

DIANHYDRIDES & IMIDES 1000F3SP

REGION AMERICAS

DESCRIPTION

ULTEM 1000F3SP powder is a RoHS compliant polyetherimide (PEI) powder offering a glass transition temperature (T_g) 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	

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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