

Styrolution PS 456EB

High Impact Polystyrene (HIPS)

TECHNICAL DATASHEET

DESCRIPTION

Styrolution PS 456EB is a high flow, high impact polystyrene with a good heat resistance and a high stiffness, developed for injection blow molding applications, especially for bottle of yogurt.

FEATURES

- High flow
- Injection blow molding applications, especially for the bottle of yogurt.

APPLICATIONS

- Bottle of yogurt
- Household

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm ³ /10 min	7
Mechanical Properties			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m ²	9
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m ²	11
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m ²	120
Charpy Unnotched, -30 °C	ISO 179/1eU	kJ/m ²	70
Tensile Stress at Yield, 23 °C	ISO 527	MPa	23
Tensile Strain at Yield, 23 °C	ISO 527	%	1.5
Tensile Strain at Break, 23 °C	ISO 527	%	40
Tensile Modulus	ISO 527	MPa	2000
Flexural Strength, 23 °C	ISO 178	MPa	42
Flexural Modulus, 23 °C	ISO 178	MPa	2100
Hardness, Ball Indentation	ISO 2039-1	MPa	90
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	86
Vicat Softening Temperature, VST/A/50 (10N, 50 °C/h)	ISO 306	°C	94
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	77

Styrolution PS 456EB

High Impact Polystyrene (HIPS)

TECHNICAL DATASHEET

Property, Test Condition	Standard	Unit	Values
Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa)	ISO 75	°C	85
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
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	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 456EB is supplied as cylindrical shaped granules and is just supplied as GR2 type without any external lubrication. It has to be kept in its original containers in a dry, cool place. Avoid direct exposure to sunlight. 456EB can also be stored in silos.

PROCESSING

Although Styrolution PS 456EB can be processed by any method applicable to polystyrene- based plastics, it is most suitable for injection blow molding. Melt temperature should not exceed 260°C.

PRODUCT SAFETY

Styrolution PS 456EB

High Impact Polystyrene (HIPS)

TECHNICAL DATASHEET

During processing of Polystyrol 456EB 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.

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.