ULTEM™ Resin DT1820EV

DESCRIPTION

High flow high gloss polyetherimide (PEI) blend with internal mold release and enhanced ductility.

GENERAL INFORMATION	
Features	High Flow, Enhanced mold release, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content)
Fillers	Unreinforced
Brands	ULTEM™
Polymer Types	Polyetherimide (PEI)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets
Packaging	Consumer Packaging

TYPICAL PROPERTY VALUES

Revision 20260424

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	107	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	80	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.8	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	25	%	ASTM D638
Tensile Modulus, 50 mm/min	3150	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	166	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3190	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	108	MPa	ISO 527
Tensile Stress, break, 50 mm/min	80	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6.7	%	ISO 527
Tensile Strain, break, 50 mm/min	25	%	ISO 527
Tensile Modulus, 1 mm/min	3090	MPa	ISO 527
Flexural Strength, 2 mm/min	156	MPa	ISO 178
Flexural Modulus, 2 mm/min	2950	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	40	J/m	ASTM D256
Izod Impact, unnotched, 23°C	2097	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	128	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	3.3	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	86	kJ/m²	ISO 179/1eU
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 0.45 MPa, 3.2 mm, unannealed	182	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	168	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	181	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	168	°C	ISO 75/Af
CTE, 23°C to 150°C, flow	5.5E-05	1/°C	ASTM E831
CTE, 23°C to 150°C, xflow	5.8E-05	1/°C	ASTM E831
CTE, 23°C to 150°C, flow	5.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.8E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	184	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	184	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	187	°C	ISO 306
Vicat Softening Temp, Rate B/120	188	°C	ISO 306
Relative Temp Index, Elec [2]	105	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	105	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	105	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.285	-	ASTM D792
Density	1.285	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/24hrs)	0.07	%	ISO 62-4
Melt Flow Rate			
350°C/2.16 kgf	24	g/10 min	ASTM D1238
337°C/6.7 kgf	53	g/10 min	ASTM D1238
Mold Shrinkage, flow [3]	0.58	%	SABIC method
Mold Shrinkage, xflow [3]	0.62	%	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104641014	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	135 – 150	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	320 – 355	°C	
Nozzle Temperature	325 – 350	°C	
Front - Zone 3 Temperature	330 – 355	°C	
Middle - Zone 2 Temperature	320 – 345	°C	
Rear - Zone 1 Temperature	310 – 330	°C	
Mold Temperature	110 – 165	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	

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(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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(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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