



TotalEnergies

Refining & Chemicals
Polymers

Polystyrene Impact 3450

Technical data sheet

Aesthetic, high fluidity, high heat resistance, high Impact Polystyrene
Produced in Europe

Description

POLYSTYRENE IMPACT 3450 is a high impact polystyrene with high heat resistance, good flow, high stiffness and good aesthetics. With such an ideal balance of properties, POLYSTYRENE IMPACT 3450 is well suited for the fabrication of heat resistant items by injection molding and extrusion-thermoforming. In injection molding, the combination of good flow and high heat resistance of POLYSTYRENE IMPACT 3450 makes short cycle times possible. In extrusion-thermoforming, POLYSTYRENE IMPACT 3450 is perfectly designed for hot-fill applications.

The main applications are high heat food packaging and miscellaneous heat-resistant items, coffee cups, office equipment, house hold, toys, teletronics.

Characteristics

	Method	Unit	Value
Rheological properties			
Melt flow index (200°C-5kg)	ISO 1133 H	g/10mn	7
Thermal properties			
Vicat softening point 10N (T° increase = 50°C/h)	ISO 306A50	°C	103
Vicat softening point 50N (T° increase = 50°C/h)	ISO 306B50	°C	95
HDT unannealed under 1.8 MPa	ISO 75-2A	°C	77
HDT annealed under 1.8 MPa	ISO 75-2A	°C	94
Coefficient of linear thermal expansion		mm/°C	9.10 E-5
Mechanical properties			
Notched Charpy impact strength	ISO 179/1eA	KJ/m²	8
Notched Izod impact strength	ISO 180/1A	kJ/m²	8
Tensile strength at yield	ISO 527-2	MPa	32.5
Tensile strength at break	ISO 527-2	MPa	28
Elongation at break	ISO 527-2	%	55
Tensile modulus	ISO 527-2	MPa	2250
Flexural modulus	ISO 178	MPa	2250
Rockwell hardness	ISO 2039-2		R 77
Electrical properties			
Dielectric strength		kV/mm	150
Surface resistivity	ISO IEC 93	Ohms	>10 E+13
Miscellaneous			
Density	ISO 1183	g/cm³	1.04
Moulding shrinkage		%	0.4-0.7
Water absorption	ISO 62	%	<0.1
Gloss 60°	internal	%	80

Information contained in this publication is true and accurate at the time of publication and to the best of our knowledge. The nominal values stated herein are obtained using laboratory test specimens. These are typical values not to be construed as specification limits. Before using one of the products mentioned herein, customers and other users should take all care in determining the suitability of such product for the intended use. Unless specifically indicated, the products mentioned herein are not suitable for applications in the pharmaceutical or medical sector. The Companies within TotalEnergies Petrochemicals do not accept any liability whatsoever arising from the use of this information or the use, application or processing of any product described herein. No information contained in this publication can be considered as a suggestion to infringe patents. The Companies disclaim any liability that may be claimed for infringement or alleged infringement of patents.

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General Information

- Standard properties: All tests carried out at 23°C unless otherwise stated. Mechanical properties are measured on injection moulded tests specimens.
- Bulk density: bulk density is approximately 0.6 g/cm³.

Handling and storage

Please refer to the safety data sheet (SDS) for handling and storage information. It is advisable to convert the product within one year after delivery provided storage conditions are used as given in the SDS of our product. SDS may be obtained from the website: www.polymers.totalenergies.com.

