

Styrolution PS 476L

High Impact Polystyrene (HIPS)

TECHNICAL DATASHEET

DESCRIPTION

Styrolution PS 476L is a normal flow and very high impact Polystyrene. It gives good mechanical and heat resistance properties while providing with easy processability and short cycle time.

FEATURES

- Normal flow HIPS
- Good mechanical and heat resistance properties
- Easy processability with short cycle time

APPLICATIONS

- Wide range of injection molding applications , e.g. - office, kitchen and bathroom articles;
- Food packaging as beverage cups, packaging for dairy products, sheets and disposables
- Internal parts and housings of household appliances and consumer electronics
- Toys

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm ³ /10 min	5.5
Mechanical Properties			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m ²	11
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m ²	15
Charpy Unnotched, -30 °C	ISO 179/1eU	kJ/m ²	130
Tensile Stress at Yield, 23 °C	ISO 527	MPa	27
Tensile Strain at Yield, 23 °C	ISO 527	%	1.5
Tensile Strain at Break, 23 °C	ISO 527	%	30
Tensile Modulus	ISO 527	MPa	1850
Flexural Strength, 23 °C	ISO 178	MPa	40
Flexural Modulus, 23 °C	ISO 178	MPa	1950
Hardness, Ball Indentation	ISO 2039-1	MPa	85
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	90
Vicat Softening Temperature, VST/A/50 (10N, 50 °C/h)	ISO 306	°C	98

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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	80
Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa)	ISO 75	°C	89
Coefficient of Linear Thermal Expansion	ISO 11359	10 ⁻⁶ /°C	100
Electrical Properties			
Dielectric Constant (100 Hz)	IEC 62631-2-1	-	2.5
Dissipation Factor (1 MHz)	IEC 62631-2-1	10 ⁻⁴	4
Dielectric Strength, Short Time, 1.5 mm	IEC 60243-1	kV/mm	155
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 ¹³
Optical Properties			
Specular Gloss, 60 °	-		35
Other Properties			
Density	ISO 1183	kg/m ³	1050
Processing			
Linear Mold Shrinkage	ISO 294-4	%	0.4 - 0.7
Melt Temperature Range	ISO 294	°C	180 - 260
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 476 L is supplied as cylindrical shaped granules. It has to be kept in its original containers in a dry, cool place. Avoid direct exposure to sunlight. Styrolution PS 476 L can also be stored in silos.

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PROCESSING

Styrolution PS 476L can be processed by any method applicable to polystyrene based plastics, it is best suitable for injection molding and extrusion molding. Recommended processing at temperatures between 180 and 280°C and mold temperatures are between 10 and 60°C. The 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.