

Quadrant EPP TIVAR® Burnguard PE-UHMW + flame retardant + other additives (ISO Data)

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

Material Notes:

TIVAR Burnguard is a PE-UHMW grade containing a very effective non-halogenated flame retardant. Specifically developed to improve the poor flammability behaviour of straight forward virgin polyethylene, it meets the requirements of UL 94 V-0 as of 6 mm thickness and is self-extinguishing. The additives used also render this material static dissipative and considerably improve UV-resistance

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-TIVAR-Burnguard-PE-UHMW-flame-retardant-other-additives-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.01 g/cc	0.0365 lb/in ³	ISO 1183-1
Water Absorption	<= 0.20 %	<= 0.20 %	96 hr; ISO 62
Moisture Absorption at Equilibrium	<= 0.20 %	<= 0.20 %	50% RH
Water Absorption at Saturation	<= 0.20 %	<= 0.20 %	ISO 62
Outgassing - Total Mass Loss	0.14 %	0.14 %	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	58	58	
Ball Indentation Hardness	34.0 MPa	4930 psi	ISO 2039-1
Tensile Strength	16.0 MPa	2320 psi	at Yield; ISO 527-1/-2
Elongation at Break	25 %	25 %	ISO 527-1/-2
Elongation at Yield	15 %	15 %	ISO 527-1/-2
Tensile Modulus	1.00 GPa	145 ksi	ISO 527-1/-2
Flexural Strength	18.0 MPa	2610 psi	
Compressive Strength	7.00 MPa	1020 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	11.0 MPa	1600 psi	ISO 604
	@Strain 2 %	@Strain 2 %	
	17.0 MPa	2470 psi	ISO 604
	@Strain 5 %	@Strain 5 %	
K Factor (ISO)	14 µm/km	14 µm/km	

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	7.00 J/cm ²	33.3 ft-lb/in ²	Partial Break; ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.15 - 0.30	0.15 - 0.30	
Sand Slurry	130	130	
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	180 µm/m-°C @Temperature 23.0 - 100 °C	100 µin/in-°F @Temperature 73.4 - 212 °F	
Thermal Conductivity	0.400 W/m-K	2.78 BTU-in/hr-ft ² -°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)	42.0 °C	108 °F	ISO 75-1/-2
Flammability, UL94	V-0	V-0	
Oxygen Index	28 %	28 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	<= 1e+05	<= 1e+05	IEC 60093

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	No	No	
FDA	No	No	
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Acceptable	Acceptable	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	

Chemical Resistance Properties Alkalies, Strong (pH 11-14)	Metric Acceptable	English Acceptable	Comments
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	Yes	Yes	
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	

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