

Technical Data

Product 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.

General

| | | | |
|-----------------------------|--|--|--|
| Material Status | <ul style="list-style-type: none"> Commercial: Active | | |
| Literature ¹ | <ul style="list-style-type: none"> Brochure - BIO-CIRCULAR ULTEM™ RESINS ISCC+ CERTIFIED SUSTAINABILITY (English) Brochure - INNOVATIVE ULTEM™ RESINS FOR ADVANCED CONNECTORS (English) Brochure - STRIVING FOR A HYDROGEN ECONOMY? --DISCOVER OUR SPECIALTY POLYMERS THAT MAY HELP ACCELERATE YOUR SUCCESS (English) Drones EZISURG MEDICAL SCALPEL CASE STUDY ISCC+ CERTIFIED RENEWABLE BIO-BASED ULTEM™ RESINS SABIC-MOBILITY-ADAS CAMERA FLYER SABIC-MOBILITY-ADAS LIDAR FLYER Technical Datasheet THERMOPLASTIC SOLUTIONS FOR AUTOMOTIVE OIL PUMPS ULTEM™ RESIN: AN ALTERNATIVE SOLUTION TO SULFONE POLYMERS | | |
| UL Yellow Card ² | <ul style="list-style-type: none"> E121562-502535 E121562-221093 | | |
| Search for UL Yellow Card | <ul style="list-style-type: none"> SABIC ULTEM™ Resin | | |
| Availability | <ul style="list-style-type: none"> Latin America | <ul style="list-style-type: none"> North America | |
| Filler / Reinforcement | <ul style="list-style-type: none"> Glass Fiber, 20% Filler by Weight | | |
| Features | <ul style="list-style-type: none"> Amorphous Chemical Resistant Creep Resistant Electrically Insulating Flame Retardant Good Dimensional Stability Halogen Free | <ul style="list-style-type: none"> High Heat Resistance High Stiffness High Strength Hydrolytically Stable Low (to None) Ion Content Low Shrinkage Low Smoke Emission | <ul style="list-style-type: none"> Low to No Outgassing Low Toxicity Low Warp PFAS not intentionally added Platable Renewable Resource Content |
| Uses | <ul style="list-style-type: none"> Aerospace Applications Aircraft Interiors Appliances Automotive Under the Hood Building Materials Cell Phones Communication Applications Computer Components Consumer Applications Displays Drone Applications Electrical Parts Electrical/Electronic Applications Eyeglasses | <ul style="list-style-type: none"> Filters Fluid Handling Furniture Heavy Transportation Housings Hygiene Industrial Applications Lighting Applications Material Handling Medical Devices Medical/Healthcare Applications Motorcycle Applications Oil/Gas Applications Packaging | <ul style="list-style-type: none"> Personal Care Pharmaceutical Packaging Printer Rail Applications Recreational Vehicle Applications Seats Speaker Applications Sporting Goods Surgical Instruments Textile Applications Water Management Wire & Cable Applications |
| Agency Ratings | <ul style="list-style-type: none"> ISCC PLUS | | |
| Processing Method | <ul style="list-style-type: none"> Injection Molding | | |



General

- Coefficient of Thermal Expansion vs. Temperature (ASTM E831)
- Elastic Modulus vs. Temperature (ASTM D4065)
- Flexural DMA (ASTM D5023)
- Instrumented Impact (Energy) (ASTM D3763)
- Instrumented Impact (Load) (ASTM D3763)
- Shear DMA (ASTM D4065)
- Specific Heat vs. Temperature (ASTM E1269)
- Specific Volume vs. Temperature (PVT)
- Tensile Creep (ASTM D2990)
- Tensile Fatigue
- Tensile Stress vs. Strain (ASTM D638)
- Thermal Conductivity vs. Temperature (ASTM E1530)
- Viscosity vs. Shear Rate (ASTM D3835)

Also Available In • Asia Pacific • Europe

| Physical | Nominal Value Unit | Test Method |
|---|------------------------|-------------------------|
| Density / Specific Gravity | 1.42 g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (337°C/6.6 kg) | 6.0 g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow (3.20 mm) | 0.30 to 0.50 % | Internal Method |
| Water Absorption | | ASTM D570 |
| 24 hr, 23°C | 0.19 % | |
| Saturation, 23°C | 1.1 % | |
| Outdoor Suitability | f1 | UL 746C |
| Mechanical | Nominal Value Unit | Test Method |
| Tensile Modulus ⁴ | 6890 MPa | ASTM D638 |
| Tensile Strength ⁵ (Break) | 131 MPa | ASTM D638 |
| Tensile Elongation ⁵ (Break) | 4.0 % | ASTM D638 |
| Flexural Modulus ⁶ (100 mm Span) | 6890 MPa | ASTM D790 |
| Flexural Strength ⁶ (Break, 100 mm Span) | 227 MPa | ASTM D790 |
| Impact | Nominal Value Unit | Test Method |
| Notched Izod Impact (23°C) | 64 J/m | ASTM D256 |
| Unnotched Izod Impact (23°C) | 480 J/m | ASTM D4812 |
| Reverse Notch Izod Impact (3.20 mm) | 460 J/m | ASTM D256 |
| Hardness | Nominal Value Unit | Test Method |
| Rockwell Hardness (M-Scale) | 114 | ASTM D785 |
| Thermal | Nominal Value Unit | Test Method |
| Deflection Temperature Under Load | | ASTM D648 |
| 0.45 MPa, Unannealed, 6.40 mm | 210 °C | |
| 1.8 MPa, Unannealed, 6.40 mm | 210 °C | |
| Vicat Softening Temperature | 220 °C | ASTM D1525 ⁷ |
| CLTE - Flow (-20 to 150°C) | 2.1E-5 cm/cm/°C | ASTM E831 |
| RTI Elec | 170 °C | UL 746B |
| RTI Imp | 170 °C | UL 746B |
| RTI Str | 170 °C | UL 746B |
| Electrical | Nominal Value Unit | Test Method |
| Volume Resistivity | 7.0E+16 ohms·cm | ASTM D257 |
| Dielectric Strength (1.60 mm, in Oil) | 26 kV/mm | ASTM D149 |
| Dielectric Constant (1 kHz) | 3.50 | ASTM D150 |



| Electrical | Nominal Value Unit | Test Method |
|--|--------------------|-------------|
| Dissipation Factor | | ASTM D150 |
| 1 kHz | 1.5E-3 | |
| 2.45 GHz | 4.9E-3 | |
| Arc Resistance ⁸ | PLC 6 | ASTM D495 |
| Comparative Tracking Index (CTI) | PLC 4 | UL 746A |
| High Amp Arc Ignition (HAI) | | UL 746A |
| > 1.5 mm | PLC 3 | |
| > 3.0 mm | PLC 4 | |
| High Voltage Arc Resistance to Ignition (HVAR) | PLC 2 | UL 746A |
| Hot-wire Ignition (HWI) | | UL 746A |
| > 1.5 mm | PLC 2 | |
| > 3.0 mm | PLC 1 | |

| Flammability | Nominal Value Unit | Test Method |
|--|--------------------|-------------|
| Flame Rating | | UL 94 |
| > 0.41 mm | V-0 | |
| > 1.9 mm | 5VA | |
| Oxygen Index | 50 % | ASTM D2863 |
| NBS Smoke Density - Flaming, Ds ⁹ | 1.30 | ASTM E662 |

| Injection | Nominal Value Unit |
|------------------------|--------------------|
| Drying Temperature | 150 °C |
| Drying Time | 4.0 to 6.0 hr |
| Suggested Max Moisture | 0.020 % |
| Suggested Shot Size | 40 to 60 % |
| Rear Temperature | 330 to 400 °C |
| Middle Temperature | 340 to 400 °C |
| Front Temperature | 345 to 400 °C |
| Nozzle Temperature | 345 to 400 °C |
| Processing (Melt) Temp | 350 to 400 °C |
| Mold Temperature | 135 to 165 °C |
| Back Pressure | 0.300 to 0.700 MPa |
| Screw Speed | 40 to 70 rpm |
| Vent Depth | 0.025 to 0.076 mm |

Injection Notes

- Drying Time (Cumulative): 24 hr



Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 5.0 mm/min

⁵ Type I, 5.0 mm/min

⁶ 2.6 mm/min

⁷ Rate A (50°C/h), Loading 2 (50 N)

⁸ Tungsten Electrode

⁹ 4 min

