

Polymer Resources PC-FR3A-D-[color]-3 Polycarbonate, Flame Retardant, High Flow, UV-stabilized

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Unreinforced, Flame Retardant

Material Notes:

Polycarbonate, Flame Retardant, High Flow, UV-stabilized Process: Injection Molding Notes: All physical, mechanical and thermal testing conducted on 1/8-inch thick, un-pigmented, test samples. Information provided by Polymer Resources Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Polymer-Resources-PC-FR3A-D-color-3-Polycarbonate-Flame-Retardant-High-Flow-UV-stabilized.php

| Physical Properties | Metric | English | Comments |
|-----------------------|--|--|------------|
| Specific Gravity | 1.21 g/cc | 1.21 g/cc | ASTM D792 |
| Linear Mold Shrinkage | 0.0050 - 0.0070 cm/cm | 0.0050 - 0.0070 in/in | ASTM D955 |
| Melt Flow | 14 - 20 g/10 min @Load 1.20 kg, Temperature 300 °C | 14 - 20 g/10 min @Load 2.65 lb, Temperature 572 °F | ASTM D1238 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|-----------------------------------|---------------------------------------|------------|
| Hardness, Rockwell M | 70 | 70 | ASTM D785 |
| Hardness, Rockwell R | 118 | 118 | ASTM D785 |
| Tensile Strength at Break | 60.0 MPa | 8700 psi | ASTM D638 |
| Tensile Strength, Yield | 55.2 MPa | 8000 psi | ASTM D638 |
| Elongation at Break | 90 % | 90 % | ASTM D638 |
| Elongation at Yield | 7.0 % | 7.0 % | ASTM D638 |
| Flexural Strength | 89.6 MPa | 13000 psi | ASTM D790 |
| Flexural Modulus | 2.21 GPa | 320 ksi | ASTM D790 |
| Izod Impact, Notched | 6.41 J/cm @Temperature 22.8 °C | 12.0 ft-lb/in @Temperature 73.0 °F | ASTM D256 |
| Gardner Impact | 36.2 J | 26.7 ft-lb | ASTM D3029 |

| Thermal Properties | Metric | English | Comments |
|---|--------|---------|-----------|
| Deflection Temperature at 0.46 MPa (66 psi) | 135 °C | 275 °F | ASTM D648 |
| Deflection Temperature at 1.8 MPa | 129 °C | 265 °F | |

| (264 psi) Thermal Properties | Metric | English | ASTM D648 Comments |
|-----------------------------------|--------------------|----------------------|---------------------------|
| Vicat Softening Point | 149 °C | 300 °F | 120°C/h, 50 N; ASTM D1525 |
| UL RTI, Electrical | 125 °C | 257 °F | UL 746 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | 125 °C | 257 °F | UL 746 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| UL RTI, Mechanical with Impact | 125 °C | 257 °F | UL 746 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | 125 °C | 257 °F | UL 746 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| UL RTI, Mechanical without Impact | 110 °C | 230 °F | UL 746 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | 110 °C | 230 °F | UL 746 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| Flammability, UL94 | V-2 | V-2 | |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | V-0 | V-0 | |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |

| Optical Properties | Metric | English | Comments |
|--------------------|--------|---------|------------|
| Haze | 1.0 % | 1.0 % | ASTM D1003 |
| UV Transmittance | 85 % | 85 % | ASTM D1003 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|--------------------|----------------------|-----------|
| Volume Resistivity | 1.00e+15 ohm-cm | 1.00e+15 ohm-cm | ASTM D257 |
| Dielectric Strength | 25.2 kV/mm | 640 kV/in | ASTM D149 |
| Comparative Tracking Index | 250 - 400 V | 250 - 400 V | UL 746 |
| Hot Wire Ignition, HWI | 30 - 60 sec | 30 - 60 sec | UL 746 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | 60 - 120 sec | 60 - 120 sec | UL 746 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |

| Electrical Properties | 15 - 30 arcs Metric | 15 - 30 arcs English | Comments |
|---|------------------------|-------------------------|----------|
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | 30 - 60 arcs | 30 - 60 arcs | UL 746 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| High Voltage Arc-Tracking Rate, HVTR | 80.0 - 150 mm/min | 3.15 - 5.91 in/min | UL 746 |

| Processing Properties | Metric | English | Comments |
|---------------------------|------------------|------------------|----------|
| Rear Barrel Temperature | 266 - 288 °C | 510 - 550 °F | |
| Middle Barrel Temperature | 277 - 299 °C | 530 - 570 °F | |
| Front Barrel Temperature | 288 - 310 °C | 550 - 590 °F | |
| Melt Temperature | 282 - 310 °C | 540 - 590 °F | |
| Mold Temperature | 71.1 - 93.3 °C | 160 - 200 °F | |
| Drying Temperature | 118 - 124 °C | 245 - 255 °F | |
| Dry Time | 3.00 - 4.00 hour | 3.00 - 4.00 hour | |

| Descriptive Properties | Value | Comments |
|------------------------|--------|----------|
| Vent | 0.0005 | |

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