

ULTEMTM RESIN 3452

REGION EUROPE

DESCRIPTION

45% Glass fiber and mineral filled, enhanced flow Polyetherimide (Tg 217C) with enhanced dimensional stability. ECO Conforming, UL94 V0 and 5VA listing in recognized colors.

| INDUSTRY | SUB INDUSTRY |
|----------------------------|---|
| Automotive | Heavy Truck, Bus, Automotive Under the Hood |
| Consumer | Sport/Leisure, Recreational Vehicle |
| Electrical and Electronics | Electrical Components and Infrastructure |
| Hydrocarbon and Energy | Fossil |
| Industrial | Defense, Servomotor, Industrial Material Handling |
| Mass Transportation | Specialty Vehicles |

TYPICAL PROPERTY VALUES

Revision 20190925

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, break, 50 mm/min | 100 | MPa | ISO 527 |
| Tensile Strain, break, 50 mm/min | 1.5 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 12500 | MPa | ISO 527 |
| Flexural Stress, break, 2 mm/min | 150 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 12000 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, unnotched 80*10*4 +23°C | 14 | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80*10*4 -30°C | 13 | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 5 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 4 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 4 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 4 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | 14 | kJ/m ² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | 14 | kJ/m ² | ISO 179/1eU |
| THERMAL | | | |
| CTE, 23°C to 80°C, flow | 1.9E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 3.6E-05 | 1/°C | ISO 11359-2 |
| Vicat Softening Temp, Rate B/50 | 205 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 205 | °C | ISO 306 |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm | 207 | °C | ISO 75/Be |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm | 200 | °C | ISO 75/Ae |
| Relative Temp Index, Elec ⁽¹⁾ | 180 | °C | UL 746B |
| Relative Temp Index, Mech w/impact ⁽¹⁾ | 180 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact ⁽¹⁾ | 180 | °C | UL 746B |
| PHYSICAL | | | |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|--------------------------------|-------------------------|--------------|
| Mold Shrinkage on Tensile Bar, flow | 0.25 | % | SABIC method |
| Density | 1.66 | g/cm ³ | ISO 1183 |
| Melt Volume Rate, MVR at 360°C/5.0 kg | 8 | cm ³ /10 min | ISO 1133 |
| ELECTRICAL | | | |
| Volume Resistivity | >1.E+13 | Ohm-cm | IEC 60093 |
| Surface Resistivity, ROA | >1.E+15 | Ohm | IEC 60093 |
| Dielectric Strength, in oil, 3.2 mm | 16 | kV/mm | IEC 60243-1 |
| Relative Permittivity, 1 MHz | 3.6 | - | IEC 60250 |
| Dissipation Factor, 50/60 Hz | 0.01 | - | IEC 60250 |
| Dissipation Factor, 1 MHz | 0.015 | - | IEC 60250 |
| Comparative Tracking Index ⁽²⁾ | 125 | V | IEC 60112 |
| Relative Permittivity, 50/60 Hz | 3.7 | - | IEC 60250 |
| 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 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 D 495 |
| FLAME CHARACTERISTICS ⁽¹⁾ | | | |
| UL Yellow Card Link | E121562-221107 | - | - |
| UL Recognized, 94-5VA Flame Class Rating | ≥3 | mm | UL 94 |
| UL Recognized, 94V-0 Flame Class Rating | ≥0.77 | mm | UL 94 |
| INJECTION MOLDING | | | |
| Drying Temperature | 150 | °C | |
| Drying Time | 4 – 6 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 370 – 410 | °C | |
| Nozzle Temperature | 360 – 410 | °C | |
| Front - Zone 3 Temperature | 370 – 420 | °C | |
| Middle - Zone 2 Temperature | 360 – 410 | °C | |
| Rear - Zone 1 Temperature | 350 – 400 | °C | |
| Hopper Temperature | 80 – 120 | °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.

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