

PrimoSpire® PR-351

Self-Reinforced Polyphenylene

Solvay Specialty Polymers

Message:

PrimoSpire PR-351 resin is a high fluidity injection molding grade PrimoSpire self-reinforced polystyrene (SRP). PrimoSpire SRP resin is an ultra-high performance amorphous, melt-processable thermoplastic. The unique properties of this material are mainly derived from its rigid rod-like chemical structure. PrimoSpire difference from other thermoplastics is that they have excellent mechanical properties without fiber reinforcement. In addition, it also has scratch resistance, excellent friction and wear resistance, excellent solvent resistance and excellent low temperature performance. In addition, PrimoSpire SRP also has good thermal stability, non-flammability, higher specific strength than materials used in many common structural components, and excellent machining performance. PrimoSpire SRP's excellent mechanical, chemical, thermal and physical properties make it the material of choice for various products, such as aircraft sub-structures, semiconductor components, bushings, bearings and gears, light vehicle suspension systems, medical pipes and other equipment.

-black: PR-351 BK 931

General Information			
Features	Equilibrium rigidity/toughness		
	Low temperature resistance		
	Good chemical resistance		
	ductility		
	Flame retardancy		
Uses	Electrical/Electronic Applications		
	Aircraft applications		
	Industrial application		
	Medical/nursing supplies		
RoHS Compliance	Contact manufacturer		
Appearance	Black		
Forms	Particle		
Processing Method	Film extrusion		
	Machining		
	Profile extrusion molding		
	Compression molding		
	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.24	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (380°C/5.0 kg)	15	g/10 min	ASTM D1238
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3900	MPa	ASTM D638

Tensile Strength (Yield)	115	MPa	ASTM D638
Tensile Elongation ¹ (Break)	15	%	ASTM D638
Flexural Modulus	4000	MPa	ASTM D790
Flexural Strength	164	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	69	J/m	ASTM D256
Dynatup-Total energy	58.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load ² (1.8 MPa, Unannealed)	171	°C	ASTM D648
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	4.0	hr	
Suggested Shot Size	30 - 70	%	
Rear Temperature	365	°C	
Middle Temperature	370	°C	
Front Temperature	375	°C	
Nozzle Temperature	374	°C	
Melt Temperature (Aim)	375	°C	
Mold Temperature	135 - 160	°C	
NOTE			
1.	5.0 mm/min		
2.	Annealing at 200°C for 1 hour		

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Recommended distributors for this material

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