Styropor®, Neopor® and Peripor®

EPS by BASF – The product portfolio with the most EPS experience. For more than 70 years!

Styropor® > Neopor® > expect more

BASF’s EPS experience goes back more than 70 years: in 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 regards 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®. And we did not stop: BASF started offering even more sustainable product solutions with a lower carbon footprint, such as Neopor® BMB for thermal insulation or Styropor® Cycled® for packaging as well as Neopor® Mcycled™ containing recycled content.
A Complete Product Range for All Construction and Packaging Applications

For conventional EPS insulation applications, BASF’s range includes the Styropor® F 15 R product types. 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.

<table>
<thead>
<tr>
<th>Product</th>
<th>Flame retardant</th>
<th>Block-moulding</th>
<th>Shape-moulding</th>
<th>Loose filling</th>
<th>Insulation performance</th>
<th>Bead size range (mm)</th>
<th>Typical application density (kg/m³)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styropor® F 15 R</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>1.0 - 2.0</td>
<td>≤12&quot; - 25</td>
<td></td>
<td>Exterior insulation (ETICS), wall and floor insulation</td>
</tr>
<tr>
<td>Styropor® F 215 R</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>1.0 - 2.0</td>
<td>≤11&quot; - max. 15</td>
<td></td>
<td>Only for low density applications (e.g. impact sound insulation, low density spacers in construction elements, loose beads)</td>
</tr>
<tr>
<td>Styropor® F 215 R-L</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>0.7 - 1.0</td>
<td>16 - 35</td>
<td></td>
<td>Roof, wall and floor insulation, insulating concrete forms (ICF)</td>
</tr>
<tr>
<td>Styropor® F 315 R</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>0.4 - 0.7</td>
<td>20 - 35</td>
<td></td>
<td>Decorative ceiling panels, technical mouldings</td>
</tr>
<tr>
<td>Peripor® R</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>1.0 - 2.0</td>
<td>22 - 35</td>
<td></td>
<td>Perimeter insulation, flat roof insulation, sanitary components</td>
</tr>
<tr>
<td>Peripor® 300 R</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>0.7 - 1.0</td>
<td>25 - 35</td>
<td></td>
<td>Perimeter insulation, flat roof insulation, sanitary components</td>
</tr>
</tbody>
</table>

* by double pass expansion

also available as BMB-certified product
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 Plus/F 5300 Plus and Neopor® P 5200 with optimized insulation performance
- Neopor® F 5 PRO with optimized cycle time and water uptake
- Neopor® F 5 Mcycled™ with a post consumer EPS recycled content of 10%

### Product Flame retardant Block-moulding Shape-moulding Loose filling Insulation performance Bead size range (mm) Typical application density (kg/m³) Typical applications

<table>
<thead>
<tr>
<th>Product</th>
<th>Flame retardant</th>
<th>Block-moulding</th>
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<th>Loose filling</th>
<th>Insulation performance</th>
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<th>Typical application density (kg/m³)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neopor® F 2200</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>++</td>
<td>1.4 - 2.5</td>
<td>12&quot; - 25</td>
<td>Exterior insulation (ETICS), cavity wall insulation</td>
</tr>
<tr>
<td>Neopor® F 2300</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>++</td>
<td>0.8 - 1.4</td>
<td>12&quot; - 25</td>
<td>Exterior insulation (ETICS), flat roof insulation, cavity wall insulation, attic insulation, ceiling insulation, steep roof insulation</td>
</tr>
<tr>
<td>Neopor® F 2400</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>++</td>
<td>0.5 - 0.8</td>
<td>16 - 24</td>
<td>Insulating concrete forms (ICF), technical mouldings, insulation containers</td>
</tr>
<tr>
<td>Neopor® F 4 Speed</td>
<td>✓  (✓)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>++</td>
<td>0.5 - 0.8</td>
<td>22 - 30</td>
<td>For cycletime-optimized production of blocks and mouldings in the medium and high density range</td>
</tr>
<tr>
<td>Neopor® P 5200</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>+++</td>
<td>1.2 - 1.6</td>
<td>10&quot; - 20</td>
<td>Interior insulation, cavity wall insulation, applications without flame-retardant requirements</td>
</tr>
<tr>
<td>Neopor® F 5300 Plus</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>+++</td>
<td>0.9 - 1.4</td>
<td>12&quot; - 20</td>
<td>Exterior insulation (ETICS), flat roof insulation, attic insulation, cavity wall insulation</td>
</tr>
<tr>
<td>Neopor® F 5200</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>++</td>
<td>1.2 - 1.6</td>
<td>12&quot; - 25</td>
<td>Exterior insulation (ETICS), interior insulation, attic insulation, ceiling insulation, steep roof insulation, cavity wall insulation</td>
</tr>
<tr>
<td>Neopor® F 5200 Plus</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>+++</td>
<td>1.2 - 1.6</td>
<td>12&quot; - 20</td>
<td>Exterior insulation (ETICS), cavity wall insulation</td>
</tr>
<tr>
<td>Neopor® F 5 Mcycled™</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>+++</td>
<td>1.2 - 1.6</td>
<td>12&quot; - 18</td>
<td>Exterior insulation (ETICS), cavity wall insulation</td>
</tr>
<tr>
<td>Neopor® F 5 PRO</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>++</td>
<td>0.9 - 1.4</td>
<td>25 - 35</td>
<td>Perimeter insulation, flat roof insulation</td>
</tr>
</tbody>
</table>

* by double pass expansion
** post consumer EPS recycled content 10%

Also available as BMB-certified product
<table>
<thead>
<tr>
<th>Product groups</th>
<th>Key properties</th>
</tr>
</thead>
</table>
| **Styropor® P 26**  
(not flame retardant) |  
- 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 R**  
(flame retardant) |  
- Universally applicable for all building and construction applications as well as for technical shape mouldings  
- Reduced blowing agent content  
- Foams with favorable insulation properties  
- Foams fulfill the requirements of Class E according to EN 13501-1 |
| **Peripor® R**  
(flame retardant) |  
- Short cycle times, for medium to high densities, close density distribution  
- Reduced blowing agent content  
- Foams producible with particularly low water absorption in immersion test and in diffusion test  
- Foams fulfill the requirements of Class E according to EN 13501-1 |
| **Neopor® F 2000**  
(flame retardant) |  
- Energy-efficient operation, optimal expandability, low densities, close density distribution  
- Silver-grey foams with particularly favorable thermal insulation properties  
- Foams fulfill the requirements of Class E according to EN 13501-1 |
| **Neopor® F 5000**  
(flame retardant) |  
- Energy-efficient operation, short cycle times, low densities, close density distribution  
- Grey foams with particularly favorable thermal insulation properties  
- Foams fulfill the requirements of Class E according to EN 13501-1 |
| **Neopor® F 5 PRO**  
(flame retardant) |  
- 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 fulfill the requirements of Class E according to EN 13501-1 |
| **Neopor® P 5200**  
(not flame retardant) |  
- Energy-efficient operation, optimal expandability, low densities, close density distribution  
- Grey foams with particularly favorable thermal insulation properties |
| **Neopor® F5 Mcycled™**  
(flame retardant) |  
- REDcert² certified Post Consumer EPS Recycled Content  
- Energy-efficient operation, short cycle times, low densities, close density distribution  
- Grey foams with particularly favorable thermal insulation properties  
- Foams fulfill the requirements of Class E according to EN 13501-1 |
Our sustainable EPS solutions

<table>
<thead>
<tr>
<th></th>
<th>Neopor®/Styropor® BMB</th>
<th>Neopor® Mcycled™</th>
<th>Styropor® Ccycled™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycled content</td>
<td>Virtually allocated feedstock (Biomass Balance)</td>
<td>Mechanically recycled EPS</td>
<td>Virtually allocated feedstock (ChemCycling™)</td>
</tr>
<tr>
<td>Approach</td>
<td>Mass balance approach</td>
<td>Physical traceability</td>
<td>Mass balance approach</td>
</tr>
<tr>
<td>Feedstock</td>
<td>Renewable feedstock</td>
<td>Post-consumer EPS waste</td>
<td>Post-consumer plastic waste (mixed plastic waste &amp; tyres)</td>
</tr>
<tr>
<td>Benefits</td>
<td>Low Carbon EPS</td>
<td>Contribution of mechanical recyclability of EPS</td>
<td>Circularity of plastics</td>
</tr>
<tr>
<td>Properties</td>
<td>Identical chemical &amp; physical properties</td>
<td>Similar properties</td>
<td>Identical chemical &amp; physical properties</td>
</tr>
<tr>
<td>Processing at customers</td>
<td>Drop-in solution: It can be processed together with standard products</td>
<td>Dedicated production needed</td>
<td>Drop-in solution: It can be processed together with standard products</td>
</tr>
<tr>
<td>Application</td>
<td>Construction &amp; Packaging</td>
<td>Construction</td>
<td>Packaging</td>
</tr>
</tbody>
</table>

**Styropor® and Neopor® BMB**

The Styropor® and Neopor® BMB grades are produced under the mass balance approach. The EPS Biomass Balance grades have the same final properties as the standard Styropor® and Neopor® portfolio by BASF. Also, the processing remains the same.

BASF’s BMB products are manufactured by replacing fossil feedstock with an equivalent amount of renewable resources at the very beginning of the value chain. This kind of production saves fossil resources and further improves the positive sustainability profile of EPS. The attribution of the renewable share of feedstock according to a mass balance approach is certified by REDcert².

Find out more about our biomass balance approach: www.neopor.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 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. (September 2023)

Further information available at: www.neopor.com and styropor.com