

# ULTEM™ 3452 resin

Polyether Imide

SABIC Innovative Plastics

## Message:

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.

| General Information                                              |                            |                   |                 |
|------------------------------------------------------------------|----------------------------|-------------------|-----------------|
| Features                                                         | Good dimensional stability |                   |                 |
|                                                                  | Comply with ECO            |                   |                 |
|                                                                  | Good liquidity             |                   |                 |
| Agency Ratings                                                   | EU Eco                     |                   |                 |
| Processing Method                                                | Injection molding          |                   |                 |
| Physical                                                         | Nominal Value              | Unit              | Test Method     |
| Specific Gravity                                                 | 1.66                       | g/cm <sup>3</sup> | ASTM D792       |
| Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)                         | 4.6                        | g/10 min          | ASTM D1238      |
| Molding Shrinkage                                                |                            |                   | Internal method |
| Flow: 3.20mm                                                     | 0.15 - 0.25                | %                 | Internal method |
| Transverse flow: 3.20mm                                          | 0.30 - 0.50                | %                 | Internal method |
| Mechanical                                                       | Nominal Value              | Unit              | Test Method     |
| Tensile Strength <sup>1</sup> (Break)                            | 131                        | MPa               | ASTM D638       |
| Tensile Elongation <sup>2</sup> (Break)                          | 1.4                        | %                 | ASTM D638       |
| Flexural Modulus <sup>3</sup> (100 mm Span)                      | 12400                      | MPa               | ASTM D790       |
| Flexural Strength <sup>4</sup> (Break, 100 mm Span)              | 179                        | MPa               | ASTM D790       |
| Impact                                                           | Nominal Value              | Unit              | Test Method     |
| Notched Izod Impact (23°C)                                       | 59                         | J/m               | ASTM D256       |
| Reverse Notch Izod Impact (3.20 mm)                              | 220                        | J/m               | ASTM D256       |
| Thermal                                                          | Nominal Value              | Unit              | Test Method     |
| Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.40 mm) | 212                        | °C                | ASTM D648       |
| RTI Elec                                                         | 180                        | °C                | UL 746          |
| RTI Imp                                                          | 180                        | °C                | UL 746          |
| RTI                                                              | 180                        | °C                | UL 746          |
| Electrical                                                       | Nominal Value              | Test Method       |                 |
| Arc Resistance <sup>5</sup>                                      | PLC 5                      | ASTM D495         |                 |
| Comparative Tracking Index (CTI)                                 | PLC 4                      | UL 746            |                 |
| High Amp Arc Ignition (HAI)                                      | PLC 4                      | UL 746            |                 |
| High Voltage Arc Tracking Rate (HVTR)                            | PLC 4                      | UL 746            |                 |
| Hot-wire Ignition (HWI)                                          | PLC 1                      | UL 746            |                 |
| Flammability                                                     | Nominal Value              | Test Method       |                 |

|              |     |       |
|--------------|-----|-------|
| Flame Rating |     | UL 94 |
| 0.787 mm     | V-0 | UL 94 |
| 3.00 mm      | 5VA | UL 94 |

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 149           | °C   |
| Drying Time            | 4.0 - 6.0     | hr   |
| Drying Time, Maximum   | 24            | hr   |
| Suggested Max Moisture | 0.020         | %    |
| Suggested Shot Size    | 40 - 60       | %    |
| Rear Temperature       | 332 - 399     | °C   |
| Middle Temperature     | 338 - 399     | °C   |
| Front Temperature      | 343 - 399     | °C   |
| Nozzle Temperature     | 343 - 399     | °C   |
| Processing (Melt) Temp | 349 - 399     | °C   |
| Mold Temperature       | 135 - 163     | °C   |
| Back Pressure          | 0.345 - 0.689 | MPa  |
| Screw Speed            | 40 - 70       | rpm  |
| Vent Depth             | 0.025 - 0.076 | mm   |

| NOTE |                    |  |
|------|--------------------|--|
| 1.   | Type 1, 5.0 mm/min |  |
| 2.   | Type 1, 5.0 mm/min |  |
| 3.   | 2.6 mm/min         |  |
| 4.   | 2.6 mm/min         |  |
| 5.   | Tungsten electrode |  |

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### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

