

# GELOY™ RESIN CR85 10

REGION AMERICAS

## DESCRIPTION

ASA, excellent weatherability, injection molding.

## TYPICAL PROPERTY VALUES

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS   |
|----------------------------------------------|----------------|-------------------|----------------|
| <b>MECHANICAL</b>                            |                |                   |                |
| Tensile Stress, yld, Type I, 50 mm/min       | 40             | MPa               | ASTM D638      |
| Tensile Stress, brk, Type I, 50 mm/min       | 33             | MPa               | ASTM D638      |
| Tensile Strain, yld, Type I, 50 mm/min       | 3.6            | %                 | ASTM D638      |
| Tensile Strain, brk, Type I, 50 mm/min       | 60             | %                 | ASTM D638      |
| Tensile Modulus, 50 mm/min                   | 2070           | MPa               | ASTM D638      |
| Tensile Modulus, 5 mm/min                    | 1970           | MPa               | ASTM D638      |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 68             | MPa               | ASTM D790      |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2170           | MPa               | ASTM D790      |
| Hardness, Rockwell R                         | 93             | -                 | ASTM D785      |
| Tensile Stress, yield, 50 mm/min             | 43             | MPa               | ISO 527        |
| Tensile Stress, break, 50 mm/min             | 35             | MPa               | ISO 527        |
| Tensile Strain, yield, 50 mm/min             | 3.3            | %                 | ISO 527        |
| Tensile Strain, break, 50 mm/min             | 19             | %                 | ISO 527        |
| Tensile Modulus, 1 mm/min                    | 2040           | MPa               | ISO 527        |
| Flexural Stress, yield, 2 mm/min             | 64             | MPa               | ISO 178        |
| Flexural Modulus, 2 mm/min                   | 2060           | MPa               | ISO 178        |
| <b>IMPACT</b>                                |                |                   |                |
| Izod Impact, notched, 23°C                   | 400            | J/m               | ASTM D256      |
| Izod Impact, notched, -30°C                  | 60             | J/m               | ASTM D256      |
| Instrumented Dart Impact Total Energy, 23°C  | 30             | J                 | ASTM D3763     |
| Instrumented Dart Impact Total Energy, -30°C | 4              | J                 | ASTM D3763     |
| Izod Impact, notched 80*10*4 +23°C           | 15             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Izod Impact, notched 80*10*4 -30°C           | 6              | kJ/m <sup>2</sup> | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 14             | kJ/m <sup>2</sup> | ISO 179/1eA    |
| <b>THERMAL</b>                               |                |                   |                |
| Vicat Softening Temp, Rate B/50              | 98             | °C                | ASTM D1525     |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 103            | °C                | ASTM D648      |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 90             | °C                | ASTM D648      |
| CTE, -40°C to 40°C, flow                     | 8.4E-05        | 1/°C              | ASTM E831      |
| CTE, -40°C to 40°C, xflow                    | 9.5E-05        | 1/°C              | ASTM E831      |
| CTE, -40°C to 40°C, flow                     | 8.4E-05        | 1/°C              | ISO 11359-2    |
| CTE, -40°C to 40°C, xflow                    | 9.5E-05        | 1/°C              | ISO 11359-2    |
| Ball Pressure Test, approximate maximum      | 98             | °C                | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50              | 102            | °C                | ISO 306        |
| Vicat Softening Temp, Rate B/120             | 105            | °C                | ISO 306        |

| PROPERTIES                              | TYPICAL VALUES                    | UNITS      | TEST METHODS |
|-----------------------------------------|-----------------------------------|------------|--------------|
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm | 88                                | °C         | ISO 75/Ae    |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm  | 103                               | °C         | ISO 75/Bf    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm   | 89                                | °C         | ISO 75/Af    |
| PHYSICAL                                |                                   |            |              |
| Specific Gravity                        | 1.08                              | -          | ASTM D792    |
| Mold Shrinkage, flow, 3.2 mm            | 0.5 – 0.8                         | %          | SABIC method |
| Melt Flow Rate, 220°C/10.0 kgf          | 6.3                               | g/10 min   | ASTM D1238   |
| Melt Flow Rate, 260°C/5.0 kgf           | 11                                | g/10 min   | ASTM D1238   |
| Melt Flow Rate, 280°C/3.8 kgf           | 7.8                               | g/10 min   | ASTM D1238   |
| Density                                 | 1.07                              | g/cm³      | ISO 1183     |
| Water Absorption, (23°C/saturated)      | 0.5                               | %          | ISO 62-1     |
| Moisture Absorption (23°C / 50% RH)     | 0.2                               | %          | ISO 62       |
| Melt Volume Rate, MVR at 220°C/10.0 kg  | 6                                 | cm³/10 min | ISO 1133     |
| Melt Volume Rate, MVR at 260°C/5.0 kg   | 10                                | cm³/10 min | ISO 1133     |
| OPTICAL                                 |                                   |            |              |
| Gloss, untextured, 60 degrees           | 94                                | -          | ASTM D523    |
| ELECTRICAL                              |                                   |            |              |
| Dissipation Factor, 100 kHz             | 0.018                             | -          | ASTM D150    |
| Dissipation Factor, 1 MHz               | 0.026                             | -          | ASTM D150    |
| Dielectric Strength in oil, 1.5mm       | 26.1                              | kV/mm      | IEC 60243-1  |
| Comparative Tracking Index              | 600                               | V          | IEC 60112    |
| FLAME CHARACTERISTICS                   |                                   |            |              |
| UL Yellow Card Link                     | <a href="#">E121562-100054229</a> | -          | -            |
| UL Recognized, 94HB Flame Class Rating  | 1.5                               | mm         | UL 94        |
| UV-light, water exposure/immersion      | F1                                | -          | UL 746C      |
| INJECTION MOLDING                       |                                   |            |              |
| Drying Temperature                      | 85 – 90                           | °C         |              |
| Drying Time                             | 4                                 | Hrs        |              |
| Drying Time (Cumulative)                | 8                                 | Hrs        |              |
| Maximum Moisture Content                | 0.04                              | %          |              |
| Melt Temperature                        | 240 – 270                         | °C         |              |
| Nozzle Temperature                      | 220 – 255                         | °C         |              |
| Front - Zone 3 Temperature              | 230 – 260                         | °C         |              |
| Middle - Zone 2 Temperature             | 220 – 255                         | °C         |              |
| Rear - Zone 1 Temperature               | 215 – 250                         | °C         |              |
| Mold Temperature                        | 60 – 85                           | °C         |              |
| Back Pressure                           | 0.3 – 1                           | MPa        |              |
| Screw Speed                             | 30 – 80                           | rpm        |              |
| Shot to Cylinder Size                   | 40 – 80                           | %          |              |
| Vent Depth                              | 0.038 – 0.076                     | mm         |              |