Polystyrol 454 C

High Impact Polystyrene

BASF Corporation

Product Description
Polystyrol 454 C is an impact resistant polystyrene with a good balance of toughness, high flow, heat resistance and high gloss.

General			
Material Status	• Commercial: Active		
Availability	• Europe		
Features	• Food Contact Acceptable • Good Toughness	• High Flow • High Gloss	• High Heat Resistance • High Impact Resistance
Uses	• Appliance Components	• Housings	• Toys
Agency Ratings	• BGVO Food Contact, Unspecified Rating	• FDA Food Contact, Unspecified Rating	
RoHS Compliance	• RoHS Compliant		
Forms	• Granules		
Processing Method	• Coextrusion	• Extrusion	• Injection Molding

Physical	Nominal Value	Unit	Test Method
Density	1.02	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	14.0	cm³/10min	ISO 1133
Water Absorption			ISO 62
Saturation, 23°C	< 0.10	%	
Equilibrium, 23°C, 50% RH	< 0.10	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	2200	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	27.0	MPa	ISO 527-2/50
Tensile Strain (Yield, 23°C)	1.4	%	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	25	%	ISO 527-2/50
Flexural Modulus (23°C)	2300	MPa	ISO 178
Flexural Strength (23°C)	41.0	MPa	ISO 178
Shear Modulus (23°C)	900	MPa	ISO 537
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	16	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	120	kJ/m²	
23°C	150	kJ/m²	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Ball Indentation Hardness (H 358/30)	90.0	MPa	ISO 2039-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed	82.0	°C	ISO 75-2/B
1.8 MPa, Unannealed	78.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	91.0	°C	ISO 306/A50
--	82.0	°C	ISO 306/B50
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+13	ohms	IEC 60093
Volume Resistivity	> 1.0E+18	ohm·cm	IEC 60093
Relative Permittivity			IEC 60250
23°C, 100 Hz	2.50		
23°C, 1 MHz	2.50		
Electric Strength (23°C)	160	kV/mm	IEC 60243-1
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating - UL			UL 94
1.60 mm	HB		
3.20 mm	HB		
Optical	**Nominal Value**	**Unit**	
Gloss	70.0		

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Injection	Nominal Value	Unit
Processing (Melt) Temp	180 to 260	°C
Mold Temperature	10.0 to 60.0	°C

Notes

[1] Typical properties: these are not to be construed as specifications.