

# CYCOLOY<sup>TM</sup> RESIN XCY620

REGION ASIA

## DESCRIPTION

PC/ABS, hydrolytically stable, colors.

## TYPICAL PROPERTY VALUES

Revision 20181012

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL</b>                            |                |                   |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 55             | MPa               | ASTM D 638   |
| Tensile Stress, brk, Type I, 50 mm/min       | 52             | MPa               | ASTM D 638   |
| Tensile Strain, yld, Type I, 50 mm/min       | 4.7            | %                 | ASTM D 638   |
| Tensile Strain, brk, Type I, 50 mm/min       | 115            | %                 | ASTM D 638   |
| Tensile Modulus, 5 mm/min                    | 2300           | MPa               | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 89             | MPa               | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2300           | MPa               | ASTM D 790   |
| Tensile Stress, yield, 50 mm/min             | 54             | MPa               | ISO 527      |
| Tensile Stress, break, 50 mm/min             | 51             | MPa               | ISO 527      |
| Tensile Strain, yield, 50 mm/min             | 4.5            | %                 | ISO 527      |
| Tensile Strain, break, 50 mm/min             | 115            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 2200           | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min             | 83             | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 2200           | MPa               | ISO 178      |
| <b>IMPACT</b>                                |                |                   |              |
| Izod Impact, notched, 23°C                   | 640            | J/m               | ASTM D 256   |
| Izod Impact, notched, -30°C                  | 480            | J/m               | ASTM D 256   |
| Instrumented Impact Total Energy, 23°C       | 56             | J                 | ASTM D 3763  |
| Instrumented Impact Total Energy, -30°C      | 70             | J                 | ASTM D 3763  |
| Izod Impact, notched 80*10*3 +23°C           | 70             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*3 -30°C           | 45             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 +23°C           | 55             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C           | 45             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm   | 70             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm  | 45             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 60             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm  | 45             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| <b>THERMAL</b>                               |                |                   |              |
| Vicat Softening Temp, Rate B/50              | 127            | °C                | ASTM D 1525  |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 107            | °C                | ASTM D 648   |
| CTE, -40°C to 40°C, flow                     | 7.E-05         | 1/°C              | ASTM E 831   |
| CTE, -40°C to 40°C, xflow                    | 7.E-05         | 1/°C              | ASTM E 831   |
| Thermal Conductivity                         | 0.2            | W/m·°C            | ISO 8302     |
| CTE, -40°C to 40°C, flow                     | 7.E-05         | 1/°C              | ISO 11359-2  |
| CTE, -40°C to 40°C, xflow                    | 7.E-05         | 1/°C              | ISO 11359-2  |

| PROPERTIES                             | TYPICAL VALUES | UNITS      | TEST METHODS   |
|----------------------------------------|----------------|------------|----------------|
| Ball Pressure Test, 75°C +/- 2°C       | Pass           | -          | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50        | 127            | °C         | ISO 306        |
| Vicat Softening Temp, Rate B/120       | 129            | °C         | ISO 306        |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 126            | °C         | ISO 75/Bf      |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm  | 105            | °C         | ISO 75/Af      |
| PHYSICAL                               |                |            |                |
| Specific Gravity                       | 1.14           | -          | ASTM D 792     |
| Mold Shrinkage, flow, 3.2 mm           | 0.5 – 0.7      | %          | SABIC method   |
| Mold Shrinkage, xflow, 3.2 mm          | 0.5 – 0.7      | %          | SABIC method   |
| Melt Flow Rate, 260°C/5.0 kgf          | 22             | g/10 min   | ASTM D 1238    |
| Density                                | 1.14           | g/cm³      | ISO 1183       |
| Water Absorption, (23°C/sat)           | 0.4            | %          | ISO 62         |
| Moisture Absorption (23°C / 50% RH)    | 0.15           | %          | ISO 62         |
| Melt Volume Rate, MVR at 260°C/5.0 kg  | 18             | cm³/10 min | ISO 1133       |
| Melt Viscosity, 260°C, 1500 sec-1      | 195            | Pa-s       | ISO 11443      |
| ELECTRICAL                             |                |            |                |
| Volume Resistivity                     | >1.E+15        | Ohm-cm     | IEC 60093      |
| Surface Resistivity, ROA               | >1.E+15        | Ohm        | IEC 60093      |
| Dielectric Strength, in oil, 0.8 mm    | 35             | kV/mm      | IEC 60243-1    |
| Dielectric Strength, in oil, 1.6 mm    | 25             | kV/mm      | IEC 60243-1    |
| Dielectric Strength, in oil, 3.2 mm    | 17             | kV/mm      | IEC 60243-1    |
| INJECTION MOLDING                      |                |            |                |
| Drying Temperature                     | 95 – 105       | °C         |                |
| Drying Time                            | 2 – 4          | hrs        |                |
| Maximum Moisture Content               | 0.02           | %          |                |
| Melt Temperature                       | 260 – 290      | °C         |                |
| Nozzle Temperature                     | 240 – 280      | °C         |                |
| Front - Zone 3 Temperature             | 250 – 290      | °C         |                |
| Middle - Zone 2 Temperature            | 250 – 290      | °C         |                |
| Rear - Zone 1 Temperature              | 230 – 260      | °C         |                |
| Hopper Temperature                     | 60 – 80        | °C         |                |
| Mold Temperature                       | 60 – 90        | °C         |                |

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