

Styrenix PS 145D General Purpose Polystyrene (GPPS)

DESCRIPTION

Styrenix PS 145D is a medium strength, easy flowing general purpose grade, suitable for blending with impact modified polystyrene. It offers exceptional processing characteristics for thin walled parts, multi-cavity tools, and complex designs.

FEATURES

- Easy flowing
- Medium strength

APPLICATIONS

- Artificial jewelry, household articles such as jars and cutlery
- In high speed high productivity molding applications such as thin walled containers, multicavity small moldings, stationery products like scales etc.
- Used as a coextruded gloss cap layer over HIPS
- Blends with high impact polystyrene

Property, Test Condition	Standard	Unit	Typical Values
Rheological Properties			
Melt Volume Rate 200 °C/5 kg	ISO 1133	cm ³ /10 min	15
Mechanical Properties			
Charpy Notched Impact Strength, 23 °C	ISO 179	kJ/m ²	3
Charpy Unnotched, 23 °C	ISO 179	kJ/m ²	<25
Tensile Stress at Yield, 23 °C	ISO 527	MPa	44
Tensile Strain at Break, 23 °C	ISO 527	%	2
Tensile Modulus	ISO 527	MPa	3300
Flexural Strength	ISO 178	MPa	70
Hardness, Ball Indentation	ISO 2039-1	MPa	150
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	88
Vicat Softening Temperature, B/1 (120°C/h, 10N)	ASTM D 1525	°C	96
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	88
Thermal Conductivity	DIN 52612-1	W/(m K)	0.17
Electrical Properties			

Styrenix PS 145D

General Purpose Polystyrene (GPPS)

Dielectric Constant (100 Hz)	IEC 60250	-	2.5
Dielectric Strength, Short Time, 1.5 mm	IEC 60243-1	kV/mm	135
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	>1E14
Other Properties			
Density	ISO 1183	kg/m ³	1046
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

SUPPLY FORM

Styrenix PS 145D 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 145D can also be stored in silos.

PROCESSING

Styrenix PS 145D can be injection molded at temperatures between 180 and 280°C. Recommended mold temperatures are between 10 and 60°C. Extrusion 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.

Styrenix PS 145D

General Purpose Polystyrene (GPPS)

DISCLAIMER

The above information is provided in good faith and Styrenix is not responsible for any processing or compounding which may occur to product finished articles, packaging materials or their components. Responsibility for use, storage, handling and disposal of the products described herein is that of the purchaser or end user. With respect to OEM specific modified grades in terms of pre-coloring, performance enhancement and/or additive packages, the properties may be affected to certain extent. Styrenix makes no warranty or representation of any kind, regarding the information given or the products described, and expressly disclaims all implied warranties, representations and conditions, including without limitation all warranties and conditions of quality, merchantability and suitability or fitness for a particular purpose.
