

# Ultrason® E 3010 MR UN

Polyethersulfone  
BASF Corporation

Message:

Unreinforced, higher viscosity injection molding and extrusion grade with improved toughness and chemical resistance (stress crack resistance); demolding optimized

| General Information                         |                          |           |              |
|---------------------------------------------|--------------------------|-----------|--------------|
| Features                                    | Good Chemical Resistance |           |              |
|                                             | Good Toughness           |           |              |
|                                             | High Viscosity           |           |              |
| Agency Ratings                              | EC 1907/2006 (REACH)     |           |              |
| RoHS Compliance                             | RoHS Compliant           |           |              |
| Forms                                       | Pellets                  |           |              |
| Processing Method                           | Blow Molding             |           |              |
|                                             | Extrusion                |           |              |
|                                             | Injection Molding        |           |              |
| Resin ID (ISO 1043)                         | PESU                     |           |              |
| Physical                                    | Nominal Value            | Unit      | Test Method  |
| Density                                     | 1.37                     | g/cm³     | ISO 1183     |
| Apparent Density                            | 0.70 to 0.80             | g/cm³     |              |
| Melt Volume-Flow Rate (MVR) (360°C/10.0 kg) | 35.0                     | cm³/10min | ISO 1133     |
| Molding Shrinkage                           |                          |           | ISO 294-4    |
| Across Flow                                 | 0.90                     | %         |              |
| Flow                                        | 0.85                     | %         |              |
| Water Absorption                            |                          |           | ISO 62       |
| Saturation, 23°C                            | 2.2                      | %         |              |
| Equilibrium, 23°C, 50% RH                   | 0.80                     | %         |              |
| Viscosity Number <sup>1</sup>               | 66.0                     | cm³/g     | ISO 307      |
| Hardness                                    | Nominal Value            | Unit      | Test Method  |
| Ball Indentation Hardness (H 358/30)        | 154                      | MPa       | ISO 2039-1   |
| Mechanical                                  | Nominal Value            | Unit      | Test Method  |
| Tensile Modulus                             | 2650                     | MPa       | ISO 527-2    |
| Tensile Stress (Yield)                      | 85.0                     | MPa       | ISO 527-2/50 |
| Tensile Strain (Yield)                      | 6.9                      | %         | ISO 527-2/50 |
| Impact                                      | Nominal Value            | Unit      | Test Method  |
| Charpy Notched Impact Strength              |                          |           | ISO 179/1eA  |
| -30°C                                       | 8.0                      | kJ/m²     |              |

|                                                                  |               |                   |             |
|------------------------------------------------------------------|---------------|-------------------|-------------|
| 23°C                                                             | 8.0           | kJ/m <sup>2</sup> |             |
| Charpy Unnotched Impact Strength                                 |               | ISO 179/1eU       |             |
| -30°C                                                            | No Break      |                   |             |
| 23°C                                                             | No Break      |                   |             |
| Notched Izod Impact Strength                                     |               | ISO 180/A         |             |
| -30°C                                                            | 8.0           | kJ/m <sup>2</sup> |             |
| 23°C                                                             | 8.0           | kJ/m <sup>2</sup> |             |
| Thermal                                                          | Nominal Value | Unit              | Test Method |
| Heat Deflection Temperature (1.8 MPa, Unannealed)                | 207           | °C                | ISO 75-2/A  |
| Glass Transition Temperature <sup>2</sup>                        | 228           | °C                | ISO 11357-2 |
| CLTE - Flow                                                      |               |                   |             |
| 23 to 80°C                                                       | 5.2E-5        | cm/cm/°C          | ISO 11359-2 |
| 180°C                                                            | 5.9E-5        | cm/cm/°C          | DIN 53752   |
| Maximum Service Temperature - short cycle operation              | 220           | °C                |             |
| Temperature Index - at 50% loss of tensile strength <sup>3</sup> | 180           | °C                | IEC 60216   |
| Screw Speed                                                      | < 300         | mm/sec            |             |
| Electrical                                                       | Nominal Value | Unit              | Test Method |
| Volume Resistivity                                               | > 1.0E+15     | ohms·cm           | IEC 60093   |
| Electric Strength                                                | 34            | kV/mm             | IEC 60243-1 |
| Relative Permittivity                                            |               |                   | IEC 60250   |
| 100 Hz                                                           | 3.90          |                   |             |
| 1 MHz                                                            | 3.80          |                   |             |
| Dissipation Factor                                               |               |                   | IEC 60250   |
| 100 Hz                                                           | 1.7E-3        |                   |             |
| 1 MHz                                                            | 0.014         |                   |             |
| Comparative Tracking Index                                       |               |                   | IEC 60112   |
| Solution A                                                       | 100           | V                 |             |
| Solution B                                                       | 100           | V                 |             |
| Flammability                                                     | Nominal Value | Unit              | Test Method |
| Flame Rating                                                     |               |                   | UL 94       |
| 1.60 mm                                                          | V-0           |                   |             |
| 3.00 mm                                                          | V-0           |                   |             |
| Injection                                                        | Nominal Value | Unit              |             |
| Drying Temperature                                               | 140           | °C                |             |
| Drying Time                                                      | 4.0           | hr                |             |
| Suggested Max Moisture                                           | 0.020         | %                 |             |
| Hopper Temperature                                               | 80.0          | °C                |             |
| Rear Temperature                                                 | 350           | °C                |             |
| Middle Temperature                                               | 360           | °C                |             |
| Front Temperature                                                | 370           | °C                |             |

|                        |            |    |
|------------------------|------------|----|
| Nozzle Temperature     | 370        | °C |
| Processing (Melt) Temp | 350 to 390 | °C |
| Mold Temperature       | 140 to 180 | °C |

#### NOTE

- |    |                                                   |
|----|---------------------------------------------------|
| 1. | in 0,01 g/ml Phenol/1,2, ortho-Dichlorbenzol, 1:1 |
| 2. | 10°C/min                                          |
| 3. | 20000 h                                           |

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