ULTEM™ Resin 3473

DESCRIPTION

ULTEM 3473 resin is a reinforced blend of polyetherimide (PEI) and polyphenylenesulfide (PPS) that combines the benefits of an amorphous and a semicrystalline material. Features are an excellent combination of reliable metallization, SMT lead free solder capability and providing extreme dimensional stability up to high temperatures. The material is a light weight alternative to Aluminum solutions, RoHS compliant, easy flowing and injection moldable.

GENERAL INFORMATION	
Features	High Flow, Lead free reflow soldering capable, Dimensional stability, High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polyetherimide + PPS (PEI+PPS)
Processing Techniques	Injection Molding, Compression molding

INDUSTRY	SUB INDUSTRY
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260407

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	156	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.8	%	ASTM D638
Tensile Modulus, 5 mm/min	15800	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	231	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	14500	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	146	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.65	%	ISO 527
Tensile Modulus, 1 mm/min	15900	MPa	ISO 527
Flexural Strength, 2 mm/min	201	MPa	ISO 178
Flexural Modulus, 2 mm/min	14500	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	56	J/m	ASTM D256
Izod Impact, unnotched, 23°C	390	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	6.5	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	17.3	kJ/m²	ISO 180/1U
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	275	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	249	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	275	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	250	°C	ISO 75/Af
CTE, -40°C to 150°C, flow [2]	1.9E-05	1/°C	ISO 11359-2
CTE, -40°C to 150°C, xflow [2]	2.5E-05	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL [1]			
Density	1.68	g/cm³	ISO 1183
Melt Volume Rate			
320°C/5.0 kg	5.5	cm³/10 min	ISO 1133
Mold Shrinkage, flow [3]	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow [3]	0.3 – 0.4	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant			
1.9 GHz	4.25	-	SABIC method
5 GHz	4.2	-	SABIC method
Dissipation Factor			
1.9 GHz	0.0056	-	SABIC method
5 GHz	0.0063	-	SABIC method
INJECTION MOLDING [4]			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	315 – 335	°C	
Nozzle Temperature	300 – 335	°C	
Front - Zone 3 Temperature	290 – 335	°C	
Middle - Zone 2 Temperature	280 – 325	°C	
Rear - Zone 1 Temperature	270 – 315	°C	
Mold Temperature	120 – 180	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Tested on plaques

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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