

# GELOY™ CR7020 resin

Acrylonitrile Styrene Acrylate

SABIC Innovative Plastics

## Message:

ASA copolymer. Profile/sheet coextrusion over ABS. Excellent weatherability, good flow/aesthetics and high impact.

| General Information                                  |                           |                   |                 |
|------------------------------------------------------|---------------------------|-------------------|-----------------|
| UL YellowCard                                        | E207780-100072245         |                   |                 |
| Features                                             | Copolymer                 |                   |                 |
|                                                      | Impact resistance, high   |                   |                 |
|                                                      | Good liquidity            |                   |                 |
|                                                      | Good weather resistance   |                   |                 |
| Uses                                                 | Sheet                     |                   |                 |
|                                                      | Profile                   |                   |                 |
| Processing Method                                    | Profile extrusion molding |                   |                 |
| Physical                                             | Nominal Value             | Unit              | Test Method     |
| Specific Gravity                                     | 1.06                      | g/cm <sup>3</sup> | ASTM D792       |
| Melt Mass-Flow Rate (MFR)                            |                           |                   | ASTM D1238      |
| 220°C/10.0 kg                                        | 7.0                       | g/10 min          | ASTM D1238      |
| 260°C/5.0 kg                                         | 13                        | g/10 min          | ASTM D1238      |
| Molding Shrinkage - Flow (3.20 mm)                   | 0.50 - 0.70               | %                 | Internal method |
| Water Absorption (Equilibrium, 23°C)                 | 0.55                      | %                 | ASTM D570       |
| Outdoor Suitability                                  | f2                        |                   | UL 746C         |
| Hardness                                             | Nominal Value             | Unit              | Test Method     |
| Rockwell Hardness (R-Scale)                          | 86                        |                   | ASTM D785       |
| Mechanical                                           | Nominal Value             | Unit              | Test Method     |
| Tensile Modulus <sup>1</sup>                         | 1790                      | MPa               | ASTM D638       |
| Tensile Strength <sup>2</sup>                        |                           |                   | ASTM D638       |
| Yield                                                | 41.4                      | MPa               | ASTM D638       |
| Fracture                                             | 34.5                      | MPa               | ASTM D638       |
| Tensile Elongation <sup>3</sup> (Break)              | 40                        | %                 | ASTM D638       |
| Flexural Modulus <sup>4</sup> (50.0 mm Span)         | 1790                      | MPa               | ASTM D790       |
| Flexural Strength <sup>5</sup> (Yield, 50.0 mm Span) | 58.6                      | MPa               | ASTM D790       |
| Impact                                               | Nominal Value             | Unit              | Test Method     |
| Notched Izod Impact                                  |                           |                   | ASTM D256       |
| -30°C                                                | 59                        | J/m               | ASTM D256       |
| 23°C                                                 | 320                       | J/m               | ASTM D256       |

| Instrumented Dart Impact (23°C, Total Energy) | 25.4          | J        | ASTM D3763              |
|-----------------------------------------------|---------------|----------|-------------------------|
| Drop Impact Resistance <sup>6</sup>           | 107           | J/cm     | ASTM D4226              |
| Thermal                                       | Nominal Value | Unit     | Test Method             |
| Deflection Temperature Under Load             |               |          | ASTM D648               |
| 0.45 MPa, unannealed, 3.20mm                  | 87.8          | °C       | ASTM D648               |
| 0.45 MPa, unannealed, 6.40mm                  | 90.6          | °C       | ASTM D648               |
| 1.8 MPa, unannealed, 3.20mm                   | 76.7          | °C       | ASTM D648               |
| 1.8 MPa, unannealed, 6.40mm                   | 79.4          | °C       | ASTM D648               |
| 1.8 MPa, annealed                             | 95.6          | °C       | ASTM D648               |
| Vicat Softening Temperature                   | 99.4          | °C       | ASTM D1525 <sup>7</sup> |
| Linear thermal expansion coefficient          |               |          | ASTM E831               |
| Flow: -30 to 0°C                              | 8.5E-5        | cm/cm/°C | ASTM E831               |
| Flow: -40 to 40°C                             | 8.6E-5        | cm/cm/°C | ASTM E831               |
| Flow: 0 to 100°C                              | 9.0E-5        | cm/cm/°C | ASTM E831               |
| Lateral: -40 to 40°C                          | 9.2E-5        | cm/cm/°C | ASTM E831               |
| RTI Elec                                      | 50.0          | °C       | UL 746                  |
| RTI Imp                                       | 50.0          | °C       | UL 746                  |
| RTI                                           | 50.0          | °C       | UL 746                  |
| Electrical                                    | Nominal Value | Unit     | Test Method             |
| Surface Resistivity                           | > 1.0E+15     | ohms     | ASTM D257               |
| Dielectric Strength (3.20 mm, in Oil)         | 16            | kV/mm    | ASTM D149               |
| Dielectric Constant                           |               |          | ASTM D150               |
| 50 Hz                                         | 5.20          |          | ASTM D150               |
| 60 Hz                                         | 5.20          |          | ASTM D150               |
| 1 MHz                                         | 3.21          |          | ASTM D150               |
| Dissipation Factor                            |               |          | ASTM D150               |
| 50 Hz                                         | 0.15          |          | ASTM D150               |
| 60 Hz                                         | 0.15          |          | ASTM D150               |
| 1 MHz                                         | 0.026         |          | ASTM D150               |
| Comparative Tracking Index (CTI)              | PLC 0         |          | UL 746                  |
| High Amp Arc Ignition (HAI)                   | PLC 0         |          | UL 746                  |
| Hot-wire Ignition (HWI)                       | PLC 3         |          | UL 746                  |
| Flammability                                  | Nominal Value | Unit     | Test Method             |
| Flame Rating (1.50 mm)                        | HB            |          | UL 94                   |
| Optical                                       | Nominal Value |          | Test Method             |
| Gardner Gloss (60°, Untextured)               | 95            |          | ASTM D523               |
| Extrusion                                     | Nominal Value | Unit     |                         |
| Drying Temperature                            | 82.2 - 87.8   | °C       |                         |
| Drying Time                                   | 3.0 - 6.0     | hr       |                         |
| Cylinder Zone 1 Temp.                         | 204 - 216     | °C       |                         |
| Cylinder Zone 2 Temp.                         | 216 - 232     | °C       |                         |

|                         |             |    |
|-------------------------|-------------|----|
| Cylinder Zone 3 Temp.   | 221 - 238   | °C |
| Cylinder Zone 4 Temp.   | 227 - 243   | °C |
| Adapter Temperature     | 227 - 243   | °C |
| Melt Temperature        | 227 - 254   | °C |
| Die Temperature         | 227 - 243   | °C |
| Calibration Temp, First | 15.6 - 65.6 | °C |

Extrusion instructions

Drying Time (Cumulative): 12 hrsMinimum Moisture Content: 0.02 %

NOTE

|    |                           |
|----|---------------------------|
| 1. | 50 mm/min                 |
| 2. | Type 1, 50mm/min          |
| 3. | Type 1, 50mm/min          |
| 4. | 1.3 mm/min                |
| 5. | 1.3 mm/min                |
| 6. | Procedure B               |
| 7. | 标准 B (120°C/h), 载荷2 (50N) |

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