INEOS STYROLUTION

Styrolution PS 158N/L

General Purpose Polystyrene (GPPS)

TECHNICAL DATASHEET

DESCRIPTION

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

FEATURES

- High heat resistance
- Rapid freezing during molding
- UL 94 HB (Antwerp only)

APPLICATIONS

- XPS
- Medical labware
- Blends with HIPS for increased heat stability

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm³/10 min	3.3
Mechanical Properties			
Tensile Stress at Yield, 23 °C	ISO 527	MPa	55
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	103
Flexural Modulus, 23 °C	ISO 178	MPa	2050
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
Vicat Softening Temperature, VST/A/50 (10N, 50 °C/h)	ISO 306	°C	106
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

Contact us:
Phone +49 (2133) 9309 – 168
INSTY.emea@ineos.com
www.ineos-styrolution.com

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Property, Test Condition	Standard	Unit	Values
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
Volume Resistivity	IEC 62631-3-1	Ohm*m	$>10^{16}$
Surface Resistivity	IEC 62631-3-1	Ohm	$>10^{14}$
Optical Properties			
Refractive Index, Sodium D Line	ISO 489	-	1.56
Light Transmission at 550 nm	ASTM D 1003	%	89
Haze	ASTM D 1003	%	1.5
Other Properties			
Density	ISO 1183	kg/m³	1040
Processing			
Melt Temperature Range	ISO 294	°C	180 - 280
Mold Temperature Range	ISO 294	°C	40
Injection Velocity	ISO 294	mm/s	200

Typical values for uncolored products

SUPPLY FORM

Styrolution PS 158N/L can be supplied in two versions, without or with an external additive for improving pneumatic conveying. “L” as a suffix to the grade designation characterises the version with this agent, i.e. Styrolution PS 158L. Styrolution PS 158N/L is supplied as cylindrical or lens shaped pellets, packed in 25 kg bags or bulk.

PROCESSING

Styrolution PS 158N/L can be injection molded at temperatures between 180 and 280°C, and recommended mold temperatures between 10 and 60 °C. Extrusion temperatures should not exceed 240°C.

PRODUCT SAFETY

During processing of Styrolution PS small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20ppm 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 were five to eight air changes per hour are made.

DISCLAIMER

The aforementioned data shall constitute the agreed contractual quality of the product sold by INEOS Styrolution at the time of passing of risk. INEOS Styrolution does not make any further warranty, representation or guarantee of any kind, express or implied, regarding the suitability of the product for any particular purpose or application and 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.

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