



# Hylex® P1010L

Ravago Manufacturing Americas, LLC - Polycarbonate

## General Information

### General

|                   |   |
|-------------------|---|
| Material Status   | • Commercial: Active                              |
| Availability      | • North America                                   |
| Features          | • General Purpose • Good Flow • Good Mold Release |
| Uses              | • General Purpose                                 |
| Agency Ratings    | • FDA 21 CFR 177.1580                             |
| RoHS Compliance   | • RoHS Compliant                                  |
| Forms             | • Pellets   |
| Processing Method | • Injection Molding                               |

## ASTM and ISO Properties <sup>1</sup>

| Physical  | Nominal Value | Unit              | Test Method |
|---|---------------|-------------------|-------------|
| Specific Gravity  | 1.20          | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (300°C/1.2 kg)                        | 10            | g/10 min          | ASTM D1238  |
| Molding Shrinkage - Flow                                  | 0.50 to 0.70  | %                 | ASTM D955   |
| Water Absorption (24 hr)                                  | 0.15          | %                 | ASTM D570   |
| Mechanical  | Nominal Value | Unit              | Test Method |
| Tensile Strength (23°C)                                   | 69.6          | MPa               | ASTM D638   |
| Tensile Elongation (Break, 23°C)                          | 120           | %                 | ASTM D638   |
| Flexural Modulus (23°C)                                   | 2340          | MPa               | ASTM D790   |
| Flexural Strength (23°C)                                  | 93.1          | MPa               | ASTM D790   |
| Impact  | Nominal Value | Unit              | Test Method |
| Notched Izod Impact (23°C, 3.18 mm)                       | 800           | J/m               | ASTM D256   |
| Hardness  | Nominal Value | Unit              | Test Method |
| Rockwell Hardness (M-Scale)                               | 80            |                   | ASTM D785   |
| Thermal   | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load<br>0.45 MPa, Unannealed | 141           | °C                | ASTM D648   |
| Deflection Temperature Under Load<br>1.8 MPa, Unannealed  | 132           | °C                | ASTM D648   |
| Vicat Softening Temperature                               | 154           | °C                | ASTM D1525  |
| Electrical  | Nominal Value | Unit              | Test Method |
| Volume Resistivity  | 4.0E+16       | ohm·cm            | ASTM D257   |
| Dielectric Strength (3.18 mm, in Air)                     | 16            | kV/mm             | ASTM D149   |
| Arc Resistance  | 120           | sec               | ASTM D495   |
| Flammability  | Nominal Value | Unit              | Test Method |
| Flame Rating (0.508 mm)                                   | V-2           |                   | UL 94       |
| Optical   | Nominal Value | Unit              | Test Method |
| Refractive Index  | 1.585         |                   | ASTM D542   |
| Transmittance (3180 µm)                                   | 89.0 to 91.0  | %                 | ASTM D1003  |
| Haze (3180 µm)  | 0.50 to 0.80  | %                 | ASTM D1003  |

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### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 121           | °C   |
| Drying Time            | 3.0 to 4.0    | hr   |
| Drying Time, Maximum   | 12            | hr   |
| Dew Point              | < -28.9       | °C   |
| Suggested Max Moisture | 0.020         | %    |
| Suggested Shot Size    | 40 to 60      | %    |
| Rear Temperature       | 271 to 282    | °C   |
| Middle Temperature     | 277 to 288    | °C   |
| Front Temperature      | 282 to 299    | °C   |
| Nozzle Temperature     | 277 to 299    | °C   |
| Processing (Melt) Temp | 288 to 316    | °C   |
| Mold Temperature       | 76.7 to 93.3  | °C   |
| Injection Pressure     | 6.89 to 12.4  | MPa  |
| Holding Pressure       | 4.83 to 8.27  | MPa  |
| Back Pressure          | 0.483 to 1.03 | MPa  |
| Screw Speed            | 40 to 70      | rpm  |

#### Injection Notes

Pressures given are in the hydraulic circuit.

Drying time should not exceed 12 hours to avoid excessive heat history.

Drying time is 5 to 6 hours with regrind.

Air throughout minimum of 1 CFM/lb resin/hr.

#### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.