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Polystyrene Crystal 1160

Technical data sheet
High heat resistance, High Molecular Weight
Crystal Polystyrene
Produced in Europe

Description

POLYSTYRENE CRYSTAL 1160 is a high heat resistance, high molecular weight crystal polystyrene mainly for the extrusion industry. Most notably for the production of bi-oriented polystyrene (BOPS). It is particularly useful in the production of sheet for food packaging and insulation board made by direct gassing, where it gives expanded sheets with high mechanical properties.

POLYSTYRENE CRYSTAL 1160 can be used pure for the production of transparent cups or in dilution with POLYSTYRENE IMPACT 7240 for the extrusion of sheet for hot-fill thermoforming applications.

The main applications are foamed trays, shower screens, high heat resistant thermoformed products, transparent cups, XPS.

Characteristics

	Method	Unit	Value
Rheological properties			
Melt flow index (200°C-5kg)	ISO 1133 H	g/10mn	2.4
Thermal properties			
Vicat softening point 10N (T° increase = 50°C/h)	ISO 306A50	°C	105
Vicat softening point 50N (T° increase = 50°C/h)	ISO 306B50	°C	101
HDT unannealed under 1.8 MPa	ISO 75-2A	°C	83
HDT annealed under 1.8 MPa	ISO 75-2A	°C	97
Coefficient of linear thermal expansion		mm/°C	7.10 E-5
Mechanical properties			
Unnotched Charpy impact strength	ISO 179/1eA	KJ/m²	8
Tensile strength at break	ISO 527-2	MPa	48
Elongation at break	ISO 527-2	%	3
Tensile modulus	ISO 527-2	MPa	3200
Flexural modulus	ISO 178	MPa	2900
Rockwell hardness	ISO 2039-2		L 70
Electrical properties			
Dielectric strength		kV/mm	135
Surface resistivity	ISO IEC 93	Ohms	>10 E+14
Miscellaneous			
Density	ISO 1183	g/cm³	1.05
Moulding shrinkage		%	0.4-0.7
Water absorption	ISO 62	%	<0.1

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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.