TECHNICAL DATA SHEET

Styrenix PS 495F

High Impact Polystyrene (HIPS)

DESCRIPTION

Styrenix PS 495F is a high flow, high impact polystyrene with a good heat resistance and a high stiffness.

FEATURES

- High flow HIPS
- Good heat resistance with high stiffness
- Suitable for gas-assisted injection molding process

APPLICATIONS

- Consumer electronics: LCD Back cover, instruments & printer cabinets etc.
- Household: internal parts of vacuum cleaners; refrigerator parts etc.
- Large housing parts, critical & shapely design multicavity parts

Property, Test Condition	Standard	Unit	Typical Values
Rheological Properties			
Melt Volume Rate 200 °C/5 kg	ISO 1133	cm³/10 min	9.5
Mechanical Properties			
Izod Notched Impact Strength, 23° C	ISO 180/A	kJ/m²	13
Charpy Notched Impact Strength, 23 °C	ISO 179	kJ/m²	17
Charpy Unnotched, 23 °C	ISO 179	kJ/m²	N
Charpy Unnotched, -30 °C	ISO 179	kJ/m²	130
Tensile Stress at Yield, 23 °C	ISO 527	MPa	26
Tensile Strain at Yield, 23 °C	ISO 527	%	1.5
Tensile Strain at Break, 23 °C	ISO 527	%	45
Tensile Modulus	ISO 527	MPa	2000
Elongation at Break (MD)	ISO 527	%	40
Flexural Strength	ISO 178	MPa	40
Flexural Modulus	ISO 178	MPa	2100
Hardness, Ball Indentation	ISO 2039-1	MPa	74
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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Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	85
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
Thermal Conductivity	DIN 52612-1	W/(m K)	0.17
Electrical Properties			
Dielectric Constant (100 Hz)	IEC 60250	-	2.5
Dissipation Factor (100 Hz)	IEC 60250	10^(-4)	4
Dissipation Factor (1 MHz)	IEC 60250	10^(-4)	4
Dielectric Strength, Short Time, 1.5 mm	IEC 60243-1	kV/mm	155
Relative Permittivity (100 Hz)	IEC 60250	-	2.5
Relative Permittivity (1 MHz)	IEC 60250	-	2.5
Volume Resistivity	IEC 60093	Ohm*m	>1E16
Surface Resistivity	IEC 60093	Ohm	>1E13
Optical Properties			
Specular Gloss, 60°	ASTM D 523	%	45
Other Properties			
Density	ISO 1183	kg/m³	1050
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	%	0.3 - 0.6
Melt Temperature Range	ISO 294	°C	180 - 260
Mold Temperature Range	ISO 294	°C	10 - 60
Injection Velocity	ISO 294	mm/s	200

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SUPPLY FORM

Styrenix PS 495F 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. Styrenix PS 495F can also be stored in silos.

PROCESSING

Styrenix PS 495F 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 Styrenix 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 Styrenix PS safety data sheets.

DISCLAIMER

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