

# ULTEM™ 2300R resin

Polyether Imide

SABIC Innovative Plastics

## Message:

30% Glass fiber filled, standard flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming, UL94 V0 and 5VA listing.

| General Information                                 |                                                       |                   |                 |
|-----------------------------------------------------|-------------------------------------------------------|-------------------|-----------------|
| UL YellowCard                                       | E45587-236984                                         |                   |                 |
| Filler / Reinforcement                              | Glass fiber reinforced material, 30% filler by weight |                   |                 |
| Additive                                            | demoulding                                            |                   |                 |
| Features                                            | Comply with ECO                                       |                   |                 |
|                                                     | High liquidity                                        |                   |                 |
| Agency Ratings                                      | EU Eco                                                |                   |                 |
| Processing Method                                   | Injection molding                                     |                   |                 |
| Physical                                            | Nominal Value                                         | Unit              | Test Method     |
| Specific Gravity                                    | 1.51                                                  | g/cm <sup>3</sup> | ASTM D792       |
| Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)            | 5.3                                                   | g/10 min          | ASTM D1238      |
| Molding Shrinkage - Flow (3.20 mm)                  | 0.20 - 0.40                                           | %                 | Internal method |
| Water Absorption                                    |                                                       |                   | ASTM D570       |
| 24 hr                                               | 0.16                                                  | %                 | ASTM D570       |
| Equilibrium, 23°C                                   | 0.90                                                  | %                 | ASTM D570       |
| Hardness                                            | Nominal Value                                         | Unit              | Test Method     |
| Rockwell Hardness (M-Scale)                         | 114                                                   |                   | ASTM D785       |
| Mechanical                                          | Nominal Value                                         | Unit              | Test Method     |
| Tensile Modulus <sup>1</sup>                        | 9310                                                  | MPa               | ASTM D638       |
| Tensile Strength <sup>2</sup>                       |                                                       |                   | ASTM D638       |
| Yield                                               | 169                                                   | MPa               | ASTM D638       |
| Fracture                                            | 159                                                   | MPa               | ASTM D638       |
| Tensile Elongation <sup>3</sup> (Break)             | 3.0                                                   | %                 | ASTM D638       |
| Flexural Modulus <sup>4</sup> (100 mm Span)         | 8960                                                  | MPa               | ASTM D790       |
| Flexural Strength <sup>5</sup> (Break, 100 mm Span) | 228                                                   | MPa               | ASTM D790       |
| Impact                                              | Nominal Value                                         | Unit              | Test Method     |
| Notched Izod Impact (23°C)                          | 85                                                    | J/m               | ASTM D256       |
| Unnotched Izod Impact (23°C)                        | 430                                                   | J/m               | ASTM D4812      |
| Reverse Notch Izod Impact (3.20 mm)                 | 490                                                   | J/m               | ASTM D256       |
| Thermal                                             | Nominal Value                                         | Unit              | Test Method     |
| Deflection Temperature Under Load                   |                                                       |                   | ASTM D648       |
| 0.45 MPa, unannealed, 6.40mm                        | 212                                                   | °C                | ASTM D648       |
| 1.8 MPa, unannealed, 6.40mm                         | 210                                                   | °C                | ASTM D648       |

| Vicat Softening Temperature            | 228           | °C       | ASTM D1525 <sup>6</sup> |
|----------------------------------------|---------------|----------|-------------------------|
| CLTE - Flow (-20 to 150°C)             | 2.0E-5        | cm/cm/°C | ASTM E831               |
| RTI Elec                               | 180           | °C       | UL 746                  |
| RTI Imp                                | 170           | °C       | UL 746                  |
| RTI                                    | 180           | °C       | UL 746                  |
| Electrical                             | Nominal Value | Unit     | Test Method             |
| Volume Resistivity                     | 3.0E+16       | ohms·cm  | ASTM D257               |
| Dielectric Strength                    |               |          | ASTM D149               |
| 1.60 mm, in Air                        | 25            | kV/mm    | ASTM D149               |
| 1.60 mm, in Oil                        | 30            | kV/mm    | ASTM D149               |
| Dielectric Constant (1 kHz)            | 3.70          |          | ASTM D150               |
| Dissipation Factor                     |               |          | ASTM D150               |
| 1 kHz                                  | 1.5E-3        |          | ASTM D150               |
| 2.45 GHz                               | 5.3E-3        |          | ASTM D150               |
| Arc Resistance <sup>7</sup>            | PLC 6         |          | 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 3         |          | UL 746                  |
| Hot-wire Ignition (HWI)                | PLC 1         |          | UL 746                  |
| Flammability                           | Nominal Value | Unit     | Test Method             |
| Flame Rating                           |               |          | UL 94                   |
| 0.254 mm                               | V-0           |          | UL 94                   |
| 1.22 mm                                | 5VA           |          | UL 94                   |
| Oxygen Index                           | 50            | %        | ASTM D2863              |
| NBS Smoke Density - Flaming, Ds, 4 min | 1.60          |          | ASTM E662               |
| 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.                                     | 5.0 mm/min    |          |                         |

|    |                           |
|----|---------------------------|
| 2. | Type 1, 5.0 mm/min        |
| 3. | Type 1, 5.0 mm/min        |
| 4. | 2.6 mm/min                |
| 5. | 2.6 mm/min                |
| 6. | 标准 B (120°C/h), 载荷2 (50N) |
| 7. | 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



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