

LNPTM THERMOCOMPTM COMPOUND DX11354X

DESCRIPTION

LNP THERMOCOMP Compound DX11354X is a colorable PC based compound with stable plating and RF performance, colored LDS material solution, good surface and processing window, high impact strength. It is a general purpose product available in internal and external parts for Laser Direct Structuring applications.

TYPICAL PROPERTY VALUES

Revision 20191217

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 55 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 45 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 5 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 70 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2400 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 86 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2380 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 54 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 51 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 5 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 84 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2320 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 86 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2450 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 700 | J/m | ASTM D 256 |
| Izod Impact, notched 80°10'3 +23°C | 60 | kJ/m ² | ISO 180/1A |
| THERMAL | | | |
| Vicat Softening Temp, Rate A/50 | 136 | °C | ASTM D 1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 121 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 6.5E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 7.1E-05 | 1/°C | ASTM E 831 |
| Vicat Softening Temp, Rate B/50 | 136 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80°10'4 sp=64mm | 117 | °C | ISO 75/Af |
| Relative Temp Index, Elec ⁽¹⁾ | 80 | °C | UL 746B |
| Relative Temp Index, Mech w/impact ⁽¹⁾ | 80 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact ⁽¹⁾ | 80 | °C | UL 746B |
| PHYSICAL | | | |
| Mold Shrinkage, flow, 24 hrs | 0.5 – 0.7 | % | ISO 294 |
| Mold Shrinkage, xflow, 24 hrs | 0.5 – 0.7 | % | ISO 294 |
| Density | 1.28 | g/cm ³ | ISO 1183 |
| Moisture Absorption (23°C / 50% RH) | 0.05 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 20 | cm ³ /10 min | ISO 1133 |
| ELECTRICAL | | | |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|-----------------------------------|--------|--------------|
| Volume Resistivity | 1.E+16 | Ohm-cm | ASTM D 257 |
| Surface Resistivity | 1.E+16 | Ohm | ASTM D 257 |
| Relative Permittivity, 1 GHz | 3.03 | - | ASTM D 150 |
| Dissipation Factor, 1 GHz | 0.0066 | - | ASTM D 150 |
| FLAME CHARACTERISTICS ⁽¹⁾ | | | |
| UL Yellow Card Link | E207780-101474809 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥1 | mm | UL 94 |
| INJECTION MOLDING | | | |
| Drying Temperature | 110 – 120 | °C | |
| Drying Time | 2 – 4 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 260 – 280 | °C | |
| Nozzle Temperature | 255 – 275 | °C | |
| Front - Zone 3 Temperature | 260 – 280 | °C | |
| Middle - Zone 2 Temperature | 260 – 280 | °C | |
| Rear - Zone 1 Temperature | 245 – 265 | °C | |
| Hopper Temperature | 40 – 60 | °C | |
| Mold Temperature | 80 – 140 | °C | |

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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