

# LNP™ THERMOCOMP™ COMPOUND DX06313

REGION ASIA

## DESCRIPTION

Polycarbonate base, 30% glass fiber reinforced, impact modified material. Thinwall housing, mobile phone. Some light color grades may have lower impact data than nature and black grade.

## TYPICAL PROPERTY VALUES

Revision 20170913

| PROPERTIES  | TYPICAL VALUES | UNITS             | TEST METHODS |
|---|----------------|-------------------|--------------|
| <b>MECHANICAL</b>                                   |                |                   |              |
| Tensile Stress, brk, Type I, 5 mm/min               | 99             | MPa               | ASTM D 638   |
| Tensile Strain, brk, Type I, 5 mm/min               | 3.6            | %                 | ASTM D 638   |
| Tensile Modulus, 5 mm/min                           | 7500           | MPa               | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span        | 170            | MPa               | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span            | 7000           | MPa               | ASTM D 790   |
| Tensile Stress, break, 5 mm/min                     | 90             | MPa               | ISO 527      |
| Tensile Strain, break, 5 mm/min                     | 3.5            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                           | 7420           | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min                    | 170            | MPa               | ISO 178      |
| Flexural Modulus, 2 mm/min                          | 6650           | MPa               | ISO 178      |
| <b>IMPACT</b>                                       |                |                   |              |
| Izod Impact, notched, -30°C                         | 120            | J/m               | ASTM D 256   |
| Izod Impact, notched, 23°C (Natural & Black Colors) | 190            | J/m               | ASTM D 256   |
| Izod Impact, notched, 23°C (Light & White Colors)   | 90             | J/m               | ASTM D 256   |
| Instrumented Impact Total Energy, 23°C              | 24             | J                 | ASTM D 3763  |
| Izod Impact, notched 80*10*4 +23°C                  | 16             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C                  | 12             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm          | 15             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| <b>THERMAL</b>                                      |                |                   |              |
| Vicat Softening Temp, Rate B/50                     | 142            | °C                | ASTM D 1525  |
| HDT, 1.82 MPa, 3.2mm, unannealed                    | 136            | °C                | ASTM D 648   |
| CTE, -40°C to 40°C, flow                            | 2.2E-05        | 1/°C              | ASTM E 831   |
| CTE, -40°C to 40°C, xflow                           | 6.8E-05        | 1/°C              | ASTM E 831   |
| CTE, -40°C to 40°C, flow                            | 2.2E-05        | 1/°C              | ISO 11359-2  |

| PROPERTIES                            | TYPICAL VALUES | UNITS                   | TEST METHODS |
|---------------------------------------|----------------|-------------------------|--------------|
| CTE, -40°C to 40°C, xflow             | 6.8E-05        | 1/°C                    | ISO 11359-2  |
| Vicat Softening Temp, Rate B/50       | 142            | °C                      | ISO 306      |
| Vicat Softening Temp, Rate B/120      | 143            | °C                      | ISO 306      |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 136            | °C                      | ISO 75/Af    |
| <b>PHYSICAL</b>                       |                |                         |              |
| Specific Gravity                      | 1.42           | -                       | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm (5)      | 0.3 – 0.5      | %                       | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf         | 4.6            | g/10 min                | ASTM D 1238  |
| Melt Flow Rate, 300°C/5.0 kgf         | 42             | g/10 min                | ASTM D 1238  |
| Density                               | 1.42           | g/cm <sup>3</sup>       | ISO 1183     |
| Water Absorption, (23°C/sat)          | 0.4            | %                       | ISO 62       |
| Moisture Absorption (23°C / 50% RH)   | 0.1            | %                       | ISO 62       |
| Melt Volume Rate, MVR at 300°C/5.0 kg | 32             | cm <sup>3</sup> /10 min | ISO 1133     |
| <b>INJECTION MOLDING</b>              |                |                         |              |
| Drying Temperature                    | 120            | °C                      |              |
| Drying Time                           | 3 – 4          | hrs                     |              |
| Drying Time (Cumulative)              | 48             | hrs                     |              |
| Maximum Moisture Content              | 0.02           | %                       |              |
| Melt Temperature                      | 315 – 340      | °C                      |              |
| Nozzle Temperature                    | 310 – 330      | °C                      |              |
| Front - Zone 3 Temperature            | 315 – 340      | °C                      |              |
| Middle - Zone 2 Temperature           | 305 – 325      | °C                      |              |
| Rear - Zone 1 Temperature             | 295 – 315      | °C                      |              |
| Mold Temperature                      | 80 – 115       | °C                      |              |
| Back Pressure                         | 0.3 – 0.7      | MPa                     |              |
| Screw Speed                           | 40 – 70        | rpm                     |              |
| Shot to Cylinder Size                 | 40 – 60        | %                       |              |
| Vent Depth                            | 0.025 – 0.076  | mm                      |              |

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