

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	cm ³ /10 min	4.1
Mechanical Properties			
Charpy Notched Impact Strength, 23° C	ISO 179	kJ/m ²	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
Elongation at Break (MD)	ISO 527	%	-
Flexural Strength, 23 °C	ISO 178	MPa	40
Flexural Modulus	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 60093	Ohm*m	>1E16

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Surface Resistivity	IEC 60093	Ohm	>1E13
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/m ³	1040
Water Absorption, Saturated at 23 °C	ISO 62	%	< 0.1
Moisture Absorption, Equilibrium 23 °C/50% RH	ISO 62	%	< 0.1
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 542N 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 where five to eight air changes per hour are made.

DISCLAIMER

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