

# ULTEM™ SF2250 resin

Polyether Imide

SABIC Innovative Plastics Asia Pacific

## Message:

High flow ULTEM for thin wall application

| General Information                                  |                   |                        |                     |
|------------------------------------------------------|-------------------|------------------------|---------------------|
| UL YellowCard                                        | E207780-100116343 |                        |                     |
| Features                                             | High Flow         |                        |                     |
| Uses                                                 | Thin-walled Parts |                        |                     |
| Processing Method                                    | Injection Molding |                        |                     |
| Physical                                             | Nominal Value     | Unit                   | Test Method         |
| Specific Gravity                                     | 1.44              | g/cm <sup>3</sup>      | ASTM D792, ISO 1183 |
| Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)             | 20                | g/10 min               | ASTM D1238          |
| Melt Volume-Flow Rate (MVR) (345°C/10.0 kg)          | 40.0              | cm <sup>3</sup> /10min | ISO 1133            |
| Molding Shrinkage                                    |                   |                        | Internal Method     |
| Flow                                                 | 0.46              | %                      |                     |
| Across Flow                                          | 0.54              | %                      |                     |
| Water Absorption                                     |                   |                        |                     |
| 23°C, 24 hr                                          | 0.20              | %                      | ISO 62              |
| Equilibrium, 23°C, 50% RH                            | 0.070             | %                      | ASTM D570           |
| Mechanical                                           | Nominal Value     | Unit                   | Test Method         |
| Tensile Modulus <sup>1</sup>                         | 8900              | MPa                    | ASTM D638           |
| Tensile Strength                                     |                   |                        |                     |
| Break <sup>2</sup>                                   | 162               | MPa                    | ASTM D638           |
| Break                                                | 157               | MPa                    | ISO 527-2/5         |
| Tensile Elongation                                   |                   |                        |                     |
| Break <sup>3</sup>                                   | 3.0               | %                      | ASTM D638           |
| Break                                                | 3.0               | %                      | ISO 527-2/5         |
| Flexural Modulus                                     |                   |                        |                     |
| 50.0 mm Span <sup>4</sup>                            | 7260              | MPa                    | ASTM D790           |
| -- <sup>5</sup>                                      | 7150              | MPa                    | ISO 178             |
| Flexural Strength <sup>6</sup> (Yield, 50.0 mm Span) | 197               | MPa                    | ASTM D790           |
| Impact                                               | Nominal Value     | Unit                   | Test Method         |
| Notched Izod Impact                                  |                   |                        |                     |
| 23°C                                                 | 89                | J/m                    | ASTM D256           |
| 23°C <sup>7</sup>                                    | 9.0               | kJ/m <sup>2</sup>      | ISO 180/1A          |
| Thermal                                              | Nominal Value     | Unit                   | Test Method         |
| Deflection Temperature Under Load                    |                   |                        |                     |

|                                               |                    |          |             |
|-----------------------------------------------|--------------------|----------|-------------|
| 1.8 MPa, Unannealed, 3.20 mm                  | 203                | °C       | ASTM D648   |
| 1.8 MPa, Unannealed, 100 mm Span <sup>8</sup> | 208                | °C       | ISO 75-2/Ae |
| CLTE                                          |                    |          |             |
| Flow : -40 to 150°C                           | 1.4E-5             | cm/cm/°C | ASTM E831   |
| Flow : 23 to 150°C                            | 1.8E-5             | cm/cm/°C | ISO 11359-2 |
| Transverse : -40 to 150°C                     | 5.4E-5             | cm/cm/°C | ASTM E831   |
| Transverse : 23 to 150°C                      | 5.9E-5             | cm/cm/°C | ISO 11359-2 |
| Flammability                                  | Nominal Value      |          | Test Method |
| Flame Rating (1.50 mm, Testing by SABIC)      | V-0                |          | UL 94       |
| Injection                                     | Nominal Value      | Unit     |             |
| Drying Temperature                            | 149                | °C       |             |
| Drying Time                                   | 4.0 to 6.0         | hr       |             |
| Drying Time, Maximum                          | 24                 | hr       |             |
| Suggested Max Moisture                        | 0.020              | %        |             |
| Suggested Shot Size                           | 40 to 60           | %        |             |
| Rear Temperature                              | 332 to 399         | °C       |             |
| Middle Temperature                            | 338 to 399         | °C       |             |
| Front Temperature                             | 343 to 399         | °C       |             |
| Nozzle Temperature                            | 343 to 399         | °C       |             |
| Processing (Melt) Temp                        | 349 to 399         | °C       |             |
| Mold Temperature                              | 135 to 163         | °C       |             |
| Back Pressure                                 | 0.345 to 0.689     | MPa      |             |
| Screw Speed                                   | 40 to 70           | rpm      |             |
| Vent Depth                                    | 0.025 to 0.076     | mm       |             |
| NOTE                                          |                    |          |             |
| 1.                                            | 5.0 mm/min         |          |             |
| 2.                                            | Type I, 5.0 mm/min |          |             |
| 3.                                            | Type I, 5.0 mm/min |          |             |
| 4.                                            | 1.3 mm/min         |          |             |
| 5.                                            | 2.0 mm/min         |          |             |
| 6.                                            | 1.3 mm/min         |          |             |
| 7.                                            | 80*10*4            |          |             |
| 8.                                            | 120*10*4 mm        |          |             |

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