STYRON™ HIPS
High Impact Polystyrene Resin

Overview

STYRON™ HIPS is a high clarity, high gloss polystyrene with excellent mechanical properties on thermoformed parts.

Main Characteristics:

- High clarity
- Excellent gloss
- High heat
- High flow
- Easy processing
- Excellent mechanical properties of thermoformed parts

Applications:

- Transparent Packaging Applications: Form Fill Seal (FFS), pre-forms (DFS), Disposables and Bi-Oriented Polystyrene (BOPS).
- Gloss cap-layer for extrusion

Complies with:

- Europe REGULATION (EC) 10/2011
- Meets Essential Req. of 94/62/EC(Packaging)
- U.S. FDA 21 CFR 177.1640

Consult the regulations for complete details.

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.05	g/cm³	1.05	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	6.3	g/10 min	6.3	g/10 min	ASTM D1238 ISO 1133
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus					
0.126 in (3.20 mm) [1]	392000	psi	2700	MPa	ASTM D638
0.126 in (3.20 mm)	392000	psi	2700	MPa	ISO 527-2/5
Tensile Strength					
Yield, 0.126 in (3.20 mm) [1]	4790	psi	33.0	MPa	ASTM D638
Yield, 0.126 in (3.20 mm)	4790	psi	33.0	MPa	ISO 527-2/5
Break, 0.126 in (3.20 mm) [1]	3920	psi	27.0	MPa	ASTM D638
Break, 0.126 in (3.20 mm)	3920	psi	27.0	MPa	ISO 527-2/5
Tensile Elongation					
Break, 0.126 in (3.20 mm) [1]	> 20	%	> 20	%	ASTM D638
Break, 0.126 in (3.20 mm)	> 20	%	> 20	%	ISO 527-2/5
Flexural Modulus					
0.126 in (3.20 mm) [2]	377000	psi	2600	MPa	ASTM D790
0.126 in (3.20 mm) [3, 4]	377000	psi	2600	MPa	ISO 178
Flexural Strength					
0.126 in (3.20 mm) [2]	8990	psi	62.0	MPa	ASTM D790
0.126 in (3.20 mm) [3, 4]	8990	psi	62.0	MPa	ISO 178
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					ASTM D648 ISO 75-2/A
264 psi (1.8 MPa), Unannealed	162	°F	72.0	°C	

Thermal	Nominal Value (English)		Nominal Value (SI)		Test Method
Vicat Softening Temperature	212	°F	100	°C	ISO 306/A120 ASTM D1525 [5]
Flammability	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Flame Rating [6] (0.06 in (1.5 mm))	HB		HB		UL 94
Optical	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Gardner Gloss (60°, Thermoformed)	60		60		ASTM D523

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] 0.20 in/min (5.0 mm/min)

[2] Method I (3 point load), 0.051 in/min (1.3 mm/min)

[3] 0.051 in/min (1.3 mm/min)

[4] 3 point load

[5] Rate B (120°C/h), Loading 1 (10 N)

[6] This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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