

# ULTEM™ 9075 resin

Polyether Imide

SABIC Innovative Plastics

## Message:

High flow Polyetherimide blend. Meets FAR 25.853 and OSU 65/65 with low toxicity, smoke, and flame evolution.

| General Information |                           |
|---------------------|---------------------------|
| Features            | Low smoke                 |
|                     | Low toxicity              |
|                     | High liquidity            |
| Agency Ratings      | FAR 25.853                |
|                     | OSU 65/65                 |
| RoHS Compliance     | RoHS compliance           |
| Processing Method   | Profile extrusion molding |
|                     | Injection molding         |

| Physical                                   | Nominal Value | Unit                   | Test Method     |
|--------------------------------------------|---------------|------------------------|-----------------|
| Density                                    | 1.32          | g/cm <sup>3</sup>      | ISO 1183        |
| Melt Volume-Flow Rate (MVR) (340°C/5.0 kg) | 15.0          | cm <sup>3</sup> /10min | ISO 1133        |
| Molding Shrinkage - Flow <sup>1</sup>      | 0.60 - 0.80   | %                      | Internal method |
| Water Absorption                           |               |                        | ISO 62          |
| Saturated, 23°C                            | 1.3           | %                      | ISO 62          |
| Equilibrium, 23°C, 50% RH                  | 0.70          | %                      | ISO 62          |
| Hardness                                   | Nominal Value | Unit                   | Test Method     |
| Ball Indentation Hardness (H 358/30)       | 127           | MPa                    | ISO 2039-1      |
| Mechanical                                 | Nominal Value | Unit                   | Test Method     |
| Tensile Modulus                            | 3200          | MPa                    | ISO 527-2/1     |
| Tensile Stress                             |               |                        | ISO 527-2/50    |
| Yield                                      | 90.0          | MPa                    | ISO 527-2/50    |
| Fracture                                   | 75.0          | MPa                    | ISO 527-2/50    |
| Tensile Strain                             |               |                        | ISO 527-2/50    |
| Yield                                      | 6.0           | %                      | ISO 527-2/50    |
| Fracture                                   | 25            | %                      | ISO 527-2/50    |
| Flexural Modulus <sup>2</sup>              | 3200          | MPa                    | ISO 178         |
| Flexural Stress <sup>3</sup>               |               |                        | ISO 178         |
| -- <sup>4</sup>                            | 130           | MPa                    | ISO 178         |
| -- <sup>5</sup>                            | 120           | MPa                    | ISO 178         |

| Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel) | 15.0          | mg                      | Internal method           |
|--------------------------------------------------------------|---------------|-------------------------|---------------------------|
| Impact                                                       | Nominal Value | Unit                    | Test Method               |
| Charpy Notched Impact Strength <sup>6</sup>                  |               |                         | ISO 179/1eA               |
| -30°C                                                        | 6.0           | kJ/m <sup>2</sup>       | ISO 179/1eA               |
| 23°C                                                         | 7.0           | kJ/m <sup>2</sup>       | ISO 179/1eA               |
| Notched Izod Impact <sup>7</sup>                             |               |                         | ISO 180/1A                |
| -30°C                                                        | 5.0           | kJ/m <sup>2</sup>       | ISO 180/1A                |
| 23°C                                                         | 7.0           | kJ/m <sup>2</sup>       | ISO 180/1A                |
| Thermal                                                      | Nominal Value | Unit                    | Test Method               |
| Heat Deflection Temperature <sup>8</sup>                     |               |                         |                           |
| 0.45 MPa, unannealed, 100 mm span                            | 200           | °C                      | ISO 75-2/Be               |
| 1.8 MPa, unannealed, 100 mm span                             | 185           | °C                      | ISO 75-2/Ae               |
| Vicat Softening Temperature                                  |               |                         |                           |
| --                                                           | 210           | °C                      | ISO 306/A50               |
| --                                                           | 200           | °C                      | ISO 306/B50, ISO 306/B120 |
| Ball Pressure Test (125°C)                                   | Pass          |                         | IEC 60695-10-2            |
| Linear thermal expansion coefficient                         |               |                         | ISO 11359-2               |
| Flow: 23 to 150°C                                            | 5.0E-5        | cm/cm/°C                | ISO 11359-2               |
| Horizontal: 23 to 150°C                                      | 5.0E-5        | cm/cm/°C                | ISO 11359-2               |
| Thermal Conductivity                                         | 0.26          | W/m/K                   | ISO 8302                  |
| Flammability                                                 | Nominal Value | Unit                    | Test Method               |
| Flame Rating (1.60 mm, Testing by SABIC)                     | V-0           |                         | UL 94                     |
| Glow Wire Flammability Index (3.20 mm)                       | 960           | °C                      | IEC 60695-2-12            |
| OSU peak heat release rate <sup>9</sup>                      | 16.0          | kW/m <sup>2</sup>       | FAR 25.853                |
| OSU total heat release <sup>10</sup>                         | 0.00          | kW · min/m <sup>2</sup> | FAR 25.853                |
| Injection                                                    | Nominal Value | Unit                    |                           |
| Drying Temperature                                           | 160           | °C                      |                           |
| Drying Time                                                  | 4.0 - 6.0     | hr                      |                           |
| Suggested Max Moisture                                       | 0.020         | %                       |                           |
| Hopper Temperature                                           | 80.0 - 120    | °C                      |                           |
| Rear Temperature                                             | 320 - 340     | °C                      |                           |
| Middle Temperature                                           | 345 - 365     | °C                      |                           |
| Front Temperature                                            | 360 - 380     | °C                      |                           |
| Nozzle Temperature                                           | 360 - 380     | °C                      |                           |
| Processing (Melt) Temp                                       | 360 - 380     | °C                      |                           |
| Mold Temperature                                             | 140 - 160     | °C                      |                           |
| Extrusion                                                    | Nominal Value | Unit                    |                           |
| Drying Temperature                                           | 130 - 140     | °C                      |                           |
| Drying Time                                                  | 4.0 - 6.0     | hr                      |                           |
| Suggested Max Moisture                                       | 0.020         | %                       |                           |
| Hopper Temperature                                           | 80.0 - 100    | °C                      |                           |

|                          |            |    |
|--------------------------|------------|----|
| Cylinder Zone 1 Temp.    | 280 - 300  | °C |
| Cylinder Zone 2 Temp.    | 295 - 320  | °C |
| Cylinder Zone 3 Temp.    | 305 - 330  | °C |
| Cylinder Zone 4 Temp.    | 310 - 335  | °C |
| Adapter Temperature      | 285 - 335  | °C |
| Melt Temperature         | 295 - 330  | °C |
| Die Temperature          | 275 - 330  | °C |
| Calibration Temp, First  | 140 - 170  | °C |
| Calibration Temp, Second | 90.0 - 130 | °C |

#### NOTE

|     |                 |
|-----|-----------------|
| 1.  | Tensile Bar     |
| 2.  | 2.0 mm/min      |
| 3.  | 2.0 mm/min      |
| 4.  | Yield           |
| 5.  | Break           |
| 6.  | 80*10*4 sp=62mm |
| 7.  | 80*10*4         |
| 8.  | 120*10*4 mm     |
| 9.  | 5 minute test   |
| 10. | 2 minute test   |

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