<ul style="list-style-type: none"> ■ Short cycle times, for medium to high densities, close density distribution ■ Foams producible with particularly low water absorption in immersion test and in diffusion test ■ Reduced blowing agent content ■ Foams producible in building material classification E (EN 13501-1)
Neopor® F 2000 (flame retardant)	<ul style="list-style-type: none"> ■ Energy-efficient operation, optimal expandability, low densities, close density distribution ■ Silver-grey foams with particularly favorable thermal insulation properties ■ Foams producible in building material classification E (EN 13501-1)
Neopor® F 5000 (flame retardant)	<ul style="list-style-type: none"> ■ Energy-efficient operation, short cycle times, low densities, close density distribution ■ Grey foams with particularly favorable thermal insulation properties ■ Foams producible in building material classification E (EN 13501-1)
Neopor® F 5 PRO (flame retardant)	<ul style="list-style-type: none"> ■ Short cycle times, for medium to high densities, close density distribution ■ Foams producible with particularly low water absorption in immersion test and in diffusion test ■ Reduced blowing agent content ■ Grey foams with particularly favorable thermal insulation properties ■ Foams producible in building material classification E (EN 13501-1)
Neopor® P 5200 (not flame retardant)	<ul style="list-style-type: none"> ■ Energy-efficient operation, optimal expandability, low densities, close density distribution ■ Grey foams with particularly favorable thermal insulation properties



BASF's biomass balance approach

Styropor® and Neopor® low carbon

The Styropor® P and Neopor® low carbon grades are produced under the biomass balance method (BMB), certified by REDCert. The low carbon EPS grades have the same final properties like the standard Styropor® P and Neopor® portfolio by BASF. Also the processing remains the same.

The products are derived from renewable resources, which improves the positive sustainability profile of EPS even further by reducing the CO₂ emissions up to 90 % during the production of the EPS raw-material.

Find out more about our biomass balance approach: www.basf.com/eps-bmb/en

Important Note

The information provided in this publication is based on our current knowledge. However, because of the many factors that can influence the processing and use of our product it does not free users from the obligation to carry out tests and trials of their own. No guarantee of certain properties or the suitability of the product for specific applications may be derived from our information. All descriptions, drawings, photographs, data, ratios, weights etc. contained in this publication may change without notice and do not represent contractually agreed properties of the property. Recipients of our product are responsible for observing any existing property rights as well as applicable laws and regulations. (January 2020)