

# Styrolution PS 145D

General Purpose Polystyrene (GPPS)

TECHNICAL  
DATASHEET

## DESCRIPTION

Styrolution PS 145D is a medium strength, easy flowing general purpose grade, suitable for blending with impact modified polystyrene. Styrolution PS 145D 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 over HIPS
- Blends with high impact polystyrene
- Suitable for FFS-sheet

Property, Test Condition	Standard	Unit	Values
<b>Rheological Properties</b>			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm <sup>3</sup> /10 min	15
<b>Mechanical Properties</b>			
Charpy Notched Impact Strength, 23 °C	ISO 179/1eA	kJ/m <sup>2</sup>	3
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m <sup>2</sup>	<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, 23 °C	ISO 178	MPa	70
Hardness, Ball Indentation	ISO 2039-1	MPa	150
<b>Thermal Properties</b>			
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

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<b>Electrical Properties</b>			
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
<b>Other Properties</b>			
Density	ISO 1183	kg/m <sup>3</sup>	1046
Bulk Density (with external lubricant)		kg/m <sup>3</sup>	600
Water Absorption, Saturated at 23 °C	ISO 62	%	<0.1
Moisture Absorption, Equilibrium 23 °C/50% RH	ISO 62	%	<0.1
<b>Processing</b>			
Linear Mold Shrinkage	ISO 294-4	%	0.3 - 0.6
Melt Temperature Range	ISO 294	°C	180 - 280
Mold Temperature Range	ISO 294	°C	10 - 60
Injection Velocity	ISO 294	mm/s	200

Typical values for uncolored products

## SUPPLY FORM

Styrolution PS 145D should be kept in its original containers in cool, dry place. Avoid direct exposure to sunlight. Styrolution PS 145D can be stored in silos.

## PROCESSING

Styrolution 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.

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**PRODUCT SAFETY**

During processing of Styrolution 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 Styrolution PS safety data sheets.

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