

## Quadrant EPP PE 500 PE-HMW, virgin (ISO Data)

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE , High Density Polyethylene (HDPE), UHMW PE Ultra High Molecular Weight

### Material Notes:

This grade exhibits a good combination of stiffness, toughness, mechanical damping ability with wear- and abrasion resistance and can easily be welded. In less demanding applications with respect to wear and impact resistance, PE 500 may present an economical alternative for the TIVAR standard grades

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Quadrant-EPP-PE-500-PE-HMW-virgin-ISO-Data.php](http://www.lookpolymers.com/polymer_Quadrant-EPP-PE-500-PE-HMW-virgin-ISO-Data.php)

Physical Properties	Metric	English	Comments
Density	0.960 g/cc	0.0347 lb/in <sup>3</sup>	ISO 1183-1
Water Absorption	<= 0.10 %	<= 0.10 %	96 hr; ISO 62
Moisture Absorption at Equilibrium	<= 0.10 %	<= 0.10 %	50% RH
Water Absorption at Saturation	<= 0.10 %	<= 0.10 %	ISO 62
Outgassing - Total Mass Loss	0.14 %	0.14 %	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	62	62	
Ball Indentation Hardness	48.0 MPa	6960 psi	ISO 2039-1
Tensile Strength	28.0 MPa	4060 psi	at Yield; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	ISO 527-1/-2
Elongation at Yield	10 %	10 %	ISO 527-1/-2
Tensile Modulus	1.30 GPa	189 ksi	ISO 527-1/-2
Flexural Strength	27.0 MPa	3920 psi	
Compressive Strength	12.0 MPa	1740 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	18.5 MPa	2680 psi	
K Factor (ISO)	@Strain 2 %	@Strain 2 %	ISO 604
	26.5 MPa	3840 psi	
	@Strain 5 %	@Strain 5 %	

Charpy Impact Unnotched Mechanical Properties	Metric	English	ISO 179-1/1eU Comments
Charpy Impact, Notched	10.5 J/cm <sup>2</sup>	50.0 ft-lb/in <sup>2</sup>	Partial Break; ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.15 - 0.30	0.15 - 0.30	
Sand Slurry	350	350	
Limiting Pressure Velocity	0.0500 MPa-m/sec	1430 psi-ft/min	at 1 m/s unlubricated
	0.0800 MPa-m/sec	2280 psi-ft/min	at 0.1 m/s unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	150 μm/m-°C	83.3 μin/in-°F	
	@Temperature 23.0 - 100 °C	@Temperature 73.4 - 212 °F	
Thermal Conductivity	0.400 W/m-K	2.78 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	135 °C	275 °F	DSC, 10°C/min.; ISO 11357-1/-3
Maximum Service Temperature, Air	80.0 °C	176 °F	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	44.0 °C	111 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	
Oxygen Index	<= 20 %	<= 20 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.0e+14 ohm-cm	>= 1.0e+14 ohm-cm	IEC 60093
Surface Resistivity per Square	>= 1.0e+12 ohm	>= 1.0e+12 ohm	IEC 60093
Dielectric Strength	45.0 kV/mm	1140 kV/in	
Dissipation Factor	0.00020	0.00020	IEC 60250
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	Yes	Yes	
FDA	Yes	Yes	only natural

<b>USP Class VI Compliance Properties</b>	<b>No Metric</b>	<b>No English</b>	<b>Comments</b>
<b>Chemical Resistance Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Acids, Strong (pH 1-3)	Acceptable	Acceptable	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Unacceptable	Unacceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Limited	Limited	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

## 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