



Wednesday, August 30, 2023

PRL PC-GP2-D-(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       |                     |               |
| Features          | • General Purpose    | • Good Mold Release | • Medium Flow |
| 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)                          | 9.0 to 16        | g/10 min | ASTM D1238              |
| Molding Shrinkage - Flow (0.125 in)                               | 5.0E-3 to 7.0E-3 | in/in    | ASTM D955               |
| 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)                              | 6.5              | %        | ASTM D638               |
| Tensile Elongation (Break, 0.125 in)                              | 140              | %        | 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)                              | 15               | 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)  | 275              | °F       | ASTM D648               |
| Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in) | 265              | °F       | ASTM D648               |
| Vicat Softening Temperature                                       | 305              | °F       | ASTM D1525 <sup>2</sup> |
| RTI Elec                                                          |                  |          | UL 746B                 |
| 0.030 in                                                          | 176              | °F       |                         |
| 0.06 in                                                           | 257              | °F       |                         |
| 0.12 in                                                           | 257              | °F       |                         |
| RTI Imp                                                           |                  |          | UL 746B                 |
| 0.030 in                                                          | 176              | °F       |                         |
| 0.06 in                                                           | 239              | °F       |                         |
| 0.12 in                                                           | 239              | °F       |                         |
| RTI Str                                                           |                  |          | UL 746B                 |
| 0.030 in                                                          | 176              | °F       |                         |
| 0.12 in                                                           | 257              | °F       |                         |
| 0.59 in                                                           | 257              | °F       |                         |
| Electrical                                                        | Nominal Value    | Unit     | Test Method             |
| Volume Resistivity                                                | 1.0E+15          | ohms-cm  | ASTM D257               |
| Dielectric Strength (0.0295 in)                                   | 710              | V/mil    | ASTM D149               |

|                                                   |                      |             |
|---------------------------------------------------|----------------------|-------------|
| Arc Resistance (0.0295 in)                        | PLC 5                | ASTM D495   |
| Comparative Tracking Index (CTI) (0.0295 in)      | PLC 2                | UL 746A     |
| High Amp Arc Ignition (HAI)                       |                      | UL 746A     |
| 0.06 in                                           | PLC 0                |             |
| 0.12 in                                           | PLC 1                |             |
| High Voltage Arc Tracking Rate (HVTR) (0.0295 in) | PLC 2                | UL 746A     |
| Hot-wire Ignition (HWI)                           |                      | UL 746A     |
| 0.06 in                                           | PLC 2                |             |
| 0.12 in                                           | PLC 1                |             |
| <b>Flammability</b>                               | <b>Nominal Value</b> | <b>Unit</b> |
| Flame Rating                                      |                      | Test Method |
| 0.030 in, ALL                                     | V-2                  | UL 94       |
| 0.06 in, ALL                                      | V-2                  |             |
| 0.12 in, ALL                                      | V-2                  |             |
| <b>Optical</b>                                    | <b>Nominal Value</b> | <b>Unit</b> |
| Light Transmittance (100.0 mil)                   | 88.0 %               | ASTM D1003  |
| Haze (100.0 mil)                                  | 1.00 %               | ASTM D1003  |

Processing Information

|                        |                      |             |
|------------------------|----------------------|-------------|
| <b>Injection</b>       | <b>Nominal Value</b> | <b>Unit</b> |
| Drying Temperature     | 245 to 255           | °F          |
| Drying Time            | 3.0 to 4.0           | hr          |
| Drying Time, Maximum   | 8.0                  | hr          |
| Rear Temperature       | 520 to 560           | °F          |
| Middle Temperature     | 540 to 580           | °F          |
| Front Temperature      | 560 to 600           | °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)

The information contained herein is based on our best knowledge and we believe it to be true and accurate. Please read all statements and recommendations in conjunction with our conditions of sale, which apply to all goods sold by us. Statements concerning possible uses of materials described herein are not to be construed as recommendations for use of such materials in the infringement of any patent or copyright. Lot data is available upon request. The user of this material must make their own evaluations to determine the suitability of this material from a technical as well as health, safety and environmental standpoint. This data is not intended for specification purposes.