

Made of
E-por®

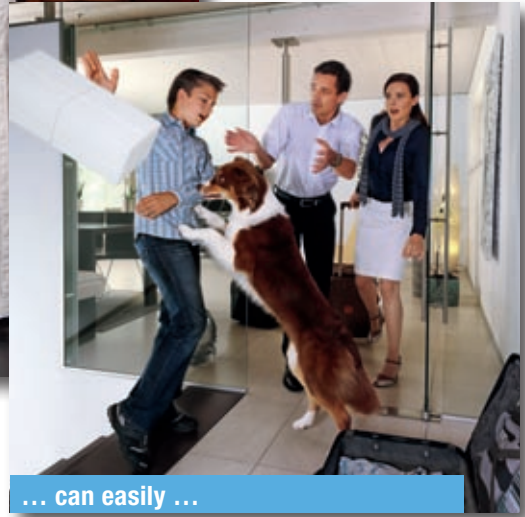
**E-por®**
• The New Dimension in Packaging

**BASF**
The Chemical Company



Optimum protection for all the items that matter to people—around the globe, reliable, and safe: E-por®

Valuable items ...



... can easily ...



... be damaged!



E-por® offers you optimum protection.

E-por®
 The New Dimension in Packaging

For More than 60 Years, BASF has been Driving the Development of New Foams.

1951 marks the beginning of the success story of BASF foams with the invention of Styropor®. The white classic sets international standards for secure packaging and efficient insulation. The invention of BASF scientist Fritz Stastny laid the foundation for the whole EPS industry.



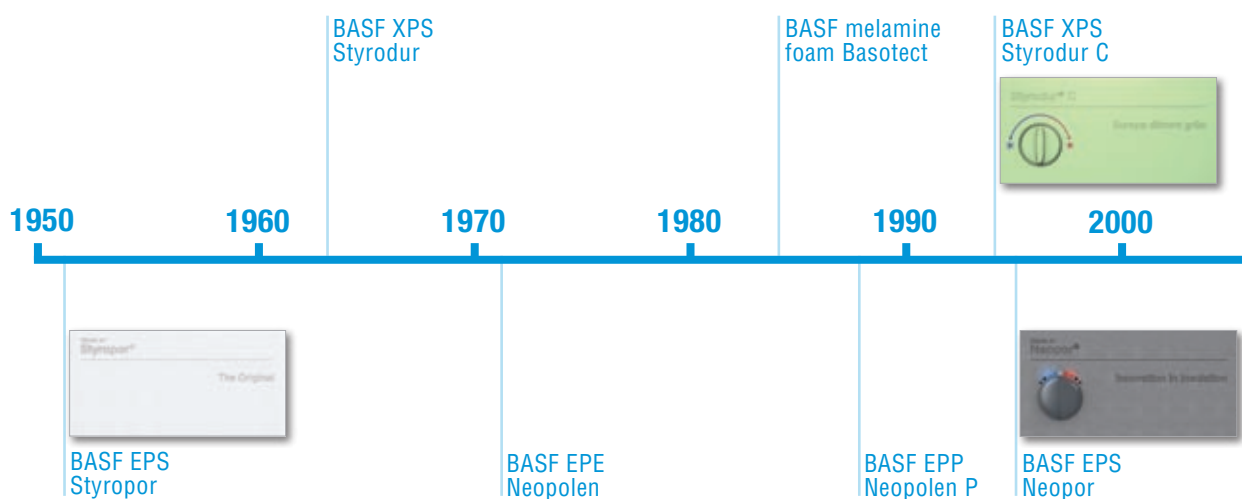
In **1963** followed the development of Styrodur®, an insulation material withstanding extremely high pressure loads. Today, BASF provides a unique XPS insulation material that requires no CFC, HCFC or HFC in the form of Styrodur C. The pores in Styrodur C contain nothing but air.

In **1971**, BASF for the first time presented a bead foam free of blowing agents: **Neopolen® E** exhibits excellent damping properties.

1984 was the first year in which BASF sold a unique foam made of melamine resin: **Basotect®**. Basotect is the result of intensive research at BASF and proved itself to be a real all-rounder: It is flame-resistant, sound-absorbing, and abrasive, and remains elastic even at the lowest temperatures. It has been well approved in cleaning applications in the construction and transportation industries.

In **1988**, BASF extended its Neopolen® product family. **Neopolen® P** contains no blowing agents, is viscoelastic, and can be processed in various densities and into diverse forms.

In **1995**, BASF accomplished another important breakthrough in the field of thermal insulation. The silver-grey **Neopor®** contains graphite particles that block thermal radiation. For this reason, very thin panels of the material are sufficient to ensure a high insulation capacity.





E-por®—The New Dimension in Packaging

In recent years, the scientists at BASF focused on a new challenge.

They successfully developed a completely new type of foam that uniquely combines the best from the world of Styropor® with the finest from the world of Neopolen®.

A viscoelastic, crack-resistant foam that can be stored, processed, and recycled, just as the classical Styropor.

A foam with perfect sealing capacities and an excellent surface, at the same time requiring only a minimum amount of blowing agents.

2009 a new chapter was opened in the history of BASF foams: E-por.

2009



E-por[®] is the First Viscoelastic Foam with all the Advantages of the Classical Styropor[®]

60 years after the invention of Styropor[®] and 30 years after the invention of viscoelastic foams, a fundamental advancement has now been obtained in the form of E-por[®].

The new approach: The scientists at BASF no longer treat foams as static mixtures of a (co-)polymer and a blowing agent. They rather developed E-por as a complex formulation comprising several ingredients that interact with each other as well as with the blowing agent.

The E-por formulation is manufactured using an innovative method developed by BASF. The E-por granules can be processed by means of EPS technology. Through this method a foam is formed with a unique property profile and a new foam architecture that is yet unknown in technical literature.

E-por: The result of first-class research

- Three years of product and process development
- Nine registered patents
- A unique foam: E-por

The result:

A crack-resistant, elastic foam with appealing haptical and optical properties and an excellent resistance against solvents, which can be stored, processed, and recycled, just as the classical Styropor.

E-por[®] Sets New Standards At All Levels of the Value Chain

Processing:

- Low steam requirement during processing
- Foam densities of 21 g/L in the first foaming step
- No conversion of EPS plants required

Properties:

- Elastic, crack-resistant, multishock-proof
- Perfect sealing of the surface
- Appealing haptical and optical properties of the moldings

Sustainability:

- Storage and transportation at room temperature
- Low blowing agent content
- Recycling and degassing at EPS plants



E-por[®] is crack-resistant



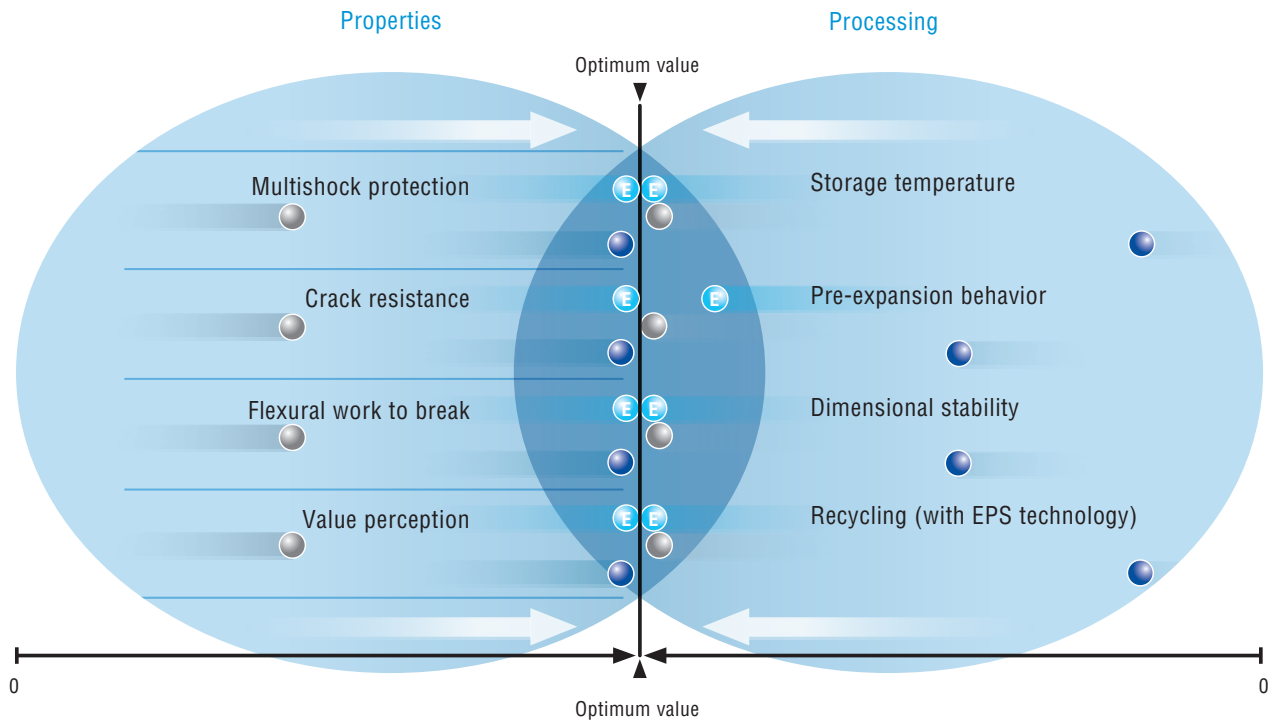
E-por[®] seals perfectly



E-por[®] is elastic



Schematic Product Comparison



Product comparison (relative values): ● E-por® ● Standard EPS ● Standard Interpolymers

Properties:

- E-por® is multishock-proof. E-por absorbs shocks and has a high dimensional recovery.
- E-por transfers energy peaks without crack formation. E-por is crack-resistant.
- E-por is elastic and excels with a high flexural work to break.
- The surface heat-seals perfectly, which gives it a velvety touch and high-quality appearance.

Processing:

- E-por can be stored and transported at room temperature. No cooling chain is required.
- E-por can be pre-expanded reliably and consistently to low densities.
- The dimensional stability of E-por is comparable to standard EPS.
- E-por can be degassed and recycled with EPS technology.

Physical Properties of E-por® (Test Sample Density: 20 kg/m³)

Property	Test specification	Unit	E-por
Cushion factor	DIN 55471	–	2.7
Energy absorption (hysteresis at 70% deformation, v = 5 mm/min)	ISO 3386-1	J	12
Compressive strength 10% deformation	DIN-EN 826	kPa	105
25% deformation	DIN-EN 826	kPa	125
Flexural work to break	DIN 53423	J	5.5
Flexural strength	DIN 53423	kPa	285
Molding shrinkage	(BASF study)	%	ca. 0.5 (= EPS)



The New Dimension in Packaging

Further information on E-por®

- **Brochure: E-por – The New Dimension in Packaging**
- **E-por: Product sample folder**
- **E-por: Technical data sheet**
- **Website: www.e-por.basf.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.
(October 2009)

BASF SE
Performance Polymers
67056 Ludwigshafen
Germany
www.e-por.basf.com