

TOTAL Polystyrene Impact 4440 (EU)

High Impact Polystyrene
TOTAL Refining & Chemicals

Message:

POLYSTYRENE IMPACT 4440 is a high impact polystyrene for the injection moulding of parts demanding good dimensional stability at high temperatures, particularly boxes, frames, front and back covers for television sets. In addition, the flow properties of this grade make it particularly suitable for the moulding of large parts and for use with techniques such as gas injection.

General Information			
UL YellowCard	E72824-249400	E472299-102068893	
Features	Food Contact Acceptable		
	Good Dimensional Stability		
	High Impact Resistance		
Uses	Business Equipment		
	Housings		
Agency Ratings	EC 1907/2006 (REACH)		
Forms	Pellets		
Multi-Point Data	Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Density			
--	1.04	g/cm ³	ISO 1183
--	1040	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)	10	g/10 min	ISO 1133
Melt volume-flow rate (200°C/5.0 kg)	10.0	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 (R-Scale)	76		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2050	MPa	ISO 527-2
Tensile Stress			
Yield	25.0	MPa	ISO 527-2
Break	20.0	MPa	ISO 527-2
Tensile Strain			
Yield	1.5	%	ISO 527-2 ⁴
Break	55	%	ISO 527-2

Nominal strain at break	> 50	%	ISO 527-2 ⁵
Tensile Creep Modulus (1 hr)	2000	MPa	ISO 899-1 ⁶
Flexural Modulus	2000	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
--	10	kJ/m ²	ISO 179/1eA
23°C	9.00	kJ/m ²	ISO 179/1eA ⁷
Notched Izod Impact Strength	10	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, Unannealed	74.0	°C	ISO 75-2/A
1.8 MPa, Annealed	90.0	°C	ISO 75-2/A
1.8 MPa	89.5	°C	ISO 75-2 ⁸
Vicat Softening Temperature			
--	96.0	°C	ISO 306/A50
--	88.0	°C	ISO 306/B50
50°C/h, B (50N)	88.0	°C	ISO 306 ⁹
CLTE			
Flow	9.1E-5	cm/cm/°C	
Transverse	9.0E-5	cm/cm/°C	ISO 11359-2 ¹⁰
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	> 1.0E+14	ohms	IEC 60093
--	1.0E+13	ohms	IEC 60093 ¹¹
Electric Strength	150	kV/mm	IEC 60243-1
Flammability	Nominal Value	Unit	Test Method
Burning Behav. at 1.6mm nom. thickn. (1.60 mm)	HB		ISO 1210 ¹²
NOTE			
1.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
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3.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
4.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
5.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		

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