

## Technical Datasheet – Polystyrene Virgin

### DESCRIPTION

Polystyrene Virgin is a normal flowing, high impact grade that is especially suitable for blends with a high proportion of general purpose polystyrene. It is suitable for all kinds of thermoformed packaging.

### FEATURES

Suitable for blending with high proportions of GPPS  
UL 94 HB

### APPLICATIONS

Food packaging and disposables  
Cups  
Cutlery  
Blends with GPPS

Property, Test Condition

Standard

Unit

Values

#### Rheological Properties

Melt Volume Rate, 200 °C/5 kg

ISO 1133

cm<sup>3</sup>/10 min

4

#### Mechanical Properties

Charpy Notched Impact Strength, 23° C	ISO 179	kJ/m <sup>2</sup>	12
Tensile Stress at Yield, 23° C	ISO 527	MPa	24
Tensile Strain at Yield, 23° C	ISO 527	%	1.5
Tensile Modulus	ISO 527	MPa	1800
Elongation at Break (MD)	ISO 527	%	35
Hardness, Ball Indentation	ISO 2039-1	MPa	66

#### Thermal Properties

Vicat Softening Temperature, VST/A/50 (50°C/h, 10N)	ISO 306	°C	96
Vicat Softening Temperature, B/2 (120°C/h, 50N)	ASTM D 1525	°C	90
Heat Deflection Temperature A; (annealed, 1.8 MPa)	ISO 75	°C	74
Heat Deflection Temperature B; (annealed, 0.45 MPa)	ISO 75	°C	83
Coefficient of Linear Thermal Expansion	ISO 11359	10 <sup>-6</sup> /°C	80
Thermal Conductivity	DIN 52612-1	W/(m K)	0.17

#### Electrical Properties

Dielectric Constant (100 Hz)

IEC 60250

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2.5

Property, Test Condition	Standard	Unit	Values
Dissipation Factor (100 Hz)	IEC 60250	10 <sup>(-4)</sup>	4
Dissipation Factor (1 MHz)	IEC 60250	10 <sup>(-4)</sup>	4
Volume Resistivity	IEC 60093	Ohm*m	>1E16
Surface Resistivity	IEC 60093	Ohm	>1E13
<b>Other Properties</b>			
Density	ISO 1183	kg/m <sup>3</sup>	1040
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	%	0.4 - 0.7
Melt Temperature Range	ISO 294	°C	180 - 260
Injection Velocity	ISO 294	mm/s	200

Typical values for uncolored products

## PROCESSING

Polystyrene Virgin can be injection molded at temperatures between 180 and 260°C, and recommended mold temperatures between 10 and 60°C. Extrusion temperatures should not exceed 240°C.

## PRODUCT SAFETY

During processing of 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 the 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.

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