

# GELOY™ EXGY0070 resin

Acrylonitrile Styrene Acrylate

SABIC Innovative Plastics

Message:

Next generation ASA optimized for outstanding weatherability, colorability and higher heat applications requiring UV exposure resistance.

| General Information                        |                         |           |                     |
|--------------------------------------------|-------------------------|-----------|---------------------|
| Features                                   | Good UV resistance      |           |                     |
|                                            | Good coloring           |           |                     |
|                                            | Good weather resistance |           |                     |
|                                            | Heat resistance, high   |           |                     |
| Processing Method                          | Injection molding       |           |                     |
| Physical                                   | Nominal Value           | Unit      | Test Method         |
| Specific Gravity                           | 1.09                    | g/cm³     | ASTM D792, ISO 1183 |
| Melt Mass-Flow Rate (MFR)                  |                         |           | ASTM D1238          |
| 220°C/10.0 kg                              | 8.8                     | g/10 min  | ASTM D1238          |
| 260°C/5.0 kg                               | 7.1                     | g/10 min  | ASTM D1238          |
| 280°C/3.8 kg                               | 7.2                     | g/10 min  | ASTM D1238          |
| Melt Volume-Flow Rate (MVR) (260°C/5.0 kg) | 9.60                    | cm³/10min | ISO 1133            |
| Molding Shrinkage                          |                         |           | Internal method     |
| Flow <sup>1</sup>                          | 0.40 - 0.70             | %         | Internal method     |
| Flow: 3.20mm                               | 0.40 - 0.70             | %         | Internal method     |
| Transverse flow: 3.20mm                    | 0.40 - 0.75             | %         | Internal method     |
| Water Absorption                           |                         |           | ISO 62              |
| Saturated, 23°C                            | 0.50                    | %         | ISO 62              |
| Equilibrium, 23°C, 50% RH                  | 0.20                    | %         | ISO 62              |
| Outdoor Suitability                        | f1                      |           | UL 746C             |
| Hardness                                   | Nominal Value           | Unit      | Test Method         |
| Rockwell Hardness (R-Scale)                | 100                     |           | ASTM D785           |
| Mechanical                                 | Nominal Value           | Unit      | Test Method         |
| Tensile Modulus                            |                         |           |                     |
| -- <sup>2</sup>                            | 2360                    | MPa       | ASTM D638           |
| -- <sup>3</sup>                            | 2400                    | MPa       | ASTM D638           |
| --                                         | 2350                    | MPa       | ISO 527-2/1         |
| Tensile Strength                           |                         |           |                     |
| Yield <sup>4</sup>                         | 43.0                    | MPa       | ASTM D638           |
| Yield <sup>5</sup>                         | 46.0                    | MPa       | ASTM D638           |
| Yield                                      | 45.8                    | MPa       | ISO 527-2/50        |

|                                                     |               |                   |                          |
|-----------------------------------------------------|---------------|-------------------|--------------------------|
| Fracture <sup>6</sup>                               | 36.0          | MPa               | ASTM D638                |
| Fracture <sup>7</sup>                               | 37.0          | MPa               | ASTM D638                |
| Fracture                                            | 36.5          | MPa               | ISO 527-2/50             |
| Tensile Elongation                                  |               |                   |                          |
| Yield <sup>8</sup>                                  | 2.5           | %                 | ASTM D638                |
| Yield <sup>9</sup>                                  | 2.7           | %                 | ASTM D638                |
| Yield                                               | 2.8           | %                 | ISO 527-2/50             |
| Fracture <sup>10</sup>                              | 27            | %                 | ASTM D638                |
| Fracture <sup>11</sup>                              | 26            | %                 | ASTM D638                |
| Fracture                                            | 36            | %                 | ISO 527-2/50             |
| Flexural Modulus                                    |               |                   |                          |
| 50.0mm span <sup>12</sup>                           | 2450          | MPa               | ASTM D790                |
| -- <sup>13</sup>                                    | 2380          | MPa               | ISO 178                  |
| Flexural Stress                                     |               |                   |                          |
| --                                                  | 64.0          | MPa               | ISO 178                  |
| Yield, 50.0mm span <sup>14</sup>                    | 74.0          | MPa               | ASTM D790                |
| Impact                                              | Nominal Value | Unit              | Test Method              |
| Charpy Notched Impact Strength <sup>15</sup> (23°C) | 11            | kJ/m <sup>2</sup> | ISO 179/1eA              |
| Notched Izod Impact                                 |               |                   |                          |
| -30°C                                               | 35            | J/m               | ASTM D256                |
| 23°C                                                | 210           | J/m               | ASTM D256                |
| -30°C <sup>16</sup>                                 | 3.0           | kJ/m <sup>2</sup> | ISO 180/1A               |
| 23°C <sup>17</sup>                                  | 15            | kJ/m <sup>2</sup> | ISO 180/1A               |
| Instrumented Dart Impact                            |               |                   | ASTM D3763               |
| -30°C, Total Energy                                 | 3.00          | J                 | ASTM D3763               |
| 23°C, Total Energy                                  | 36.0          | J                 | ASTM D3763               |
| Thermal                                             | Nominal Value | Unit              | Test Method              |
| Deflection Temperature Under Load                   |               |                   |                          |
| 0.45 MPa, unannealed, 3.20mm                        | 97.0          | °C                | ASTM D648                |
| 0.45 MPa, unannealed, 64.0mm span <sup>18</sup>     | 98.0          | °C                | ISO 75-2/Bf              |
| 1.8 MPa, unannealed, 3.20mm                         | 84.0          | °C                | ASTM D648                |
| 1.8 MPa, unannealed, 64.0mm span <sup>19</sup>      | 84.0          | °C                | ISO 75-2/Af              |
| Vicat Softening Temperature                         |               |                   |                          |
| --                                                  | 98.0          | °C                | ASTM D1525 <sup>20</sup> |
| --                                                  | 95.0          | °C                | ISO 306/B50              |
| --                                                  | 99.0          | °C                | ISO 306/B120             |
| Ball Pressure Test (75°C)                           | Pass          |                   | IEC 60695-10-2           |
| Linear thermal expansion coefficient                |               |                   |                          |
| Flow: -40 to 40°C                                   | 8.4E-5        | cm/cm/°C          | ASTM E831                |
| Flow: -40 to 40°C                                   | 8.3E-5        | cm/cm/°C          | ISO 11359-2              |
| Lateral: -40 to 40°C                                | 9.4E-5        | cm/cm/°C          | ASTM E831, ISO 11359-2   |
| Flammability                                        | Nominal Value |                   | Test Method              |

|                                 |                           |             |
|---------------------------------|---------------------------|-------------|
| Flame Rating (1.50 mm)          | HB                        | UL 94       |
| Optical                         | Nominal Value             | Test Method |
| Gardner Gloss (60°, Untextured) | 93                        | ASTM D523   |
| Injection                       | Nominal Value             | Unit        |
| Drying Temperature              | 85.0 - 90.0               | °C          |
| Drying Time                     | 4.0                       | hr          |
| Drying Time, Maximum            | 8.0                       | hr          |
| Suggested Max Moisture          | 0.040                     | %           |
| Suggested Shot Size             | 40 - 80                   | %           |
| Rear Temperature                | 215 - 250                 | °C          |
| Middle Temperature              | 220 - 255                 | °C          |
| Front Temperature               | 230 - 260                 | °C          |
| Nozzle Temperature              | 220 - 255                 | °C          |
| Processing (Melt) Temp          | 240 - 270                 | °C          |
| Mold Temperature                | 60.0 - 85.0               | °C          |
| Back Pressure                   | 0.300 - 1.00              | MPa         |
| Screw Speed                     | 30 - 80                   | rpm         |
| Vent Depth                      | 0.038 - 0.076             | mm          |
| NOTE                            |                           |             |
| 1.                              | Tensile Bar               |             |
| 2.                              | 5.0 mm/min                |             |
| 3.                              | 50 mm/min                 |             |
| 4.                              | Type 1, 5.0 mm/min        |             |
| 5.                              | Type 1, 50mm/min          |             |
| 6.                              | Type 1, 5.0 mm/min        |             |
| 7.                              | Type 1, 50mm/min          |             |
| 8.                              | Type 1, 5.0 mm/min        |             |
| 9.                              | Type 1, 50mm/min          |             |
| 10.                             | Type 1, 5.0 mm/min        |             |
| 11.                             | Type 1, 50mm/min          |             |
| 12.                             | 1.3 mm/min                |             |
| 13.                             | 2.0 mm/min                |             |
| 14.                             | 1.3 mm/min                |             |
| 15.                             | 80*10*4 sp=62mm           |             |
| 16.                             | 80*10*4                   |             |
| 17.                             | 80*10*4                   |             |
| 18.                             | 80*10*4 mm                |             |
| 19.                             | 80*10*4 mm                |             |
| 20.                             | 标准 B (120°C/h), 载荷2 (50N) |             |

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