

## Polymer Resources PPX-FR1 Modified-PPO, V-0 Flame Retardant

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polyphenylene Ether, Heat Resistant

### Material Notes:

Modified-Polyphenylene Oxide, V-0 Flame Retardant, 190F HDT  
 Features: • Bromine Free • Chlorine Free  
 Process: Injection Molding  
 Notes: All physical, mechanical and thermal testing conducted on 1/8-inch thick, un-pigmented, test samples.  
 Information provided by Polymer Resources Corporation.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Polymer-Resources-PPX-FR1-Modified-PPO-V-0-Flame-Retardant.php](http://www.lookpolymers.com/polymer_Polymer-Resources-PPX-FR1-Modified-PPO-V-0-Flame-Retardant.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.08 g/cc	1.08 g/cc	ASTM D792
Linear Mold Shrinkage	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Melt Flow	25 - 50 g/10 min @Load 11.6 kg, Temperature 250 °C	25 - 50 g/10 min @Load 25.6 lb, Temperature 482 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	41.4 MPa	6000 psi	ASTM D638
Tensile Strength, Yield	44.8 MPa	6500 psi	ASTM D638
Elongation at Break	9.0 %	9.0 %	ASTM D638
Elongation at Yield	3.5 %	3.5 %	ASTM D638
Tensile Modulus	2.41 GPa	350 ksi	ASTM D638
Flexural Strength	89.6 MPa	13000 psi	ASTM D790
Flexural Modulus	2.07 GPa	300 ksi	ASTM D790
Izod Impact, Notched	0.801 J/cm @Temperature -30.0 °C	1.50 ft-lb/in @Temperature -22.0 °F	ASTM D256
	2.67 J/cm @Temperature 22.8 °C	5.00 ft-lb/in @Temperature 73.0 °F	ASTM D256
Izod Impact, Unnotched	6.94 J/cm @Temperature 22.8 °C	13.0 ft-lb/in @Temperature 73.0 °F	ASTM D4812
Charpy Impact, Notched	1.89 J/cm <sup>2</sup>	9.00 ft-lb/in <sup>2</sup>	ISO 179/1eA

Mechanical Properties	@Temperature 22.8 °C Metric	@Temperature 73.0 °F English	Comments
Gardner Impact	16.9 J	12.5 ft-lb	ASTM D3029

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	87.8 °C	190 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	82.2 °C	180 °F	ASTM D648
Vicat Softening Point	103 °C	218 °F	120°C/h, 50 N; ASTM D1525
UL RTI, Electrical	110 °C	230 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	110 °C	230 °F	
UL RTI, Mechanical with Impact	@Thickness 1.70 mm	@Thickness 0.0669 in	UL 746
	110 °C	230 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	110 °C	230 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	95.0 °C	203 °F	
Flammability, UL94	@Thickness 1.70 mm	@Thickness 0.0669 in	UL 746
	95.0 °C	203 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	V-0	V-0	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0	V-0	
Flammability, UL94	@Thickness 3.00 mm	@Thickness 0.118 in	UL 746
	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric <sup>17 ohm-cm</sup>	English <sup>17 ohm-cm</sup>	Comments
Dielectric Strength	22.0 kV/mm	560 kV/in	ASTM D149
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL 746
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	>= 120 sec	>= 120 sec	
High Amp Arc Ignition, HAI	@Thickness 1.70 mm	@Thickness 0.0669 in	UL 746
	>= 120 sec	>= 120 sec	
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	60 - 120 arcs	60 - 120 arcs	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	60 - 120 arcs	60 - 120 arcs	
High Voltage Arc-Tracking Rate, HVTR	@Thickness 1.70 mm	@Thickness 0.0669 in	UL 746
	60 - 120 arcs	60 - 120 arcs	
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	216 - 266 °C	420 - 510 °F	
Middle Barrel Temperature	227 - 271 °C	440 - 520 °F	
Front Barrel Temperature	238 - 277 °C	460 - 530 °F	
Melt Temperature	246 - 274 °C	475 - 525 °F	
Mold Temperature	54.4 - 76.7 °C	130 - 170 °F	
Drying Temperature	71.1 - 82.2 °C	160 - 180 °F	
Dry Time	3.00 - 4.00 hour	3.00 - 4.00 hour	

Descriptive Properties	Value	Comments
Vent	0.001	

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