ULTEM™ Resin 2212R

REGION EUROPE

DESCRIPTION

20% Milled glass filled, enhanced flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming, UL94 V0 and 5VA listing.

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			
Tensile Stress, break, 5 mm/min	75	MPa	ISO 527
Tensile Strain, break, 5 mm/min	8	%	ISO 527
Tensile Modulus, 1 mm/min	4500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	135	MPa	ISO 178
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m²	ISO 180/1U
THERMAL			
Thermal Conductivity	0.28	W/m-°C	ISO 8302
Vicat Softening Temp, Rate B/120	211	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	202	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	189	°C	ISO 75/Ae
CTE, -40°C to 150°C, flow	3.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 150°C, xflow	4.7E-05	1/°C	ISO 11359-2
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	0.3 – 0.5	%	SABIC method
Density	1.43	g/cm³	ISO 1183
ELECTRICAL			
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Hot-Wire Ignition (HWI), PLC 1	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D495
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E121562-221097	-	-
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.5 mm	875	°C	IEC 60695-2-13
UL Recognized, 94V-0 Flame Class Rating	≥0.41	mm	UL 94
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	360 – 400	°C	
Nozzle Temperature	360 – 400	°C	
Front - Zone 3 Temperature	370 – 410	°C	
Middle - Zone 2 Temperature	360 – 400	°C	
Rear - Zone 1 Temperature	340 – 380	°C	
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.

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