

# Styrolution PS 2710

High Impact Polystyrene (HIPS)

**TECHNICAL  
DATASHEET**

## DESCRIPTION

Styrolution PS 2710 is a high impact grade of polystyrene with improved stress crack resistance, developed for extrusion and thermoforming applications, especially for the refrigerator industry.

## FEATURES

- Improved Environmental stress cracking resistance (ESCR) HIPS
- Balanced mechanical properties

## APPLICATIONS

- Refrigerator liners for refrigerator inserts and door paneling
- Packaging applications for oily food and dairy products.
- Sheet extrusion application

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	5
<b>Mechanical Properties</b>			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m <sup>2</sup>	12
Izod Notched Impact Strength, -30 °C	ISO 180/A	kJ/m <sup>2</sup>	7
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m <sup>2</sup>	10
Charpy Notched Impact Strength, -30 °C	ISO 179/1eA	kJ/m <sup>2</sup>	7
Charpy Unnotched, -30 °C	ISO 179/1eU	kJ/m <sup>2</sup>	120
Tensile Stress at Yield, 23 °C	ISO 527	MPa	22
Tensile Strain at Yield, 23 °C	ISO 527	%	1.8
Tensile Strain at Break, 23 °C	ISO 527	%	50
Tensile Modulus	ISO 527	MPa	1600
Elongation at Break (MD)	ISO 527	%	50
Flexural Strength, 23 °C	ISO 178	MPa	32
Flexural Modulus, 23 °C	ISO 178	MPa	1500
Hardness, Ball Indentation	ISO 2039-1	MPa	65
<b>Thermal Properties</b>			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	92

# Styrolution PS 2710

High Impact Polystyrene (HIPS)

## TECHNICAL DATASHEET

Property, Test Condition	Standard	Unit	Values
Vicat Softening Temperature, VST/A/50 (10N, 50 °C/h)	ISO 306	°C	97
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	82
Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa)	ISO 75	°C	90
Coefficient of Linear Thermal Expansion	ISO 11359	10 <sup>-6</sup> /°C	100
Thermal Conductivity	ISO 22007-4	W/(m K)	0.17
<b>Electrical Properties</b>			
Dielectric Constant (100 Hz)	IEC 62631-2-1	-	2.5
Dissipation Factor (100 Hz)	IEC 62631-2-1	10 <sup>-4</sup>	4
Dissipation Factor (1 MHz)	IEC 62631-2-1	10 <sup>-4</sup>	4
Dielectric Strength, Short Time, 1.5 mm	IEC 60243-1	kV/mm	155
Relative Permittivity (100 Hz)	IEC 62631-2-1	-	2.5
Relative Permittivity (1 MHz)	IEC 62631-2-1	-	2.5
Volume Resistivity	IEC 62631-3-1	Ohm*m	>10 <sup>16</sup>
Surface Resistivity	IEC 62631-3-1	Ohm	>10 <sup>14</sup>
<b>Optical Properties</b>			
Specular Gloss, 60 °	-		20
<b>Other Properties</b>			
Density	ISO 1183	kg/m <sup>3</sup>	1050
<b>Processing</b>			
Linear Mold Shrinkage	ISO 294-4	%	0.4 - 0.7
Melt Temperature Range	ISO 294	°C	180 - 260
Mold Temperature Range	ISO 294	°C	10 - 60
Injection Velocity	ISO 294	mm/s	200