

# LNPT<sup>™</sup> COLORCOMPT<sup>™</sup> COMPOUND D1000RU

## DESCRIPTION

LNP COLORCOMP D1000RU compound is based on Polycarbonate (PC) resin. Added features of this grade include: Mold Release, UV Stabilized.

### GENERAL INFORMATION

|                       |                                                                         |
|-----------------------|-------------------------------------------------------------------------|
| Features              | Aesthetics/Visual effects, Enhanced mold release, Weatherable/UV stable |
| Fillers               | Unreinforced                                                            |
| Polymer Types         | Polycarbonate (PC)                                                      |
| Processing Techniques | Injection Molding                                                       |

### INDUSTRY

Automotive  
Consumer  
Electrical and Electronics  
Industrial

### SUB INDUSTRY

Automotive Interiors  
Sport/Leisure, Personal Accessory  
Mobile Phone - Computer - Tablets  
Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |                   |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 62             | MPa               | ASTM D638    |
| Tensile Stress, brk, Type I, 50 mm/min       | 65             | MPa               | ASTM D638    |
| Tensile Strain, yld, Type I, 50 mm/min       | 7              | %                 | ASTM D638    |
| Tensile Strain, brk, Type I, 50 mm/min       | 110            | %                 | ASTM D638    |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 93             | MPa               | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2340           | MPa               | ASTM D790    |
| Hardness, Rockwell M                         | 70             | -                 | ASTM D785    |
| Hardness, Rockwell R                         | 118            | -                 | ASTM D785    |
| Taber Abrasion, CS-17, 1 kg                  | 10             | mg/1000cy         | ASTM D1044   |
| <b>IMPACT <sup>(1)</sup></b>                 |                |                   |              |
| Izod Impact, unnotched, 23°C                 | 3204           | J/m               | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 907            | J/m               | ASTM D256    |
| Tensile Impact Strength, Type S              | 546            | kJ/m <sup>2</sup> | ASTM D1822   |
| Falling Dart Impact (D 3029), 23°C           | 169            | J                 | ASTM D3029   |
| <b>THERMAL <sup>(1)</sup></b>                |                |                   |              |
| Vicat Softening Temp, Rate B/50              | 154            | °C                | ASTM D1525   |
| HDT, 0.45 MPa, 6.4 mm, unannealed            | 137            | °C                | ASTM D648    |
| HDT, 1.82 MPa, 6.4 mm, unannealed            | 132            | °C                | ASTM D648    |
| CTE, -40°C to 95°C, flow                     | 6.84E-05       | 1/°C              | ASTM E831    |
| Specific Heat                                | 1.25           | J/g-°C            | ASTM C351    |
| Thermal Conductivity                         | 0.19           | W/m-°C            | ASTM C177    |
| Relative Temp Index, Elec <sup>(2)</sup>     | 130            | °C                | UL 746B      |

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CHEMISTRY THAT MATTERS<sup>™</sup>

| PROPERTIES                                          | TYPICAL VALUES                    | UNITS              | TEST METHODS |
|-----------------------------------------------------|-----------------------------------|--------------------|--------------|
| Relative Temp Index, Mech w/impact <sup>(2)</sup>   | 130                               | °C                 | UL 746B      |
| Relative Temp Index, Mech w/o impact <sup>(2)</sup> | 130                               | °C                 | UL 746B      |
| <b>PHYSICAL <sup>(1)</sup></b>                      |                                   |                    |              |
| Specific Gravity                                    | 1.2                               | -                  | ASTM D792    |
| Specific Volume                                     | 0.83                              | cm <sup>3</sup> /g | ASTM D792    |
| Density                                             | 1.19                              | g/cm <sup>3</sup>  | ASTM D792    |
| Water Absorption, (23°C/24hrs)                      | 0.15                              | %                  | ASTM D570    |
| Water Absorption, (23°C/Saturated)                  | 0.35                              | %                  | ASTM D570    |
| Water Absorption, equilibrium, 100°C                | 0.58                              | %                  | ASTM D570    |
| Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>         | 0.5 – 0.7                         | %                  | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf                       | 7                                 | g/10 min           | ASTM D1238   |
| <b>OPTICAL <sup>(1)</sup></b>                       |                                   |                    |              |
| Light Transmission, 2.54 mm                         | 88                                | %                  | ASTM D1003   |
| Haze, 2.54 mm                                       | 1                                 | %                  | ASTM D1003   |
| Refractive Index                                    | 1.586                             | -                  | ASTM D542    |
| <b>ELECTRICAL <sup>(1)</sup></b>                    |                                   |                    |              |
| Volume Resistivity                                  | 1.E+17                            | Ω.cm               | ASTM D257    |
| Dielectric Strength, in air, 3.2 mm                 | 14.9                              | kV/mm              | ASTM D149    |
| Relative Permittivity, 50/60 Hz                     | 3.17                              | -                  | ASTM D150    |
| Relative Permittivity, 1 MHz                        | 2.96                              | -                  | ASTM D150    |
| Dissipation Factor, 50/60 Hz                        | 0.0009                            | -                  | ASTM D150    |
| Dissipation Factor, 1 MHz                           | 0.01                              | -                  | ASTM D150    |
| High Voltage Arc Track Rate {PLC}                   | 2                                 | PLC Code           | UL 746A      |
| Comparative Tracking Index (UL) {PLC}               | 2                                 | PLC Code           | UL 746A      |
| Hot-Wire Ignition (HWI), PLC 4                      | ≥1.5                              | mm                 | UL 746A      |
| High Amp Arc Ignition (HAI), PLC 1                  | ≥3                                | mm                 | UL 746A      |
| High Amp Arc Ignition (HAI), PLC 2                  | ≥1.5                              | mm                 | UL 746A      |
| <b>FLAME CHARACTERISTICS <sup>(2)</sup></b>         |                                   |                    |              |
| UL Yellow Card Link                                 | <a href="#">E207780-103938180</a> | -                  | -            |
| UL Recognized, 94HB Flame Class Rating              | ≥0.75                             | mm                 | UL 94        |
| UV-light, water exposure/immersion                  | F1                                | -                  | UL 746C      |
| <b>INJECTION MOLDING <sup>(4)</sup></b>             |                                   |                    |              |
| Drying Temperature                                  | 120                               | °C                 |              |
| Drying Time                                         | 3 – 4                             | Hrs                |              |
| Drying Time (Cumulative)                            | 48                                | Hrs                |              |
| Maximum Moisture Content                            | 0.02                              | %                  |              |
| Melt Temperature                                    | 310 – 330                         | °C                 |              |
| Nozzle Temperature                                  | 305 – 325                         | °C                 |              |
| Front - Zone 3 Temperature                          | 310 – 330                         | °C                 |              |
| Middle - Zone 2 Temperature                         | 300 – 320                         | °C                 |              |
| Rear - Zone 1 Temperature                           | 290 – 310                         | °C                 |              |
| Mold Temperature                                    | 80 – 115                          | °C                 |              |
| Back Pressure                                       | 0.3 – 0.7                         | MPa                |              |
| Screw Speed                                         | 40 – 70                           | rpm                |              |
| Shot to Cylinder Size                               | 40 – 60                           | %                  |              |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|------------|----------------|-------|--------------|
| Vent Depth | 0.025 – 0.076  | mm    |              |

- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) 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.
- (3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
- (4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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