

Styrolution PS 168N

General Purpose Polystyrene

INEOS Styrolution Group GmbH

Message:

Styrolution PS 168N is a high molecular weight, heat resistant grade used where high strength is required. Suitable for physically or chemically expanded extruded sheet. Also use as a blend component with high impact polystyrene or Styrolux SBC.

General Information	
UL YellowCard	E108538-100840238
Features	General Purpose High Molecular Weight High Strength Medium Heat Resistance
Uses	Blending Cups Foam Labels Lids Sheet
Forms	Pellets
Processing Method	Extrusion Injection Molding Sheet Extrusion

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)	1.2	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	1.50	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)	59.0	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	106	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	< 25	kJ/m ²	ISO 179
Notched Izod Impact Strength			ISO 180/A
-30°C	2.0	kJ/m ²	
23°C	2.0	kJ/m ²	
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
--	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 280	°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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