ULTEM™ RESIN 2400

REGION EUROPE

DESCRIPTION

ULTEM 2400 resin is a standard flow 40% glass fiber reinforced polyetherimide resin. The material is RoHS compliant and is intrinsically flame retardant without the use of FR modifiers offering UL94 V0 ratings and FAR25.853 performance. The material may offer excellent dimension stability, strength, stiffness and creep resistance up to high temperature due to its high glass transition temperature of 217°C. The material is opaque and can be custom colored.

ISCC+ certified renewable bio-based solutions are available for this grade via differentiated color nomenclature.

INDUSTRY	SUB INDUSTRY
Automotive	Heavy Truck, Automotive Under the Hood, Aerospace, Motorcycle, Recreational/Specialty Vehicles
Building and Construction	Building Component, Water Management
Consumer	Consumer Goods, Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance, Furniture
Electrical and Electronics	Energy Management, Drone Solutions, Mobile Phone - Computer - Tablets, Circuit Boards/Additives, Lighting, Printer Copier, Speaker - Earphone, Wireless Communication
Hygiene and Healthcare	Personal and Professional Hygiene, Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing
Industrial	Electrical, Material Handling, Textile, Eyewear
Mass Transportation	Rail
Packaging	Industrial Packaging

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	20	mg/1000cy	SABIC method
Tensile Stress, break, 5 mm/min	180	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	11500	MPa	ISO 527
Flexural Stress, break, 2 mm/min	240	MPa	ISO 178
Flexural Modulus, 2 mm/min	10000	MPa	ISO 178
Ball Indentation Hardness, H358/30	170	MPa	ISO 2039-1
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	35	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	35	kJ/m²	ISO 180/1U
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	40	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	40	kJ/m²	ISO 179/1eU
THERMAL			
Thermal Conductivity	0.33	W/m-°C	ISO 8302
CTE, 23°C to 150°C, flow	1.4E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	4.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	230	°C	ISO 306
Vicat Softening Temp, Rate B/50	217	°C	ISO 306
Vicat Softening Temp, Rate B/120	225	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	215	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	210	°C	ISO 75/Ae
Relative Temp Index, Elec [1]	170	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	170	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	170	°C	UL 746B
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow	0.1 – 0.3	%	SABIC method
Density	1.61	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.8	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.4	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	5	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	26	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	16	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3.1	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0025	-	IEC 60250
Dissipation Factor, 1 MHz	0.0019	-	IEC 60250
Comparative Tracking Index [2]	150	V	IEC 60112
Comparative Tracking Index, M [2]	100	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.5	-	IEC 60250
Comparative Tracking Index (UL) {PLC}	5	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E121562-221103	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.25	mm	UL 94
Glow Wire Ignitability Temperature, 1.5 mm	875	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	0960	°C	IEC 60695-2-12
Oxygen Index (LOI)	48	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	370 – 410	°C	
Nozzle Temperature	370 – 410	°C	
Front - Zone 3 Temperature	380 – 420	°C	
Middle - Zone 2 Temperature	370 – 410	°C	
Rear - Zone 1 Temperature	350 – 390	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Hopper Temperature	80 – 100	°C	
Mold Temperature	140 – 180	°C	

(1) 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.

(2) Value shown here is based on internal measurement.

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.

DISCLAIMER