

Oupilon

Polycarbonate Resin

| Properties | Test Method | Terms | Units | Flame Retardant | | | | | | | |
|---|----------------------|-------------------------------------|------------------------|--|--|--|------------------------|---------------------------|---------------------------------------|--------------------------------|-----------|
| | | | | FPR3000 | FPR3500 | FPR4500 | EFR3000 | EFT3200 | EFT3200H | EFT2200 | |
| | | | | Phoshoric acid Opaque High Flowability | Phoshoric acid Opaque High Flowability | Phoshoric acid Opaque High Flowability | Non Br & Non P Opaque | Non Br & Non P Clear | Non Br & Non P Clear High Flowability | Non Br & Non P Clear Extrusion | |
| | | | | - | - | - | - | - | - | - | |
| Physical properties | | | | | | | | | | | |
| Density | ISO 1183 | - | g/cm ³ | 1.20 | 1.19 | 1.19 | 1.19 | 1.20 | 1.20 | 1.20 | 1.20 |
| Water absorption | | 23degC, 50%RH 23degC, Underwater | % | - 0.24 | - 0.24 | - 0.24 | - 0.24 | - 0.24 | - 0.24 | - 0.24 | - 0.24 |
| Rheological properties | | | | | | | | | | | |
| Melt Mass-flow Rate | ISO 1133 | Temperature Load | g/10min | 19 | 18 | 22 | 22 | 7 | 12 | 5 | |
| Melt Volume-flow Rate | | | cm ³ /10min | 18 | 17 | 21 | 21 | 8 | 11 | 5 | |
| | | | degC kgf | 300 1.20 | 300 1.20 | 300 1.20 | 300 1.20 | 300 1.20 | 300 1.20 | 300 1.20 | |
| Moulding shrinkage (3.2mmt) | - | MD TD | % | 0.4 - 0.6 0.4 - 0.6 | 0.3 - 0.5 0.3 - 0.5 | 0.3 - 0.5 0.3 - 0.5 | 0.5 - 0.7 0.5 - 0.7 | 0.5 - 0.7 0.5 - 0.7 | 0.5 - 0.7 0.5 - 0.7 | 0.5 - 0.7 0.5 - 0.7 | |
| Mechanical properties | | | | | | | | | | | |
| Tensile modulus | ISO 527-1 , 527-2 | - | MPa | 2500 | 2500 | 2600 | 2300 | 2400 | 2300 | 2400 | |
| Yield stress | | | 61 | 63 | 63 | 61 | 62 | 62 | 63 | | |
| Yield strain | | | % | 6.1 | 4.4 | 4.2 | 4.7 | 6.5 | 6.5 | 6 | |
| Nominal strain at break | | | 85 | 81 | 72 | 67 | 100 | 100 | 100 | | |
| Stress at 50% strain | | | MPa | - | - | - | - | - | - | | |
| Stress at break | | | % | - | - | - | - | - | - | | |
| Strain at break | | | | | | | | | | | |
| Flexural strength | ISO 178 | - | MPa | 94 | 98 | 97 | 92 | 93 | 93 | 97 | |
| Flexural modulus | | | | 2400 | 2700 | 2700 | 2500 | 2400 | 2300 | 2350 | |
| Charpy impact strength | ISO 179-1 , 179-2 | 23 degC | kJ/m ² | NB | NB | NB | NB | NB | NB | NB | |
| Charpy notched impact strength | | 23 degC | kJ/m ² | 42 | 46 | 11 | 20 | 16 | 14 | 70 | |
| Thermal properties | | | | | | | | | | | |
| Temperature of deflection under load | ISO 75-1 , 75-2 | 1.80MPa 0.45MPa | degC | 105 116 | 97 107 | 94 105 | 125 137 | 124 136 | 122 135 | 125 136 | |
| Coefficient of Linear thermal expansion | ISO 11359-2 | MD TD | 1/degC | 6.6E-05 6.7E-05 | 6.6E-05 6.7E-05 | 6.6E-05 6.7E-05 | 6.6E-05 6.7E-05 | 6.5E-05 6.6E-05 | 6.5E-05 6.6E-05 | 6.5E-05 6.6E-05 | |
| Flammability | UL94 | - | - | V-0(1.5mm) V-2(0.38mm) | 5VB(2.0mm) V-0(0.75mm) V-2(0.38mm) | V-0(0.8mm) V-2(0.4mm) | V-0 (1.0mm) | V-0 (2mm) | V-0(2.0mm) | V-0(2.0mm) V-1(1.5mm) | |
| Electrical properties | | | | | | | | | | | |
| Relative permittivity | IEC 60250 | 100Hz 1MHz | - | 3.1 3.1 | 3.1 3.1 | 3.1 3.1 | 3.1 3.1 | - - | - - | - - | |
| Dissipation factor | IEC 60250 | 100Hz 1MHz | - | 0.0034 0.0071 | 0.0034 0.0071 | 0.0034 0.0071 | 0.0006 0.0090 | - - | - - | - - | |
| Volume resistivity | IEC 60093 | - | ohm-m | 2.E+14 | 2.E+14 | 2.E+14 | 3.E+14 | 3.E+14 | 3.E+14 | 3.E+14 | |
| Surface resistivity | IEC 60093 | - | ohm | 4.E+15 | 4.E+15 | 4.E+15 | 6.E+15 | 6.E+15 | 6.E+15 | 6.E+15 | |
| Electric strength | IEC 60243-1 | 1mmt 2mmt 3mmt | MV/m | 31 24 18 | 31 - 18 | 31 - 18 | 31 - 18 | - - - | - - - | - - - | |
| Comparative tracking index (CTI) | IEC 60112 | - | - | 2 | 2 | - | - | - | - | - | |
| | | | | | | | | EFT3200U UV stabilized | EFT3200HU UV stabilized | EFT2200U UV stabilized | |

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