

# CYCOLOY<sup>TM</sup> RESIN CY8630

REGION ASIA

## DESCRIPTION

PC+ ABS Automotive applications

## TYPICAL PROPERTY VALUES

Revision 20181012

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS   |
|----------------------------------------------|----------------|-------------------|----------------|
| <b>MECHANICAL</b>                            |                |                   |                |
| Tensile Stress, yld, Type I, 50 mm/min       | 58             | MPa               | ASTM D 638     |
| Tensile Stress, brk, Type I, 50 mm/min       | 50             | MPa               | ASTM D 638     |
| Tensile Strain, yld, Type I, 50 mm/min       | 5.3            | %                 | ASTM D 638     |
| Tensile Strain, brk, Type I, 50 mm/min       | 75             | %                 | ASTM D 638     |
| Tensile Modulus, 5 mm/min                    | 2250           | MPa               | ASTM D 638     |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 87             | MPa               | ASTM D 790     |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2300           | MPa               | ASTM D 790     |
| Tensile Stress, yield, 50 mm/min             | 58             | MPa               | ISO 527        |
| Tensile Stress, break, 50 mm/min             | 55             | MPa               | ISO 527        |
| Tensile Strain, yield, 50 mm/min             | 5.2            | %                 | ISO 527        |
| Tensile Strain, break, 50 mm/min             | 75             | %                 | ISO 527        |
| Tensile Modulus, 1 mm/min                    | 2250           | MPa               | ISO 527        |
| Flexural Stress, yield, 2 mm/min             | 85             | MPa               | ISO 178        |
| Flexural Modulus, 2 mm/min                   | 2300           | MPa               | ISO 178        |
| <b>IMPACT</b>                                |                |                   |                |
| Izod Impact, notched, 23°C                   | 600            | J/m               | ASTM D 256     |
| Izod Impact, notched, -30°C                  | 300            | J/m               | ASTM D 256     |
| Instrumented Impact Total Energy, 23°C       | 90             | J                 | ASTM D 3763    |
| Instrumented Impact Total Energy, -30°C      | 90             | J                 | ASTM D 3763    |
| Izod Impact, unnotched 80*10*4 +23°C         | NB             | kJ/m <sup>2</sup> | ISO 180/1U     |
| Izod Impact, unnotched 80*10*4 -30°C         | NB             | kJ/m <sup>2</sup> | ISO 180/1U     |
| Izod Impact, notched 80*10*4 +23°C           | 50             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Izod Impact, notched 80*10*4 -30°C           | 25             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 50             | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm  | 25             | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm   | NB             | kJ/m <sup>2</sup> | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm  | NB             | kJ/m <sup>2</sup> | ISO 179/1eU    |
| <b>THERMAL</b>                               |                |                   |                |
| Vicat Softening Temp, Rate B/50              | 131            | °C                | ASTM D 1525    |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 128            | °C                | ASTM D 648     |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 110            | °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                    | 8.E-05         | 1/°C              | ASTM E 831     |
| Ball Pressure Test, 75°C +/- 2°C             | PASSES         | -                 | IEC 60695-10-2 |
| Ball Pressure Test, approximate maximum      | 100            | °C                | IEC 60695-10-2 |

| PROPERTIES                          | TYPICAL VALUES | UNITS             | TEST METHODS |
|-------------------------------------|----------------|-------------------|--------------|
| Vicat Softening Temp, Rate B/120    | 133            | °C                | ISO 306      |
| <b>PHYSICAL</b>                     |                |                   |              |
| Specific Gravity                    | 1.12           | -                 | 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 |
| Density                             | 1.12           | g/cm <sup>3</sup> | ISO 1183     |
| Water Absorption, 23°C/24hrs        | 0.3            | %                 | ISO 62-1     |
| Water Absorption, (23°C/sat)        | 0.6            | %                 | ISO 62       |
| Moisture Absorption (23°C / 50% RH) | 0.2            | %                 | ISO 62       |
| <b>ELECTRICAL</b>                   |                |                   |              |
| Volume Resistivity                  | >1.E+16        | Ohm-cm            | IEC 60093    |
| <b>INJECTION MOLDING</b>            |                |                   |              |
| 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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