

# 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                        | E121562-220670                                               |                   |                 |
| Features                             | Copolymer                                                    |                   |                 |
|                                      | Impact resistance, high                                      |                   |                 |
|                                      | Good liquidity                                               |                   |                 |
|                                      | Good weather resistance                                      |                   |                 |
| Uses                                 | Sheet                                                        |                   |                 |
|                                      | Profile                                                      |                   |                 |
| Processing Method                    | Profile extrusion molding                                    |                   |                 |
| Multi-Point Data                     | Coefficient of Thermal Expansion vs. Temperature (ASTM E831) |                   |                 |
|                                      | Flexural DMA (ASTM D4065)                                    |                   |                 |
|                                      | Shear DMA (ASTM D4065)                                       |                   |                 |
|                                      | Tensile Fatigue                                              |                   |                 |
|                                      | Tensile Stress vs. Strain (ASTM D638)                        |                   |                 |
|                                      | Thermal Conductivity vs. Temperature (ASTM E1530)            |                   |                 |
|                                      | Viscosity vs. Shear Rate (ASTM D3835)                        |                   |                 |
| 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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