

General Information
Product Description

LUPLOY PC 1303AH-15 Tint Polycarbonate Resin is designed for injection molding of auto-headlamps. It exhibits an excellent physical property balance of heat resistance, transparency and impact strength.

General

| | | | |
|-------------------|---------------------------|--------------------------|--------------------|
| Material Status | • Commercial: Active | | |
| Availability | • Asia Pacific | • Latin America | |
| | • Europe | • North America | |
| Additive | • UV Stabilizer | | |
| Features | • Good Clarity | • Good Impact Resistance | • Medium Viscosity |
| | • Good Heat Resistance | • Good Mold Release | • UV Stabilized |
| Uses | • Automotive Applications | • Outdoor Applications | |
| Agency Ratings | • EC 1907/2006 (REACH) | | |
| RoHS Compliance | • RoHS Compliant | | |
| UL File Number | • E67171 | | |
| Appearance | • Clear/Transparent | | |
| Processing Method | • Injection Molding | | |

ASTM & ISO Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|---|---------------|-------------------|-------------|
| Density / Specific Gravity | 1.20 | g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg) | 15 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.50 to 0.70 | % | ASTM D955 |
| Water Absorption (24 hr, 23°C) | 0.15 | % | ASTM D570 |
| Water Absorption (Equilibrium, 23°C, 50% RH) | 0.32 | % | ASTM D570 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | 2340 | MPa | ASTM D638 |
| Tensile Strength (Yield) | 60.0 | MPa | ASTM D638 |
| Tensile Strength (Break) | 71.0 | MPa | ASTM D638 |
| Tensile Elongation (Yield) | 6.0 | % | ASTM D638 |
| Tensile Elongation (Break) | 150 | % | ASTM D638 |
| Flexural Modulus | 2410 | MPa | ASTM D790 |
| Flexural Strength | 96.0 | MPa | ASTM D790 |
| Taber Abrasion Resistance - Change in Haze ² | 45 | % | ASTM D1004 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact ³ (23°C, 3.20 mm) | 850 | J/m | ASTM D256 |
| Unnotched Izod Impact (23°C) | No Break | | ASTM D256 |
| Instrumented Dart Impact ⁴ (23°C, 3.20 mm, Total Energy) | 87.0 | J | ASTM D3763 |
| Hardness | Nominal Value | Unit | Test Method |
| Rockwell Hardness | | | ASTM D785 |
| M-Scale | 72 | | |
| R-Scale | 118 | | |

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Lupoy® 1303AH-15

LG Chem Ltd. - Polycarbonate

| Thermal | Nominal Value | Unit | Test Method |
|---|---------------|----------|-------------------------|
| Deflection Temperature Under Load 0.45 MPa, Annealed, 4.00 mm | 143 | °C | ASTM D648 |
| Deflection Temperature Under Load 1.8 MPa, Unannealed, 4.00 mm | 127 | °C | ASTM D648 |
| Deflection Temperature Under Load 1.8 MPa, Annealed, 4.00 mm | 140 | °C | ASTM D648 |
| Vicat Softening Temperature | 148 | °C | ASTM D1525 ⁵ |
| Ball Indentation Temperature | > 125 | °C | IEC 60598-1 |
| CLTE - Flow (-40 to 82°C) | 6.8E-5 | cm/cm/°C | ASTM D696 |
| Electrical | Nominal Value | Unit | Test Method |
| Volume Resistivity (23°C) | 2.0E+17 | ohms-cm | ASTM D257 |
| Dielectric Strength | 17 | kV/mm | ASTM D149 |
| Dielectric Constant (60 Hz) | 3.00 | | ASTM D150 |
| Dissipation Factor (60 Hz) | 1.0E-3 | | ASTM D150 |
| Comparative Tracking Index (2.00 mm) | 250 | V | IEC 60112 |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating ⁶ 1.5 mm 3.0 mm | HB HB | | UL 94 |
| Glow Wire Ignition Temperature (2.0 mm, 5.0 sec) | 850 | °C | IEC 60695-2-13 |
| Oxygen Index | 26 | % | ASTM D2863 |
| Average Extent of Burning | 3 | cm | ASTM D635 |
| Optical | Nominal Value | Unit | Test Method |
| Refractive Index | 1.586 | | ASTM D542 |
| Transmittance | 89.0 | % | ASTM D1003 |
| Haze | 0.700 to 1.50 | % | ASTM D1003 |

Notes

¹ Typical properties: these are not to be construed as specifications.

² 1000g, 500 cycles, CS-10F Wheel

³ 0.25 mm Notch Depth

⁴ 3.38 m/sec

⁵ Rate A (50°C/h), Loading 2 (50 N)

⁶ ASTM D635