Polifil® PS RP-HIPS

High Impact Polystyrene

The Plastics Group

Message:

Polifil® RP-HIPS combines the good stiffness properties of polystyrene, with enhanced impact properties gained by the addition of impact modifiers. An amorphous resin, HIPS has good melt strength, and a wide melt processing window, making the resin ideal for many sheet and thermoforming applications. Injection molding applications include cutlery, appliance parts, and furniture components. Sheet extrusion applications include thermoformed plates, cups, and trays. Use this information as a guide to aid you in selecting the proper resin for your application. TPG will custom compound and fine-tune our formulations for your application.

General Information	
Additive	Impact Modifier
Recycled Content	Yes
Features	Good Impact Resistance Good Melt Strength Good Stiffness Impact Modified
Uses	Appliance Components Cups Disposable Tableware Furniture Sheet Support Trays
Forms	Pellets, Reprocessed
Processing Method	Injection Molding Sheet Extrusion Thermoforming

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.05	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	3.0 to 8.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.50	%	ASTM D955
Water Absorption (24 hr)	< 0.010	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	92		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	1790	MPa	ASTM D638
Tensile Strength (23°C)	24.8	MPa	ASTM D638
Tensile Elongation			ASTM D638

Yield, 23°C	5.0	%	
Break, 23°C	20	%	
Flexural Modulus - Tangent (23°C)	2140	MPa	ASTM D790
Flexural Strength (23°C)	49.6	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	110	J/m	ASTM D256
Gardner Impact (23°C, 12.7 mm)	6.78	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	90.6	°C	
1.8 MPa, Unannealed	76.7	°C	
Injection	Nominal Value	Unit	
Drying Temperature	71.1	°C	
Drying Time	2.0	hr	
Rear Temperature	204 to 216	°C	
Middle Temperature	210 to 221	°C	
Front Temperature	221 to 232	°C	
Nozzle Temperature	221 to 232	°C	
Processing (Melt) Temp	218 to 246	°C	
Mold Temperature	37.8 to 65.6	°C	
Injection Rate	Moderate		

Recommended distributors for this material

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