

DIANHYDRIDES & IMIDES 1000F3SP

REGION AMERICAS

DESCRIPTION

ULTEM 1000F3SP powder is a RoHS compliant polyetherimide (PEI) powder offering a glass transition temperature (Tg) of 217°C. This FDA compliant powder is available in a spherical shape with an average particle size (D50) of 15 micron and a maximum particle size (D100) of 75 micron.

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	110	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D638
Tensile Modulus, 5 mm/min	3580	MPa	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	151	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	3300	MPa	ASTM D790
Hardness, Rockwell M	109	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D1044
IMPACT			
Izod Impact, unnotched, 23°C	1335	J/m	ASTM D4812
Izod Impact, notched, 23°C	53	J/m	ASTM D256
Gardner, 23°C	36	J	ASTM D3029
THERMAL			
Vicat Softening Temp, Rate B/50	218	°C	ASTM D1525
HDT, 0.45 MPa, 6.4 mm, unannealed	210	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	201	°C	ASTM D648
CTE, -20°C to 150°C, flow	5.58E-05	1/°C	ASTM E831
CTE, -20°C to 150°C, xflow	5.4E-05	1/°C	ASTM E831
Thermal Conductivity	0.22	W/m°C	ASTM C177
PHYSICAL			
Specific Gravity	1.27	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.25	%	ASTM D570
Water Absorption, (23°C/Saturated)	1.25	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	9	g/10 min	ASTM D1238
Poisson's Ratio	0.36	-	ASTM E132
Mean Resin Particle Size	15	micrometer	SABIC method
Bulk Density	0.78	g/cm ³	ASTM D1895
ELECTRICAL			
Volume Resistivity	1.E+17	Ω.cm	ASTM D257
Dielectric Strength, in air, 1.6 mm	32.7	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	28	kV/mm	ASTM D149
Relative Permittivity, 1 kHz	3.15	-	ASTM D150
Dissipation Factor, 1 kHz	0.0013	-	ASTM D150

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dissipation Factor, 2450 MHz	0.0025	-	ASTM D150
FLAME CHARACTERISTICS			
Oxygen Index (LOI)	47	%	ASTM D2863
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	350 – 400	°C	
Nozzle Temperature	345 – 400	°C	
Front - Zone 3 Temperature	345 – 400	°C	
Middle - Zone 2 Temperature	340 – 400	°C	
Rear - Zone 1 Temperature	330 – 400	°C	
Mold Temperature	135 – 165	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

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