

TOTAL Polystyrene Crystal 1450N

General Purpose Polystyrene

TOTAL Refining & Chemicals

Message:

POLYSTYRENE CRYSTAL 1450N is a high heat resistance, easy flowing crystal polystyrene for the production of insulation board by direct gassing process. The low viscosity of this grade makes it particularly suitable for the production of insulation board at high thicknesses combining low density with good mechanical properties.
This grade is not lubricated.

General Information			
Features	Food Contact Acceptable		
	Good Flow		
	High Heat Resistance		
	Low Density		
	Low Viscosity		
Uses	Insulation		
Agency Ratings	EC 1907/2006 (REACH)		
Forms	Pellets		
Multi-Point Data	Specific Volume vs Temperature (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Density			
--	1.05	g/cm ³	ISO 1183
--	1050	kg/m ³	ISO 1183 ¹
Apparent Density	0.60	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	6.5	g/10 min	ISO 1133
Melt volume-flow rate (200°C/5.0 kg)	8.00	cm ³ /10min	ISO 1133 ²
Molding Shrinkage	0.40 to 0.70	%	ISO 294-4
Water Absorption			
23°C, 24 hr	< 0.10	%	ISO 62
Saturation	0.10	%	ISO 62 ³
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (L-Scale)	70		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
--	3200	MPa	ISO 527-2
--	3100	MPa	ISO 527-2 ⁴
Tensile Stress			
Break	48.0	MPa	ISO 527-2
Break	50.0	MPa	ISO 527-2 ⁵
Tensile Strain			

Break	3.0	%	ISO 527-2
Break	2.0	%	ISO 527-2 ⁶
Tensile Creep Modulus (1 hr)	3000	MPa	ISO 899-1 ⁷
Flexural Modulus	2900	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			
--	8.0	kJ/m ²	ISO 179/1eU
23°C	12.0	kJ/m ²	ISO 179/1eU ⁸
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, Unannealed	84.0	°C	ISO 75-2/A
1.8 MPa, Annealed	99.0	°C	ISO 75-2/A
1.8 MPa	96.0	°C	ISO 75-2 ⁹
Vicat Softening Temperature			
--	105	°C	ISO 306/A50
--	101	°C	ISO 306/B50
50°C/h, B (50N)	100	°C	ISO 306 ¹⁰
CLTE			
Flow	7.1E-5	cm/cm/°C	ISO 11359-2
Transverse	7.0E-5	cm/cm/°C	ISO 11359-2 ¹¹
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	> 1.0E+15	ohms	IEC 60093
--	1.0E+14	ohms	IEC 60093 ¹²
Electric Strength	140	kV/mm	IEC 60243-1

NOTE

1.

Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

2.

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3.

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4.

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5.

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6.

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7.

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8.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
9.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
10.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
11.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
12.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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