

Dupilon

Polycarbonate Resin

| Properties | Test Method | Terms | Units | Basic | | | | | |
|---|----------------------|--------------------|------------------------|--------------|---|---|---|---|---|
| | | | | H-4000 | H-3000 | S-3000 | S-2000 | S-1000 | E-2000 |
| | | | | Optical Disk | High Flowability | Low Viscosity | Medium Viscosity | High Viscosity | Extrusion |
| | | | | - | - | - | - | - | - |
| Physical properties | | | | | | | | | |
| Density | ISO 1183 | - | g/cm ³ | 1.20 | 1.20 | 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 |
| Rheological properties | | | | | | | | | |
| Melt Mass-flow Rate | ISO 1133 | Temperature | g/10min | 63 | 30 | 15 | 10 | 7.5 | 5.3 |
| Melt Volume-flow Rate | | | cm ³ /10min | 60 | 28 | 14 | 9 | 7.1 | 5.0 |
| | | | degC | 300 | 300 | 300 | 300 | 300 | 300 |
| | | Load | kgf | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| Moulding shrinkage (3.2mmt) | | MD | % | 0.4 - 0.6 | 0.5 - 0.7 | 0.5 - 0.7 | 0.5 - 0.7 | 0.5 - 0.7 | 0.5 - 0.7 |
| | | TD | % | 0.4 - 0.6 | 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 | 2400 | 2400 | 2400 | 2400 | 2400 | 2400 |
| Yield stress | | | 63 | 62 | 62 | 61 | 60 | 60 | |
| Yield strain | | | % | 6.5 | 6.6 | 6.7 | 5.6 | 5.5 | 5.4 |
| Nominal strain at break | | | 76 | 118 | 119 | 113 | 105 | 108 | |
| Stress at 50% strain | | | MPa | - | - | - | - | - | |
| Strain at break | | | % | - | - | - | - | - | |
| Flexural strength | ISO 178 | - | MPa | 94 | 93 | 93 | 93 | 93 | 93 |
| Flexural modulus | | | 2300 | 2300 | 2300 | 2300 | 2300 | 2300 | |
| Charpy impact strength | ISO 179-1 , 179-2 | 23 degC | kJ/m ² | NB | NB | NB | NB | NB | NB |
| Charpy notched impact strength | | 23 degC | kJ/m ² | 7 | 9 | 67 | 76 | 84 | 88 |
| Thermal properties | | | | | | | | | |
| Temperature of deflection under load | ISO 75-1 , 75-2 | 1.80MPa 0.45MPa | degC | 123 | 123 | 124 | 129 | 131 | 131 |
| | | | degC | 136 | 136 | 139 | 143 | 145 | 145 |
| Coefficient of Linear thermal expansion | ISO 11359-2 | MD | 1/degC | 6.5E-05 | 6.5E-05 | 6.5E-05 | 6.5E-05 | 6.5E-05 | 6.5E-05 |
| | | TD | 1/degC | 6.6E-05 | 6.6E-05 | 6.6E-05 | 6.6E-05 | 6.6E-05 | 6.6E-05 |
| Flammability | UL94 | - | - | - | - | - | - | - | - |
| Electrical properties | | | | | | | | | |
| Relative permittivity | IEC 60250 | 100Hz | - | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| | | | 1MHz | - | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| Dissipation factor | IEC 60250 | 100Hz | - | 0.0006 | 0.0006 | 0.0006 | 0.0006 | 0.0006 | 0.0006 |
| | | 1MHz | - | 0.0090 | 0.0090 | 0.0090 | 0.0090 | 0.0090 | 0.0090 |
| Volume resistivity | IEC 60093 | - | ohm-m | 3E+14 | 3E+14 | 3E+14 | 3E+14 | 3E+14 | 3E+14 |
| Surface resistivity | IEC 60093 | - | ohm | 6E+15 | 6E+15 | 6E+15 | 6E+15 | 6E+15 | 6E+15 |
| Electric strength | IEC 60243-1 | 1mmt | MV/m | 31 | 31 | 31 | 31 | 31 | 31 |
| | | 2mmt | MV/m | - | - | - | - | - | - |
| | | 3mmt | MV/m | 18 | 18 | 18 | 18 | 18 | 18 |
| Comparative tracking index (CTI) | UL746A | - | - | 2 | 2 | 2 | 2 | 2 | 2 |
| | | | | | H-3000V (V-2) H-3000R (Mold Release) H-3000U(R) (Weatherability) | S-3000V (V-2) S-3000R (Mold Release) S-3000U(R) (Weatherability) | S-2000V (V-2) S-2000R (Mold Release) S-2000U(R) (Weatherability) | S-1000V (V-2) S-1000R (Mold Release) S-1000U(R) (Weatherability) | E-2000V (V-2) E-2000R (Mold Release) E-2000U(R) (Weatherability) |

The listed properties are portrayed as general information only and are not product specifications.

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