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Refining & Chemicals
Polymers

Polystyrene Crystal 1070

Technical Data Sheet
High heat resistance, High Molecular Weight
Crystal Polystyrene
Produced in Europe

Description

POLYSTYRENE CRYSTAL 1070 is a high heat resistance, high molecular weight crystal polystyrene used in extrusion. It is particularly designed for the production of foam sheet and OPS sheet and film.

The high molecular weight gives a high viscosity which gives stable output at the die during direct gassing and good mechanical properties which give strength to both crystal sheets and direct gassed sheets.

The main applications are clamshells for fast food, meat trays, insulation board, OPS sheet, shower screens.

Characteristics

	Method	Unit	Value
Rheological properties			
Melt flow index (200°C-5kg)	ISO 1133 H	g/10mn	1.6
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	82
HDT annealed under 1.8 MPa	ISO 75-2A	°C	96
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

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.

