

**TotalEnergies**Refining & Chemicals
Polymers**Description**

POLYSTYRENE CRYSTAL 1540 is an easy flowing crystal polystyrene designed for extrusion or injection applications. In extrusion, it allows to increase extruder output and thermoforming cycle times when mixed with a high impact polystyrene such as POLYSTYRENE IMPACT 7240. Having high gloss, it is particularly suitable for glossy-layer co-extrusion. In injection moulding, POLYSTYRENE CRYSTAL 1540 with this low viscosity at high shear rate has a good injectability and combines an excellent fluidity with a higher softening point.

Main applications are dairy sheet, cups (dilution with impact polystyrene)

Injection: Boxes, office equipment - e.g. filing trays, CD boxes, pen bodies, internal fridge parts, toys, cups.

Characteristics

	Method	Unit	Value
Rheological properties			
Melt flow index (200°C-5kg)	ISO 1133 H	g/10mn	12
Thermal properties			
Vicat softening point 10N (T° increase = 50°C/h)	ISO 306A50	°C	91
Vicat softening point 50N (T° increase = 50°C/h)	ISO 306B50	°C	86
HDT unannealed under 1.8 MPa	ISO 75-2A	°C	73
HDT annealed under 1.8 MPa	ISO 75-2A	°C	83
Coefficient of linear thermal expansion		mm/°C	7.10 E-5
Mechanical properties			
Unnotched Charpy impact strength	ISO 179/1eA	KJ/m ²	8
Tensile strength at break	ISO 527-2	MPa	42
Elongation at break	ISO 527-2	%	2
Tensile modulus	ISO 527-2	MPa	3100
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/cm ³	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.

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