# ULTEM™ RESIN SF2255

REGION ASIA

## DESCRIPTION

20% Glass fiber filled, super high flow for thin wall application.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Flame Retardant, Chemical Resistance, Good Processability, High Flow, Hydrolytic Stability, Low Smoke and Toxicity, Thin Wall, Dielectrics, Amorphous, Low Shrinkage, Electroplatable, Creep resistant, Dimensional stability, High stiffness/Strength, High temperature resistance |
| **Fillers** | Glass Fiber |
| **Polymer Types** | Polyetherimide (PEI) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Automotive | Heavy Truck, Automotive Under the Hood, Aerospace, Motorcycle, Recreational/Specialty Vehicles |
| Building and Construction | Building Component |
| Consumer | 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 |
| Industrial | Electrical, Material Handling, Textile, Eyewear |
| Mass Transportation | Rail |
| Packaging | Industrial Packaging |

## TYPICAL PROPERTY VALUES

Revision 20260623

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **MECHANICAL** [1] | | | |
| **Tensile Stress, brk, Type I, 5 mm/min** | 148 | MPa | ASTM D638 |
| **Tensile Strain, brk, Type I, 5 mm/min** | 1.8 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 10140 | MPa | ASTM D638 |
| **Flexural Stress, yld, 1.3 mm/min, 50 mm span** | 169 | MPa | ASTM D790 |
| **Flexural Modulus, 1.3 mm/min, 50 mm span** | 8090 | MPa | ASTM D790 |
| **IMPACT** [1] | | | |
| **Izod Impact, notched, 23°C** | 76 | J/m | ASTM D256 |
| **THERMAL** [1] | | | |
| **HDT, 1.82 MPa, 3.2mm, unannealed** | 203 | °C | ASTM D648 |
| **CTE, -40°C to 150°C, flow** | 1.43E-05 | 1/°C | ASTM E831 |
| **CTE, -40°C to 150°C, xflow** | 5.5E-05 | 1/°C | ASTM E831 |
| **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] | | | |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **Specific Gravity** | 1.44 | - | ASTM D792 |
| **Melt Flow Rate, 337°C/6.6 kgf** | 15.4 | g/10 min | ASTM D1238 |
| **Melt Volume Rate** | | | |
| 345°C/10.0 kg | 34 | cm³/10 min | ISO 1133 |
| **Water Absorption, (23°C/24hrs)** | 0.13 | % | ISO 62-1 |
| **Water Absorption, (23°C/saturated)** | 0.93 | % | ISO 62-1 |
| **Moisture Absorption, (23°C/50% RH/24hrs)** | 0.05 | % | ISO 62-4 |
| **Mold Shrinkage, flow** [3] | 0.3 | % | SABIC method |
| **Mold Shrinkage, xflow** [3] | 0.53 | % | SABIC method |
| ELECTRICAL [1] | | | |
| **Surface Resistivity** | 1.2E+16 | Ω/sq | ASTM D257 |
| **Volume Resistivity** | 1.0E+17 | Ω.cm | ASTM D257 |
| **Dielectric Strength, in oil, 0.8 mm** | 31.6 | kV/mm | ASTM D149 |
| **Dielectric Strength, in oil, 1.6 mm** | 23.1 | kV/mm | ASTM D149 |
| **Dielectric Strength, in oil, 3.2 mm** | 17.2 | kV/mm | ASTM D149 |
| **Dielectric Constant** | | | |
| 1.1 GHz | 3.448 | - | SABIC method |
| 5 GHz | 3.430 | - | SABIC method |
| 10 GHz | 3.398 | - | SABIC method |
| 15 GHz | 3.456 | - | SABIC method |
| **Dissipation Factor** | | | |
| 1.1 GHz | 0.0028 | - | SABIC method |
| 5 GHz | 0.0033 | - | SABIC method |
| 10 GHz | 0.0036 | - | SABIC method |
| 15 GHz | 0.0039 | - | SABIC method |
| FLAME CHARACTERISTICS [2] | | | |
| **UL Yellow Card Link** | E207780-102158299 | - | - |
| **UL Recognized, 94V-0 Flame Class Rating** | 1.5 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| **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 | |

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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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