Specialty Coating Systems Parylene HTÂ® Poly (P-Xylylene) Coating

Category : Polymer , Film , Thermoplastic , Poly (P-Xylylene)

Material Notes:

Parylene HT is a polymer of para-xylylene with the alpha hydrogen atoms of the N dimer replaced with fluorine. This variant of Parylene is useful in high temperature applications (short term up to 450Â°C) and those in which long-term UV stability is required. Parylene HT also has a low coefficient of friction and dielectric constant, and a high penetrating ability.SCS Parylene conformal coatings are ultra-thin, pinhole-free polymer coatings that provide a number of high-value surface treatment properties such as excellent moisture, chemical and dielectric barrier properties, thermal and UV stability, and dry-film lubricity. Parylene coatings are used in a number of applications throughout the medical device, electronics, automotive, military and aerospace industries.Information provided by Specialty Coating Systems (SCS) .

Order this product through the following link:
http://www.lookpolymers.com/polymer_Specialty-Coating-Systems-Parylene-HT-Poly-P-Xylylene-Coating.php

Physical Properties	Metric	English	Comments
Water Vapor Permeability	0.220 g mil/ (m^2 day) @Temperature 38.0 Â°C	0.0142 g mil/ (100 in^2 day) @Temperature 100 Â°F	100% RH; ASTM F1249
Density	1.32 g/cc	0.0477 lb/inÂ³	ASTM D1505
Water Absorption	<= 0.010 % @Time 86400 sec	<= 0.010 % @Time 24.0 hour	ASTM D570
Oxygen Transmission	23.5 cc-mm/mÂ²-24hr-atm @Temperature 25.0 Â°C	59.7 cc-mil/100 inÂ²-24hr-atm @Temperature 77.0 Â°F	ASTM D1434
Nitrogen Transmission	4.80 cc-mm/mÂ²-24hr-atm @Temperature 25.0 Â°C	12.2 cc-mil/100 inÂ²-24hr-atm @Temperature 77.0 Â°F	ASTM D1434
Carbon Dioxide Transmission	95.4 cc-mm/mÂ²-24hr-atm @Temperature 25.0 Â°C	242 cc-mil/100 inÂ²-24hr-atm @Temperature 77.0 Â°F	ASTM D1434

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	122	122	ASTM D785
Tensile Strength	51.7 MPa	7500 psi	
Tensile Strength, Yield	34.5 MPa	5000 psi	ASTM D882

Mechanical Properties	Metric	English	Comments
Elongation at Break	<= 200 %	<= 200 %	ASTM D882
Elongation at Yield	2.0 %	2.0 %	ASTM D882
Modulus of Elasticity	2.55 GPa	370 ksi	Secant; ASTM D5026
Coefficient of Friction, Dynamic	0.13	0.13	ASTM D1894
Coefficient of Friction, Static	0.15	0.15	ASTM D1894

Thermal Properties	Metric	English	Comments
CTE, linear	36.0 Âµm/m-Â°C	20.0 Âµin/in-Â°F	via TMA
Specific Heat Capacity	1.04 J/g-Â°C	0.249 BTU/lb-Â°F	
Thermal Conductivity	0.0960 W/m-K	0.666 BTU-in/hr-ftÂ²-Â°F	ASTM 1461
Melting Point	>= 500 Â°C	>= 932 Â°F	via DSC
Maximum Service Temperature, Air	350 Â°C	662 Â°F	Continuous; ASTM 5026
	450 Â°C	842 Â°F	Short Term; ASTM 5026
Softening Point	377 Â°C	711 Â°F	T5 Point; modulus = 690 MPa (100,000 psi)
	>= 450 Â°C	>= 842 Â°F	T4 point; modulus = 70 MPa (10,000 psi)

Optical Properties	Metric	English	Comments
Refractive Index	1.559	1.559	n_D; ASTM D542
Transmission, Visible	88 % @Wavelength 400 nm	88 % @Wavelength 400 nm	
UV Transmittance	<= 1.0 % @Wavelength 273 nm	<= 1.0 % @Wavelength 273 nm	cutoff
	80 % @Wavelength 300 nm	80 % @Wavelength 300 nm	
	88 % @Wavelength 350 nm	88 % @Wavelength 350 nm	

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+17 ohm-cm	2.00e+17 ohm-cm	50% RH; ASTM D257
Surface Resistance	5.00e+15 ohm	5.00e+15 ohm	50% RH; ASTM D257

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.17 @Frequency 1.00e+6 Hz	2.17 @Frequency 1.00e+6 Hz	ASTM D150
	2.2 @Frequency 1000 Hz	2.2 @Frequency 1000 Hz	ASTM D150
	2.21 @Frequency 60.0 Hz	2.21 @Frequency 60.0 Hz	ASTM D150
Dielectric Strength	213 kV/mm	5400 kV/in	ASTM D149
Dissipation Factor	<= 0.00020 @Frequency 60.0 Hz	<= 0.00020 @Frequency 60.0 Hz	ASTM D150
	0.0010 @Frequency 1.00e+6 Hz	0.0010 @Frequency 1.00e+6 Hz	ASTM D150
	0.0020 @Frequency 1000 Hz	0.0020 @Frequency 1000 Hz	ASTM D150

Compliance Properties	Metric	English	Comments
USP Class VI	Yes	Yes	

Descriptive Properties	Value	Comments
Biocompatibility	ISO 10993	

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