

# ULTEM™ RESIN CRS5201R

REGION ASIA

## DESCRIPTION

20% Glass fiber filled, standard flow Polyetherimide copolymer (Tg 225C) with internal mold release and enhanced chemical resistance to strong acids, bases, aromatics, and ketones. ECO Conforming.

| 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   |
| Electrical and Electronics | Energy Management, Drone Solutions, Mobile Phone - Computer - Tablets, Circuit Boards/Additives, Printer Copier, Speaker - Earphone |
| Industrial                 | Electrical, Material Handling   |
| Mass Transportation        | Rail  |
| Packaging                  | Industrial Packaging  |

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES  | TYPICAL VALUES | UNITS    | TEST METHODS |
|---|----------------|----------|--------------|
| <b>MECHANICAL</b>                                   |                |          |              |
| Tensile Stress, brk, Type I, 5 mm/min               | 131            | MPa      | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min               | 5              | %        | ASTM D638    |
| Tensile Modulus, 5 mm/min                           | 6890           | MPa      | ASTM D638    |
| Flexural Stress, yld, 2.6 mm/min, 100 mm span       | 213            | MPa      | ASTM D790    |
| Flexural Modulus, 2.6 mm/min, 100 mm span           | 6890           | MPa      | ASTM D790    |
| <b>IMPACT</b>                                       |                |          |              |
| Izod Impact, notched, 23°C                          | 74             | J/m      | ASTM D256    |
| Izod Impact, Reverse Notched, 3.2 mm                | 480            | J/m      | ASTM D256    |
| <b>THERMAL</b>                                      |                |          |              |
| HDT, 1.82 MPa, 6.4 mm, unannealed                   | 218            | °C       | ASTM D648    |
| CTE, -40°C to 150°C, flow                           | 2.7E-05        | 1/°C     | ISO 11359-2  |
| CTE, -40°C to 150°C, xflow                          | 5.8E-05        | 1/°C     | ISO 11359-2  |
| Relative Temp Index, Elec <sup>(1)</sup>            | 105            | °C       | UL 746B      |
| Relative Temp Index, Mech w/impact <sup>(1)</sup>   | 105            | °C       | UL 746B      |
| Relative Temp Index, Mech w/o impact <sup>(1)</sup> | 105            | °C       | UL 746B      |
| <b>PHYSICAL</b>                                     |                |          |              |
| Specific Gravity                                    | 1.42           | -        | ASTM D792    |
| Melt Flow Rate, 337°C/6.6 kgf                       | 3.1            | g/10 min | ASTM D1238   |
| <b>ELECTRICAL</b>                                   |                |          |              |
| Comparative Tracking Index (UL) {PLC}               | 4              | PLC Code | UL 746A      |
| Hot-Wire Ignition (HWI), PLC 2                      | ≥3             | mm       | UL 746A      |
| Hot-Wire Ignition (HWI), PLC 3                      | ≥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      |

| PROPERTIES                              | TYPICAL VALUES                    | UNITS    | TEST METHODS |
|---|-----------------------------------|----------|--------------|
| High Voltage Arc Track Rate {PLC}       | 4                                 | PLC Code | UL 746A      |
| Arc Resistance, Tungsten {PLC}          | 5                                 | PLC Code | ASTM D495    |
| FLAME CHARACTERISTICS <sup>(1)</sup>    |                                   |          |              |
| UL Yellow Card Link                     | <a href="#">E121562-103873032</a> | -        | -            |
| UL Recognized, 94V-0 Flame Class Rating | ≥1.5                              | mm       | UL 94        |
| INJECTION MOLDING                       |                                   |          |              |
| Drying Temperature                      | 150                               | °C       |              |
| Drying Time                             | 4 – 6                             | Hrs      |              |
| Drying Time (Cumulative)                | 24                                | Hrs      |              |
| Maximum Moisture Content                | 0.02                              | %        |              |
| Melt Temperature                        | 365 – 390                         | °C       |              |
| Nozzle Temperature                      | 360 – 380                         | °C       |              |
| Front - Zone 3 Temperature              | 365 – 390                         | °C       |              |
| Middle - Zone 2 Temperature             | 355 – 375                         | °C       |              |
| Rear - Zone 1 Temperature               | 345 – 365                         | °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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