

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
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- 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	cm ³ /10 min	1.5
Mechanical Properties			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m ²	2
Izod Notched Impact Strength, -30 °C	ISO 180/A	kJ/m ²	2
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m ²	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/m ³	1048
Bulk Density (with external lubricant)	-	kg/m ³	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

Typical values for uncolored products

Please note that all processing data stated are only indicative and may vary depending on the individual processing complexities.

Please consult our local sales or technical representatives for details.

SUPPLY FORM

Styrolution PS 168N should be kept in its original containers in cool, dry place. Avoid direct exposure to sunlight. It can be stored in silos.

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PROCESSING

Styrolution PS 168N can be injection molded at temperatures between 180 and 280°C. Recommended mold temperatures are between 10 and 60°C. Extrusion melt temperature should not exceed 240°C.

PRODUCT SAFETY

During processing of Styrolution PS resins small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20 ppm no negative effects on health are expected. In our experience, the concentration of styrene does not exceed 1 ppm in well ventilated workplaces - that is where five to eight air changes per hour are made. Further information can be found in our Styrolution PS safety data sheets.

DISCLAIMER

The above mentioned data are accurate to the best of our knowledge. They are based upon reputable labs and industry standard testing methods. These are only typical values and actual product specification may deviate at industrial range. Therefore, no data in this technical data sheet shall constitute a warranty or representation regarding product features, fitness of the product for a specific purpose or application or its processability. INEOS Styrolution disclaims all liability in connection therewith. The customer himself is required to verify whether or not the product is suitable for the further processing or application intended and whether or not the product complies with the relevant statutory requirements. Unless explicitly and individually otherwise agreed in writing, INEOS Styrolution's sole and exclusive liability with respect to its products is set forth in INEOS Styrolution's General Terms and Conditions for Sale.