**JPPPO20GF**

PPO20% Glass reinforced

**Typical Material Properties**

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| General |  |  |
| Material Status | Commercial: Active |  |
| Availability | North America |  |
| Filler / Reinforcement | Glass Fiber, 20% Filler by Weight | Hydrolytically Stable |
|  | Low to No Water Absorption |  |
| Features | Housings | Pump Parts |
|  | Valves/Valve Parts |  |
| Forms | Pellets |  |
| Processing Method | Injection Molding |  |

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| Physical Properties | Nominal Values | Test Method |
| Specific Gravity | 1.20 | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (300°C/5.0 kg) | 9.0 g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow (0.126 in) | 2.0E-3 to 5.0E-3 in/in | ASTM D955 |
| Water Absorption (24 hr) | 0.060 % | ASTM D570 |

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| Hardness |  |  |
| Rockwell Hardness (L-Scale) | 106 | ASTM D785 |

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| Mechanical Properties |  |  |
| Tensile Modulus1 | 899000 psi | ASTM D638 |
| Tensile Strength2 (Break) | 13100 psi | ASTM D638 |
| Tensile Elongation2 (Break) | 2.6 % | ASTM D638 |
| Flexural Modulus3 (1.97 in Span) | 841000 psi | ASTM D790 |
| Flexural Strength3 (Yield, 1.97 in Span) | 23200 psi | ASTM D790 |

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| Impact |  |  |
| Notched Izod Impact |  | ASTM D256 |
| -40°F | 1.8 ft·lb/in |  |
| 73°F | 2.2 ft·lb/in |  |
| Unnotched Izod Impact (73°F) | 12 ft·lb/in | ASTM D256 |
| Instrumented Dart Impact (73°F, Total Energy) | 200 in·lb | ASTM D3763 |

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| Thermal |  |  |
| Deflection Temperature Under Load |  | ASTM D648 |
| 66 psi, Unannealed, 0.126 in | 285 °F |  |
| 66 psi, Unannealed, 0.252 in | 290 °F |  |
| 264 psi, Unannealed, 0.126 in | 275 °F |  |
| 264 psi, Unannealed, 0.252 in | 280 °F |  |
| CLTE |  | ASTM E831 |
| Flow : -40 to 104°F | 1.6E-5 in/in/°F |  |
| Transverse : -40 to 104°F | 4.6E-5 in/in/°F |  |
| RTI Elec | 194 °F | UL 746 |
| RTI Imp | 194 °F | UL 746 |
| RTI Str | 194 °F | UL 746 |

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| Electrical |  |  |
| Dielectric Strength (0.126 in, in Oil) | 420  V/mil | ASTM D149 |
| Dielectric Constant |  | ASTM D150 |
| 50 Hz | 2.86 |  |
| 60 Hz | 2.86 |  |
| Dissipation Factor |  | ASTM D150 |
| 50 Hz | 8.0E-4 |  |
| 60 Hz | 8.0E-4 |  |
| Arc Resistance4 | PLC 7 | ASTM D495 |
| High Amp Arc Ignition (HAI) | PLC 4 | UL 746 |
| High Voltage Arc Tracking Rate (HVTR) | PLC 4 | UL 746 |
| Hot-wire Ignition (HWI) | PLC 4 | UL 746 |

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| Flammability |  |  |
| Flame Rating (0.0580 in) | HB | UL 94 |
| Oxygen Index | 26 % | ASTM D2863 |

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| Injection | Nominal Value |  |
| Drying Temperature | 230 to 250 °F |  |
| Drying Time | 3.0 to 4.0 hr |  |
| Drying Time, Maximum | 8.0 hr |  |
| Suggested Max Moisture | 0.020 % |  |
| Suggested Shot Size | 30 to 70 % |  |
| Rear Temperature | 510 to 600 °F |  |
| Middle Temperature | 530 to 610 °F |  |
| Front Temperature | 550 to 620 °F |  |
| Nozzle Temperature | 570 to 620 °F |  |
| Processing (Melt) Temp | 570 to 620 °F |  |
| Mold Temperature | 180 to 230 °F |  |
| Back Pressure | 50.0 to 100 psi |  |
| Screw Speed | 20 to 100 rpm |  |

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| Notes |  |  |
| 10.20 in/min | | |
| 2Type I, 0.20 in/min | | |
| 30.050 in/min | | |
| 4Tungsten Electrode | | |