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# 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 |

## 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.

Polystyrene