Parylene HT®

Polyparaxylylene

Specialty Coating Systems (SCS)

Message:

Parylene is the name for members of a unique polymer series. The basic member of the series, Parylene N, is poly(para-Xylylene), a completely linear, highly crystalline material.
Parylene HT, the newest commercially available Parylene, replaces the alpha hydrogen atoms of the N dimer with fluorine. This variant of Parylene is useful in high temperature applications (short-term up to 450°C) and those in which long-term UV stability is required. Parylene HT also has the lowest coefficient of friction and dielectric constant, and the highest penetrating ability of the four variants.

General Information	
Features	Biocompatible
	Good Chemical Resistance
	Highly Crystalline
	Linear Polymer Structure
	Radiation (Gamma) Resistant
Uses	Aerospace Applications
	Automotive Applications
	Coating Applications
	Electrical/Electronic Applications
	Medical/Healthcare Applications
	Military Applications
	Printed Circuit Boards
Agency Ratings	ISO 10993
	MIL I-46058C
	USP Class VI
RoHS Compliance	RoHS Compliant
Appearance	Clear/Transparent
	Colorless

Physical	Nominal Value	Unit	Test Method
Density	1.32	g/cm³	ASTM D1505
Water Absorption (24 hr)	< 0.010	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	122		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Coefficient of Friction			ASTM D1894
Dynamic	0.13		

Static	0.15		
Films	**Nominal Value**	**Unit**	**Test Method**
Secant Modulus - MD	2550	MPa	ASTM D5026
Tensile Strength - MD			ASTM D882
Yield	34.5	MPa	
Break	51.7	MPa	
Tensile Elongation - MD			ASTM D882
Yield	2.0	%	
Break	< 200	%	
Oxygen Permeability (25°C)	24	$cm^3 \cdot mm/m^2/atm/24\ hr$	ASTM D1434
Water Vapor Transmission Rate (38°C, 100% RH)	0.22	$g \cdot mm/m^2/atm/24\ hr$	ASTM F1249
Carbon Dioxide Permeability (25°C)	95	$cm^3 \cdot mm/m^2/atm/24\ hr$	ASTM D1434
Nitrogen Permeability (25°C)	4.8	$cm^3 \cdot mm/m^2/atm/24\ hr$	ASTM D1434
Service Temperature - Short-Term	450	°C	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	350	°C	
Melting Temperature	> 500	°C	DSC
CLTE - Flow (25°C)	3.6E-5	cm/cm/°C	TMA
Specific Heat (20°C)	1040	J/kg/°C	
Thermal Conductivity (25°C)	0.096	W/m/K	ASTM D1461
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity [1]	5.0E+15	ohms	ASTM D257
Volume Resistivity [2] (23°C)	2.0E+17	ohms·cm	ASTM D257
Dielectric Strength	210	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	2.21		
1 kHz	2.20		
1 MHz	2.17		
Dissipation Factor			ASTM D150
60 Hz	< 2.0E-4		
1 kHz	2.0E-3		
1 MHz	1.0E-3		
Optical	**Nominal Value**		**Test Method**
Refractive Index	1.559		ASTM D542
NOTE			
1.	23°C, 50% RH		
2.	50% RH		

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China