

# GELOY<sup>TM</sup> RESIN XP7550

REGION AMERICAS

## DESCRIPTION

PC/ASA. Excellent weatherability.

## TYPICAL PROPERTY VALUES

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS   |
|----------------------------------------------|----------------|-------------------|----------------|
| <b>MECHANICAL</b>                            |                |                   |                |
| Tensile Stress, yld, Type I, 50 mm/min       | 56             | MPa               | ASTM D 638     |
| Tensile Stress, brk, Type I, 50 mm/min       | 44             | MPa               | ASTM D 638     |
| Tensile Strain, yld, Type I, 50 mm/min       | 4              | %                 | ASTM D 638     |
| Tensile Strain, brk, Type I, 50 mm/min       | 40             | %                 | ASTM D 638     |
| Tensile Modulus, 5 mm/min                    | 2550           | MPa               | ASTM D 638     |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 82             | MPa               | ASTM D 790     |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2480           | MPa               | ASTM D 790     |
| Hardness, Rockwell R                         | 109            | -                 | ASTM D 785     |
| Tensile Stress, yield, 50 mm/min             | 55             | MPa               | ISO 527        |
| Tensile Stress, break, 50 mm/min             | 44             | MPa               | ISO 527        |
| Tensile Strain, yield, 50 mm/min             | 3.8            | %                 | ISO 527        |
| Tensile Strain, break, 50 mm/min             | 37             | %                 | ISO 527        |
| Tensile Modulus, 1 mm/min                    | 2550           | MPa               | ISO 527        |
| Flexural Stress, yield, 2 mm/min             | 74             | MPa               | ISO 178        |
| Flexural Modulus, 2 mm/min                   | 2400           | MPa               | ISO 178        |
| <b>IMPACT</b>                                |                |                   |                |
| Izod Impact, notched, 23°C                   | 375            | J/m               | ASTM D 256     |
| Izod Impact, notched, -30°C                  | 53             | J/m               | ASTM D 256     |
| Instrumented Impact Total Energy, 23°C       | 36             | J                 | ASTM D 3763    |
| Instrumented Impact Total Energy, -30°C      | 10             | J                 | ASTM D 3763    |
| Izod Impact, notched 80*10*4 +23°C           | 35             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Izod Impact, notched 80*10*4 -30°C           | 9              | kJ/m <sup>2</sup> | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 40             | kJ/m <sup>2</sup> | ISO 179/1eA    |
| <b>THERMAL</b>                               |                |                   |                |
| Vicat Softening Temp, Rate B/50              | 105            | °C                | ASTM D 1525    |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 104            | °C                | ASTM D 648     |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 89             | °C                | ASTM D 648     |
| CTE, -40°C to 40°C, flow                     | 7.2E-05        | 1/°C              | ASTM E 831     |
| CTE, -40°C to 40°C, xflow                    | 7.9E-05        | 1/°C              | ASTM E 831     |
| CTE, -40°C to 40°C, flow                     | 7.2E-05        | 1/°C              | ISO 11359-2    |
| CTE, -40°C to 40°C, xflow                    | 7.8E-05        | 1/°C              | ISO 11359-2    |
| Ball Pressure Test, 75°C +/- 2°C             | 85             | -                 | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50              | 105            | °C                | ISO 306        |
| Vicat Softening Temp, Rate B/120             | 106            | °C                | ISO 306        |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 103            | °C                | ISO 75/Bf      |

| PROPERTIES                            | TYPICAL VALUES | UNITS      | TEST METHODS |
|---------------------------------------|----------------|------------|--------------|
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 89             | °C         | ISO 75 /Af   |
| PHYSICAL                              |                |            |              |
| Specific Gravity                      | 1.11           | -          | ASTM D 792   |
| Mold Shrinkage on Tensile Bar, flow   | 0.5 – 0.7      | %          | SABIC method |
| Mold Shrinkage, flow, 3.2 mm          | 0.4 – 0.6      | %          | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm         | 0.5 – 0.7      | %          | SABIC method |
| Melt Flow Rate, 220°C/10.0 kgf        | 14             | g/10 min   | ASTM D 1238  |
| Density                               | 1.11           | g/cm³      | ISO 1183     |
| Water Absorption, (23°C/sat)          | 0.8            | %          | ISO 62       |
| Moisture Absorption (23°C / 50% RH)   | 0.3            | %          | ISO 62       |
| Melt Volume Rate, MVR at 260°C/5.0 kg | 26             | cm³/10 min | ISO 1133     |
| OPTICAL                               |                |            |              |
| Gloss, untextured, 60 degrees         | 94             | -          | ASTM D 523   |
| INJECTION MOLDING                     |                |            |              |
| Drying Temperature                    | 90 – 100       | °C         |              |
| Drying Time                           | 3 – 4          | hrs        |              |
| Drying Time (Cumulative)              | 8              | hrs        |              |
| Maximum Moisture Content              | 0.04           | %          |              |
| Melt Temperature                      | 255 – 270      | °C         |              |
| Nozzle Temperature                    | 240 – 255      | °C         |              |
| Front - Zone 3 Temperature            | 245 – 260      | °C         |              |
| Middle - Zone 2 Temperature           | 240 – 255      | °C         |              |
| Rear - Zone 1 Temperature             | 230 – 250      | °C         |              |
| Mold Temperature                      | 55 – 70        | °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         |              |