HK:+852-69575415 China GuangDong:+13538586433 ShangHai:+18816996168

INEOS STYROLUTION

Styrolution PS 168N

General Purpose Polystyrene (GPPS)

TECHNICAL DATASHEET

DESCRIPTION

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.

FEATURES

- High molecular weight, heat resistant grade used where high strength is required.
- Suitable for physically or chemically expanded extruded sheet
- Suitable for physically or chemically expanded extruded sheet
- Blend with high impact polystyrene or Styrolux SBC

APPLICATIONS

- Foamed meat trays, foamed labels.
- In mixtures with high impact polystyrene for coffee cups, lids, etc.
- In mixtures with Styrolux for transparent, impact resistant cups, beakers and lids

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Flow Rate, 200 °C/5 kg	ISO 1133	g/10 min	1.2
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm³/10 min	1.5
Mechanical Properties			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m²	2
Izod Notched Impact Strength, -30 °C	ISO 180/A	kJ/m²	2
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m²	4
Tensile Stress at Yield, 23 °C	ISO 527	MPa	59
Tensile Strain at Break, 23 °C	ISO 527	%	3
Tensile Modulus	ISO 527	MPa	3300
Tensile Creep Modulus (1000h)	ISO 899	MPa	2600
Tensile Creep Modulus (1h)	ISO 899	MPa	3300
Flexural Strength, 23 °C	ISO 178	MPa	106
Hardness, Ball Indentation	ISO 2039-1	MPa	150
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	101
Vicat Softening Temperature, B/1 (120 °C/h, 10N)	ASTM D 1525	°C	108

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Property, Test Condition	Standard	Unit	Values
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	86
Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa)	ISO 75	°C	98
Coefficient of Linear Thermal Expansion	ISO 11359	10^{-6}/°C	80
Thermal Conductivity	DIN 52612-1	W/(m K)	0.17
Electrical Properties			
Dielectric Constant (100 Hz)	IEC 62631-2-1	-	2.5
Dissipation Factor (100 Hz)	IEC 62631-2-1	10^{-4}	0.9
Dissipation Factor (1 MHz)	IEC 62631-2-1	10^{-4}	0.5
Dielectric Strength, Short Time, 1.5 mm	IEC 60243-1	kV/mm	135
Relative Permittivity (100 Hz)	IEC 62631-2-1	-	2.5
Relative Permittivity (1 MHz)	IEC 62631-2-1	-	2.5
Volume Resistivity	IEC 62631-3-1	Ohm*m	$>10^{16}$
Surface Resistivity	IEC 62631-3-1	Ohm	$>10^{14}$
Other Properties			
Density	ISO 1183	kg/m³	1048
Bulk Density (with external lubricant)	-	kg/m³	600
Processing			
Linear Mold Shrinkage	ISO 294-4	%	0.3 - 0.6
Melt Temperature Range	ISO 294	°C	180 - 280
Mold Temperature Range	ISO 294	°C	10 - 60
Injection Velocity	ISO 294	mm/s	200