

## Manifattura Cattaneo VESPELÂ® SP21 Polyimide

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

### Material Notes:

Manifattura Cattaneo products are available in semi-finished forms such as bars, profiles, sheets and plates. Information provided by Manifattura Cattaneo s.p.a.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Manifattura-Cattaneo-VESPEL-SP21-Polyimide.php](http://www.lookpolymers.com/polymer_Manifattura-Cattaneo-VESPEL-SP21-Polyimide.php)

Physical Properties	Metric	English	Comments
Density	1.51 g/cc	0.0546 lb/in <sup>3</sup>	ASTM D792
Moisture Absorption at Equilibrium	0.80 - 1.1 % @Temperature 23.0 Â°C	0.80 - 1.1 % @Temperature 73.4 Â°F	50% RH; ASTM D570
Water Absorption at Saturation	0.57 %	0.57 %	ASTM D570
Deformation	0.70 % @Time 86400 sec, Pressure 100 MPa	0.70 % @Time 24.0 hour, Pressure 14500 psi	ASTM D621

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	66.0 MPa	9570 psi	ASTM D638
Elongation at Break	4.5 %	4.5 %	ASTM D638
Tensile Modulus	2.62 GPa	380 ksi	ASTM D638
Flexural Strength	110 MPa	16000 psi	ASTM D790
Compressive Yield Strength	29.0 MPa @Strain 1.00 %, Time 3.60e+6 sec	4210 psi @Strain 1.00 %, Time 1000 hour	ASTM D695
Compressive Modulus	2.895 GPa	419.9 ksi	ASTM D695
Poissons Ratio	0.41	0.41	
Izod Impact, Notched (ISO)	0.0430 kJ/m <sup>2</sup>	0.0205 ft-lb/in <sup>2</sup>	ASTM D256
Izod Impact, Unnotched (ISO)	0.320 kJ/m <sup>2</sup>	0.152 ft-lb/in <sup>2</sup>	ASTM D256
Coefficient of Friction, Dynamic	0.24	0.24	on polished steel; MPC Test
Coefficient of Friction, Static	0.30	0.30	on polished steel; MPC Test
K Factor (Wear Factor)	0.43	0.43	Âµm/s. PV = 0.1 MPa-m/s; max P = 30 MPa; MPC Test

Mechanical Properties	Metric	English	Comments
Limiting Pressure Velocity	12.0 MPa-m/sec	34,000 psi-ft/min	without lubrication; MPC Test

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	49.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 23.0 - 100 $\text{Å}^\circ\text{C}$	27.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 73.4 - 212 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.870 W/m-K	6.04 BTU-in/hr-ft $\text{Å}^2$ - $\text{Å}^\circ\text{F}$	ASTM D177
Maximum Service Temperature, Air	395 $\text{Å}^\circ\text{C}$	743 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	360 $\text{Å}^\circ\text{C}$	680 $\text{Å}^\circ\text{F}$	ASTM D648-45
Flammability, UL94	V-0	V-0	
Oxygen Index	49 %	49 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	ASTM D257
Dielectric Constant	13.41 @Frequency 1.00e+6 Hz	13.41 @Frequency 1.00e+6 Hz	ASTM D150
Dielectric Strength	9.48 kV/mm @Thickness 2.00 mm	241 kV/in @Thickness 0.0787 in	ASTM D149
Dielectric Loss Index	0.0106 @Frequency 1.00e+6 Hz	0.0106 @Frequency 1.00e+6 Hz	ASTM D150

Compliance Properties	Metric	English	Comments
FDA	No	No	

Descriptive Properties	Value	Comments
Color	Dark Gray	
UV Resistance	N	

**Contact Songhan Plastic Technology Co.,Ltd.**

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

**Tel : +86 021-51131842**

**Mobile : +86 13061808058**

**Skype : lookpolymers**

**Address : United North Road 215, Fengxian District, Shanghai City, China**