INEOS STYROLUTION

Styrolution PS 542N

High Impact Polystyrene (HIPS)

TECHNICAL DATASHEET

DESCRIPTION

Styrolution PS 542N is an impact polystyrene with high heat resistance.

FEATURES

- High heat resistance

APPLICATIONS

- Disposables

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm³/10 min	4.1
Mechanical Properties			
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m²	8
Tensile Stress at Yield, 23 °C	ISO 527	MPa	25
Tensile Strain at Yield, 23 °C	ISO 527	%	1.8
Tensile Modulus	ISO 527	MPa	1750
Nominal Strain at Break, 23 °C	ISO 527	%	45
Flexural Strength, 23 °C	ISO 178	MPa	40
Flexural Modulus, 23 °C	ISO 178	MPa	3400
Hardness, Ball Indentation	ISO 2039-1	MPa	120
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	92
Vicat Softening Temperature, B/1 (120 °C/h, 10N)	ASTM D 1525	°C	105
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	85
Coefficient of Linear Thermal Expansion	ISO 11359	10^{-6}/°C	80
Thermal Conductivity	DIN 52612-1	W/(m K)	0.16
Electrical Properties			
Volume Resistivity	IEC 62631-3-1	Ohm*m	$>10^{16}$
Surface Resistivity	IEC 62631-3-1	Ohm	$>10^{13}$

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Property, Test Condition	Standard	Unit	Values
Optical Properties			
Refractive Index, Sodium D Line	ISO 489	-	1.57
Light Transmission at 550 nm	ASTM D 1003	%	91.3
Haze	ASTM D 1003	%	0.3
Other Properties			
Density	ISO 1183	kg/m³	1040
Processing			
Linear Mold Shrinkage	ISO 294-4	%	0.5 - 0.7
Melt Temperature Range	ISO 294	°C	180 - 260

Typical values for uncolored products

SUPPLY FORM

Styrolution PS 524N is supplied as cylindrical shaped granules. It has to be kept in its original containers in a cool, dry place. Avoid direct exposure to sunlight. Styrolution PS can be stored in silos.

PROCESSING

Styrolution PS 542N can be processed by all methods normally used for polystyrene. It is preferably processed by extrusion to sheets for thermoforming of packaging, replacing mixtures from high impact polystyrene and high heat resistant general purpose polystyrene.

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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