



Wednesday, August 30, 2023

PRL PC-UV3-D(f1)-(color)-1

Polymer Resources Ltd. - Polycarbonate

Units 

English ▼

|        |                                 |
|--------|---------------------------------|
| Action | Legend ( <a href="#">Open</a> ) |
|        |                                 |

General Information

|                   |                      |                 |                |
|-------------------|----------------------|-----------------|----------------|
| General           |                      |                 |                |
| Material Status   | • Commercial: Active |                 |                |
| Availability      | • North America      |                 |                |
| Additive          | • Mold Release       | • UV Stabilizer |                |
| Features          | • Good Mold Release  | • High Flow     | • UV Resistant |
| RoHS Compliance   | • RoHS Compliant     |                 |                |
| UL File Number    | • E113219            |                 |                |
| Forms             | • Pellets            |                 |                |
| Processing Method | • Injection Molding  |                 |                |

ASTM & ISO Properties <sup>1</sup>

|                                                                   |                  |          |                         |
|-------------------------------------------------------------------|------------------|----------|-------------------------|
| Physical                                                          | Nominal Value    | Unit     | Test Method             |
| Density / Specific Gravity                                        | 1.20             |          | ASTM D792               |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)                          | 14 to 20         | g/10 min | ASTM D1238              |
| Molding Shrinkage - Flow (0.125 in)                               | 5.0E-3 to 7.0E-3 | in/in    | ASTM D955               |
| Outdoor Suitability                                               | f1               |          | UL 746C                 |
| Mechanical                                                        | Nominal Value    | Unit     | Test Method             |
| Tensile Strength (Yield, 0.125 in)                                | 9000             | psi      | ASTM D638               |
| Tensile Strength (Break, 0.125 in)                                | 10000            | psi      | ASTM D638               |
| Tensile Elongation (Yield, 0.125 in)                              | 6.0              | %        | ASTM D638               |
| Tensile Elongation (Break, 0.125 in)                              | 120              | %        | ASTM D638               |
| Flexural Modulus (0.125 in)                                       | 335000           | psi      | ASTM D790               |
| Flexural Strength (0.125 in)                                      | 13900            | psi      | ASTM D790               |
| Impact                                                            | Nominal Value    | Unit     | Test Method             |
| Notched Izod Impact (73°F, 0.125 in)                              | 13               | ft·lb/in | ASTM D256               |
| Gardner Impact (0.125 in)                                         | > 320            | in·lb    | ASTM D3029              |
| Hardness                                                          | Nominal Value    | Unit     | Test Method             |
| Rockwell Hardness                                                 |                  |          | ASTM D785               |
| M-Scale                                                           | 70               |          |                         |
| R-Scale                                                           | 118              |          |                         |
| Thermal                                                           | Nominal Value    | Unit     | Test Method             |
| Deflection Temperature Under Load (66 psi, Unannealed, 0.125 in)  | 270              | °F       | ASTM D648               |
| Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in) | 260              | °F       | ASTM D648               |
| Vicat Softening Temperature                                       | 300              | °F       | ASTM D1525 <sup>2</sup> |
| RTI Elec                                                          |                  |          | UL 746B                 |
| 0.06 in                                                           | 248              | °F       |                         |
| 0.12 in                                                           | 248              | °F       |                         |
| RTI Imp                                                           |                  |          | UL 746B                 |
| 0.06 in                                                           | 221              | °F       |                         |
| 0.12 in                                                           | 230              | °F       |                         |
| RTI Str                                                           |                  |          | UL 746B                 |
| 0.06 in                                                           | 248              | °F       |                         |
| 0.12 in                                                           | 248              | °F       |                         |
| Electrical                                                        | Nominal Value    | Unit     | Test Method             |
| Volume Resistivity                                                | 1.0E+15          | ohms·cm  | ASTM D257               |
| Dielectric Strength (0.0591 in)                                   | 300              | V/mil    | ASTM D149               |
| Arc Resistance (0.0591 in)                                        | PLC 5            |          | ASTM D495               |
| Comparative Tracking Index (CTI) (0.0591 in)                      | PLC 3            |          | UL 746A                 |

|                                                                                   |               |               |             |
|-----------------------------------------------------------------------------------|---------------|---------------|-------------|
| High Amp Arc Ignition (HAI)                                                       |               |               | UL 746A     |
| 0.06 in                                                                           | PLC 0         |               |             |
| 0.12 in                                                                           | PLC 0         |               |             |
| High Voltage Arc Tracking Rate (HVTR) (0.0591 in)                                 | PLC 2         |               | UL 746A     |
| Hot-wire Ignition (HWI)                                                           |               |               | UL 746A     |
| 0.06 in                                                                           | PLC 2         |               |             |
| 0.12 in                                                                           | PLC 2         |               |             |
| Flammability                                                                      | Nominal Value | Unit          | Test Method |
| Flame Rating                                                                      |               |               | UL 94       |
| 0.06 in                                                                           | V-2           |               |             |
| 0.12 in                                                                           | V-2           |               |             |
| Optical                                                                           | Nominal Value | Unit          | Test Method |
| Light Transmittance (100.0 mil)                                                   | 88.0          | %             | ASTM D1003  |
| Haze (100.0 mil)                                                                  | 1.00          | %             | ASTM D1003  |
| Processing Information                                                            |               |               |             |
| Injection                                                                         |               | Nominal Value | Unit        |
| Drying Temperature                                                                |               | 245 to 255    | °F          |
| Drying Time                                                                       |               | 3.0 to 4.0    | hr          |
| Drying Time, Maximum                                                              |               | 8.0           | hr          |
| Rear Temperature                                                                  |               | 500 to 540    | °F          |
| Middle Temperature                                                                |               | 520 to 560    | °F          |
| Front Temperature                                                                 |               | 540 to 580    | °F          |
| Processing (Melt) Temp                                                            |               | 550 to 600    | °F          |
| Mold Temperature                                                                  |               | 160 to 200    | °F          |
| Notes                                                                             |               |               |             |
| <sup>1</sup> Typical properties: these are not to be construed as specifications. |               |               |             |
| <sup>2</sup> Rate B (120°C/h), Loading 2 (50 N)                                   |               |               |             |

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