

## PR-120

PrimoSpire PR-120 self-reinforced polyphenylene (SRP) is an ultra-high performance amorphous, melt-processable engineering thermoplastic. The unique properties of this material are due primarily to the inherent rigid-rod structure. PrimoSpire SRP is differentiated from other thermoplastics by outstanding mechanical properties without fiber reinforcement, scratch resistance, excellent solvent resistance, and exceptional low temperature performance.

In addition, PrimoSpire PR-120 SRP has great thermal and thermal-oxidative stability and it is noncombustible. The specific strength of PrimoSpire PR-120 SRP exceeds many of the materials commonly encountered in structural

applications. The resin also possesses excellent machinability permitting fabrication of parts such as fasteners to tolerances of less than one mil (0.025 mm).

The excellent mechanical, chemical, thermal, and physical properties of PrimoSpire PR-120 SRP make it the material of choice for a variety of applications including aircraft substructures, semiconductor components, gears, light-weight vehicle suspensions systems, medical tubing and other medical devices.

PrimoSpire PR-120 resin is commercially available in natural or black pellets or as a powder.

### Typical Properties of PrimoSpire PR-120 Resin - ASTM Test Methods

Property	ASTM Test Method	Typical Values <sup>(1)</sup>			
		U.S. Customary Units		SI Units	
		Value	Units	Value	Units
<b>Mechanical</b>					
Tensile Strength	D 638	30.0	kpsi	207	MPa
Tensile Modulus	D 638	1,200	kpsi	8.3	GPa
Flexural Strength	D 790	45.0	kpsi	310	MPa
Flexural Modulus	D 790	1,200	kpsi	8.3	GPa
Compressive Strength at Yield	D 695	35.0	kpsi	241	MPa
Izod Impact, Notched	D 256	0.8	ft-lb/in	43	J/m
Izod Impact, Unnotched	D 4812	20	ft-lb/in	1,100	J/m
Hardness, Pencil	D 3363	7H		7H	
Rockwell Hardness	D 785	60	B scale	60	B scale
<b>Thermal</b>					
Heat Deflection Temperature at 264 psi (1.8 MPa)	D 648	309	°F	154	°C
Glass Transition Temperature	E 1356	316	°F	158	°C
Coefficient of Thermal Expansion	E 831	17	µin/in°F	30	µm/m°C
<b>Flammability<sup>(2)</sup></b>					
Limiting Oxygen Index	D 2863	49	%	49	%
Smoke Emission, D <sub>s</sub> at 1.5 min	E 662	<1		<1	
Smoke Emission, D <sub>s</sub> at 4 min	E 662	<1		<1	
UL Flammability at 0.010" (0.25 mm)	UL 94	V-0		V-0	
<b>Electrical</b>					
Dielectric Constant at 10 <sup>6</sup> Hz	D 150	3.1		3.1	
<b>General</b>					
Specific Gravity	D 792	1.21		1.21	
Moisture Absorption, 24 hours	D 570	0.2	%	0.2	%

<sup>(1)</sup> Properties measured using test specimens machined from compression molded plates.

Actual properties of individual batches will vary within specification limits.

<sup>(2)</sup> These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

## Standard Packaging and Labeling

PrimoSpire PR-120 resin is packaged in polypropylene pails containing 10 kg (22 pounds) of material. Special packaging can be supplied upon request. Individual packages will be plainly marked with the product number, the color, the lot number, and the net weight.

## Product Safety and Emergency Service

For product safety information or a Material Safety Data Sheet on a product of Solvay Advanced Polymers

**1 (800) 621-4557**

**1 (770) 772-8880 outside of U.S.**

For information or help in an emergency such as a spill, leak, fire or explosion, call day or night:

Emergency Health Information

**1 (800) 621-4590**

**1 (770) 772-5177 outside of U.S.**

Emergency Spill Information

**CHEMTREC 1 (800) 424-9300**

**1 (703) 527-3887 outside of U.S.**

**collect calls accepted**

## For Additional Information

Technical Service

**1 (800) 621-4557**

Customer Service

**1 (800) 848-9744**

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