

Fortron® 1140L6

Polyphenylene Sulfide
Celanese Corporation

PROSPECTOR®

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Technical Data

Product Description

Fortron 1140L6 is an easier flow version of Fortron 1140L4. It offers essentially the same characteristics of 1140L4. Especially used for thin walled parts with long flow lengths. Applications made of this grade include components for pumps and electronics.

General

| | |
|-----------------------------|---|
| Material Status | • Commercial: Active |
| Literature ¹ | • Technical Datasheet - ASTM (English) • Technical Datasheet - ISO (English) |
| UL Yellow Card ² | • E107854-237735 • E107854-237738 |
| Search for UL Yellow Card | • Celanese Corporation • Fortron® |
| Availability | • Africa & Middle East • Europe • Latin America • North America |
| Filler / Reinforcement | • Glass Fiber, 40% Filler by Weight |
| Features | • Good Flow |
| Uses | • Electrical/Electronic Applications • Pump Parts • Thin-walled Parts |
| RoHS Compliance | • Contact Manufacturer |

| Physical | Nominal Value (English) | Nominal Value (SI) | Test Method |
|--|--------------------------|--------------------------|-----------------|
| Density / Specific Gravity | | | |
| -- | 1.60 | 1.60 g/cm ³ | ASTM D792 |
| -- | 1.65 g/cm ³ | 1.65 g/cm ³ | ISO 1183 |
| Specific Volume | 17.3 in ³ /lb | 0.625 cm ³ /g | ASTM D792 |
| Melt Mass-Flow Rate (MFR) | 19 g/10 min | 19 g/10 min | ASTM D1238 |
| Molding Shrinkage | | | |
| Flow | 2.0E-3 to 3.0E-3 in/in | 0.20 to 0.30 % | ASTM D955 |
| Across Flow | 5.0E-3 to 7.0E-3 in/in | 0.50 to 0.70 % | ASTM D955 |
| Across Flow | 0.40 to 0.60 % | 0.40 to 0.60 % | ISO 294-4 |
| Flow | 0.20 to 0.60 % | 0.20 to 0.60 % | ISO 294-4 |
| Water Absorption (Saturation, 73°F (23°C)) | 0.020 % | 0.020 % | ISO 62 |
| Spiral Flow | 21.5 | 21.5 | Internal Method |

| Mechanical | Nominal Value (English) | Nominal Value (SI) | Test Method |
|--------------------------------|-------------------------|--------------------|----------------|
| Tensile Modulus | 2.13E+6 psi | 14700 MPa | ISO 527-2/1A/1 |
| Tensile Strength | | | |
| Break, 73°F (23°C) | 29000 psi | 200 MPa | ASTM D638 |
| Break | 28300 psi | 195 MPa | ISO 527-2/1A/5 |
| Tensile Elongation | | | |
| Break, 73°F (23°C) | 2.0 % | 2.0 % | ASTM D638 |
| Break | 1.9 % | 1.9 % | ISO 527-2/1A/5 |
| Flexural Modulus (73°F (23°C)) | 2.10E+6 psi | 14500 MPa | ISO 178 |
| Flexural Stress ⁴ | 41300 psi | 285 MPa | ISO 178 |

| Impact | Nominal Value (English) | Nominal Value (SI) | Test Method |
|----------------------------------|---------------------------|----------------------|-------------|
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -22°F (-30°C) | 4.8 ft·lb/in ² | 10 kJ/m ² | |
| 73°F (23°C) | 4.8 ft·lb/in ² | 10 kJ/m ² | |
| Charpy Unnotched Impact Strength | | | ISO 179/1eU |
| -22°F (-30°C) | 25 ft·lb/in ² | 53 kJ/m ² | |
| 73°F (23°C) | 25 ft·lb/in ² | 53 kJ/m ² | |



| Impact | Nominal Value (English) | Nominal Value (SI) | Test Method |
|--|---------------------------|----------------------|-------------------------|
| Notched Izod Impact Strength | | | ISO 180/1A |
| -22°F (-30°C) | 4.8 ft·lb/in ² | 10 kJ/m ² | |
| 73°F (23°C) | 4.8 ft·lb/in ² | 10 kJ/m ² | |
| Unnotched Izod Impact Strength (73°F (23°C)) | 16 ft·lb/in ² | 34 kJ/m ² | ISO 180/1U |
| Hardness | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Rockwell Hardness (M-Scale) | 100 | 100 | ASTM D785 ISO 2039-2 |
| Thermal | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Deflection Temperature Under Load | | | |
| 66 psi (0.45 MPa), Unannealed | 536 °F | 280 °C | ASTM D648 |
| 264 psi (1.8 MPa), Unannealed | 509 °F | 265 °C | ASTM D648 |
| 264 psi (1.8 MPa), Unannealed | 518 °F | 270 °C | ISO 75-2/A |
| 1160 psi (8.0 MPa), Unannealed | 419 °F | 215 °C | ISO 75-2/C |
| Glass Transition Temperature ⁵ | 194 °F | 90.0 °C | ISO 11357-2 |
| Melting Temperature ⁵ | 536 °F | 280 °C | ISO 11357-3 |
| CLTE | | | ISO 11359-2 |
| Flow | 1.4E-5 in/in/°F | 2.6E-5 cm/cm/°C | |
| Transverse | 2.3E-5 in/in/°F | 4.2E-5 cm/cm/°C | |
| Electrical | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Surface Resistivity | > 1.0E+15 ohms | > 1.0E+15 ohms | IEC 60093 |
| Volume Resistivity | | | |
| -- | 1.0E+16 ohms·cm | 1.0E+16 ohms·cm | ASTM D257 |
| -- | > 1.0E+15 ohms·cm | > 1.0E+15 ohms·cm | IEC 60093 |
| Dielectric Strength | | | |
| -- ⁶ | 390 V/mil | 15 kV/mm | ASTM D149 |
| -- | 710 V/mil | 28 kV/mm | IEC 60243-1 |
| Dielectric Constant | | | |
| 1 kHz | 3.50 | 3.50 | ASTM D150 |
| 1 MHz | 3.50 | 3.50 | ASTM D150 |
| 1 MHz | 4.20 | 4.20 | IEC 60250 |
| Dissipation Factor | | | |
| 1 kHz | 1.0E-3 | 1.0E-3 | ASTM D150 |
| 1 MHz | 1.0E-3 | 1.0E-3 | ASTM D150 |
| 1 MHz | 2.0E-3 | 2.0E-3 | IEC 60250 |
| Arc Resistance | 134 sec | 134 sec | ASTM D495 |
| Comparative Tracking Index | 125 V | 125 V | IEC 60112 |
| Flammability | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Flame Rating | | | UL 94 |
| 0.015 in (0.38 mm) | V-0 | V-0 | |
| 0.06 in (1.5 mm) | V-0 | V-0 | |
| Fill Analysis | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Specific Heat Capacity of Melt | 0.359 Btu/lb/°F | 1500 J/kg/°C | Internal Method |
| Additional Information | Nominal Value (English) | Nominal Value (SI) | Test Method |
| CSA Rating (33.1 mil (840.0 µm)) | A00 | A00 | CSA F-1 |
| Injection | Nominal Value (English) | Nominal Value (SI) | |
| Drying Temperature | 266 to 284 °F | 130 to 140 °C | |
| Drying Time | 3.0 to 4.0 hr | 3.0 to 4.0 hr | |
| Suggested Max Moisture | 0.020 % | 0.020 % | |
| Hopper Temperature | 68 to 86 °F | 20 to 30 °C | |
| Rear Temperature | 554 to 572 °F | 290 to 300 °C | |
| Middle Temperature | 590 to 608 °F | 310 to 320 °C | |
| Front Temperature | 626 to 644 °F | 330 to 340 °C | |



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| Injection | Nominal Value (English) | Nominal Value (SI) |
|------------------------|-------------------------|--------------------|
| Nozzle Temperature | 590 to 626 °F | 310 to 330 °C |
| Processing (Melt) Temp | 626 to 644 °F | 330 to 340 °C |
| Mold Temperature | 284 to 320 °F | 140 to 160 °C |
| Injection Pressure | 7250 to 14500 psi | 50.0 to 100 MPa |
| Injection Rate | Fast | Fast |
| Holding Pressure | 4350 to 10200 psi | 30.0 to 70.0 MPa |
| Back Pressure | 0.00 to 435 psi | 0.00 to 3.00 MPa |

Injection Notes

Manifold Temperature: 330 to 340°C
Zone 4 Temperature: 330 to 340°C
Feed Temperature: 60 to 80°C

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ Break

⁵ 10°C/min

⁶ Method A (Short-Time)



Where to Buy

Supplier

Celanese Corporation

Florence, KY USA

Telephone: 800-833-4882

Web: <http://www.celanese.com/engineered-materials>

Distributor

ALBIS Plastic

ALBIS Plastic is a global distribution and compounding company. Contact ALBIS Plastic for availability of individual products per country.

Telephone: +49-40-78105-0

Web: <http://www.albis.com/>

Availability: China, Hong Kong

Amco Polymers

Telephone: 800-262-6685

Web: <http://www.amcopolymers.com/>

Availability: North America

Channel Prime Alliance

Telephone: 800-247-8038

Web: <http://www.channelpa.com/>

Availability: North America

Entec Polymers

Telephone: 800-375-5440

Web: <http://www.entecpolymers.com/>

Availability: North America

ESSE International - OMYA

ESSE International - OMYA is a Pan European distribution company. Contact ESSE International - OMYA for availability of individual products by country.

Telephone: +33-1-30-80-56-56

Web: <http://www.omya.com>

Availability: Spain, Switzerland

RESINEX Group

RESINEX is a Pan European distribution company. Contact RESINEX for availability of individual products by country.

Telephone: +32-14-672511

Web: <http://www.resinex.com/>

Availability: Europe

