# ULTEM™ Resin 2200

REGION ASIA

## DESCRIPTION

20% Glass fiber filled, standard flow Polyetherimide (Tg 217C). 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 20260319

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **MECHANICAL** | | | |
| **Tensile Stress, brk, Type I, 5 mm/min** | 131 | MPa | ASTM D638 |
| **Tensile Strain, brk, Type I, 5 mm/min** | 4 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 6890 | MPa | ASTM D638 |
| **Flexural Stress, brk, 2.6 mm/min, 100 mm span** | 227 | MPa | ASTM D790 |
| **Flexural Modulus, 2.6 mm/min, 100 mm span** | 6890 | MPa | ASTM D790 |
| **Hardness, Rockwell M** | 114 | - | ASTM D785 |
| **IMPACT** | | | |
| **Izod Impact, unnotched, 23°C** | 480 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 64 | J/m | ASTM D256 |
| **Izod Impact, Reverse Notched, 3.2 mm** | 464 | J/m | ASTM D256 |
| **THERMAL** | | | |
| **Vicat Softening Temp, Rate B/50** | 220 | °C | ASTM D1525 |
| **HDT, 0.45 MPa, 6.4 mm, unannealed** | 210 | °C | ASTM D648 |
| **HDT, 1.82 MPa, 6.4 mm, unannealed** | 210 | °C | ASTM D648 |
| **CTE** | | | |
| -20°C to 150°C, flow | 2.1E-05 | 1/°C | ASTM E831 |
| **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** | | | |
| **Specific Gravity** | 1.42 | - | ASTM D792 |
| **Water Absorption, (23°C/24hrs)** | 0.19 | % | ASTM D570 |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Water Absorption, (23°C/Saturated) | 1.1 | % | ASTM D570 |
| Mold Shrinkage, flow, 3.2 mm | 0.3 – 0.5 | % | SABIC method |
| Melt Flow Rate, 337°C/6.6 kgf | 6 | g/10 min | ASTM D1238 |
| ELECTRICAL | | | |
| Volume Resistivity | 7.E+16 | Ω.cm | ASTM D257 |
| Dielectric Strength, in oil, 1.6 mm | 26.3 | kV/mm | ASTM D149 |
| Relative Permittivity, 1 kHz | 3.5 | - | ASTM D150 |
| Dissipation Factor | | | |
| 1 kHz | 0.0015 | - | ASTM D150 |
| 2450 MHz | 0.0049 | - | ASTM D150 |
| Comparative Tracking Index (UL) {PLC} | 4 | PLC Code | UL 746A |
| 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 | ≥1.5 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 4 | ≥3 | mm | UL 746A |
| High Voltage Arc Track Rate {PLC} | 2 | PLC Code | UL 746A |
| Arc Resistance, Tungsten {PLC} | 6 | PLC Code | ASTM D495 |
| FLAME CHARACTERISTICS [1] | | | |
| UL Yellow Card Link | E207780-100218986 | - | - |
| UL Yellow Card Link 2 | E207780-100218988 | - | - |
| UL Yellow Card Link 3 | E45587-236983 | - | - |
| UL Recognized, 94-5VA Flame Class Rating | ≥1.9 | mm | UL 94 |
| UL Recognized, 94V-0 Flame Class Rating | ≥0.38 | mm | UL 94 |
| UV-light, water exposure/immersion | F1 | - | UL 746C |
| Oxygen Index (LOI) | 50 | % | ASTM D2863 |
| NBS Smoke Density, Flaming, Ds 4 min | 1.3 | - | ASTM E662 |
| 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 | |

(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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