

Styrolution PS 158K

General Purpose Polystyrene
INEOS Styrolution Group GmbH

Message:

Styrolution PS 158K is a heat resistant, rapid freezing general purpose grade. It is suitable for expanded sheet and film; for blends with high impact Styrolution PS in heat contact applications; for transparent, impact resistant applications in blends with Styrolux.

General Information			
UL YellowCard	E108538-100840235		
Features	General Purpose		
	High Clarity		
	High Heat Resistance		
Uses	Blending		
	Building Materials		
	Containers		
	Electrical/Electronic Applications		
	Film		
	Foam		
	Household Goods		
	Sheet		
Appearance	Clear/Transparent		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.05	g/cm ³	ISO 1183
Apparent Density ¹	0.60	g/cm ³	
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	3.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	3.00	cm ³ /10min	ISO 1133
Molding Shrinkage	0.30 to 0.60	%	ISO 294-4
Water Absorption			ISO 62
Saturation, 23°C	< 0.10	%	
Equilibrium, 23°C, 50% RH	< 0.10	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	150	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3300	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	55.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.0	%	ISO 527-2

Tensile Creep Modulus			ISO 899-1
1 hr	3300	MPa	
1000 hr	2600	MPa	
Flexural Stress	103	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	3.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	17	kJ/m ²	ISO 179
Notched Izod Impact Strength (23°C)	2.5	kJ/m ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Annealed	98.0	°C	ISO 75-2/B
1.8 MPa, Annealed	86.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	108	°C	ASTM D1525 ²
--	106	°C	ISO 306/A50
--	101	°C	ISO 306/B50
CLTE - Flow	8.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.17	W/m/K	DIN 52612
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+14	ohms	IEC 60093
Volume Resistivity	> 1.0E+18	ohms·cm	IEC 60093
Electric Strength ³ (1.50 mm)	140	kV/mm	IEC 60243-1
Dielectric Constant			
100 Hz	2.50		IEC 60250
1 MHz	2.50		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	9.0E-5		
1 MHz	5.0E-5		
Injection	Nominal Value	Unit	
Processing (Melt) Temp	180 to 260	°C	
Mold Temperature	10.0 to 60.0	°C	
Injection Velocity	200	mm/sec	
NOTE			
1.	With external lubricant		
2.	Rate B (120°C/h), Loading 1 (10 N)		
3.	Short Time		

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