

# LNPTM ELCRINTM D251RCCG

## DESCRIPTION

LNP ELCRIN D251RCCG compound is based on recycled Polycarbonate (PC) resin containing 20% glass fiber. Added features of this grade include: Colorable, High Modulus, Low Warpage, Good Ductility, Non-Brominated & Non-Chlorinated Flame Retardant. Post-Consumer Recycling (PCR) Polycarbonate content up to 40%, that also incorporates renewable feedstock through ISCC+ mass-balance certification.

| GENERAL INFORMATION        |                                                                                                                                                                                                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Features                   | Flame Retardant, Low Warpage, Mechanical Recycling, Bio-Renewable, Non Cl/Br flame retardant, High stiffness/Strength, Impact resistant, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content) |
| Fillers                    | Glass Fiber                                                                                                                                                                                                               |
| Polymer Types              | Polycarbonate (PC)                                                                                                                                                                                                        |
| Processing Techniques      | Injection Molding                                                                                                                                                                                                         |
| INDUSTRY                   | SUB INDUSTRY                                                                                                                                                                                                              |
| Building and Construction  | Building Component                                                                                                                                                                                                        |
| Consumer                   | Personal Accessory                                                                                                                                                                                                        |
| Electrical and Electronics | Mobile Phone - Computer - Tablets                                                                                                                                                                                         |
| Industrial                 | Electrical                                                                                                                                                                                                                |

## TYPICAL PROPERTY VALUES

Revision 20260907

| PROPERTIES                                  | TYPICAL VALUES | UNITS             | TEST METHODS |
|---------------------------------------------|----------------|-------------------|--------------|
| MECHANICAL <sup>(1)</sup>                   |                |                   |              |
| Tensile Modulus, 5 mm/min                   | 6650           | MPa               | ASTM D638    |
| Tensile Stress, brk, Type I, 5 mm/min       | 100            | MPa               | ASTM D638    |
| Tensile Strain, brk, Type I, 5 mm/min       | 2.9            | %                 | ASTM D638    |
| Flexural Modulus, 1.3 mm/min, 50 mm span    | 6300           | MPa               | ASTM D790    |
| Flexural Strength, 1.3 mm/min, 50 mm span   | 161            | MPa               | ASTM D790    |
| Tensile Modulus, 1 mm/min                   | 6750           | MPa               | ISO 527      |
| Tensile Stress, break, 5 mm/min             | 108            | MPa               | ISO 527      |
| Tensile Strain, break, 5 mm/min             | 3.1            | %                 | ISO 527      |
| Flexural Modulus, 2 mm/min                  | 6100           | MPa               | ISO 178      |
| Flexural Strength, 2 mm/min                 | 157            | MPa               | ISO 178      |
| IMPACT <sup>(1)</sup>                       |                |                   |              |
| Izod Impact, notched, 23°C                  | 139            | J/m               | ASTM D256    |
| Izod Impact, notched, -30°C                 | 94             | J/m               | ASTM D256    |
| Izod Impact, unnotched, 23°C                | 616            | J/m               | ASTM D4812   |
| Izod Impact, notched 80*10*4 +23°C          | 12             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C          | 9              | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, unnotched 80*10*4 +23°C        | 38             | kJ/m <sup>2</sup> | ISO 180/1U   |
| Instrumented Dart Impact Total Energy, 23°C | 24             | J                 | ASTM D3763   |
| THERMAL <sup>(1)</sup>                      |                |                   |              |

| PROPERTIES                                   | TYPICAL VALUES                   | UNITS                   | TEST METHODS |
|----------------------------------------------|----------------------------------|-------------------------|--------------|
| HDT, 1.82 MPa, 3.2mm, unannealed             | 114                              | °C                      | ASTM D648    |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 119                              | °C                      | ASTM D648    |
| Vicat Softening Temp, Rate B/50              | 122                              | °C                      | ISO 306      |
| Vicat Softening Temp, Rate B/120             | 125                              | °C                      | ISO 306      |
| CTE, 23°C to 80°C, flow                      | 2.5E-05                          | 1/°C                    | ASTM E831    |
| CTE, 23°C to 80°C, xflow                     | 7.4E-05                          | 1/°C                    | ASTM E831    |
| <b>PHYSICAL <sup>(1)</sup></b>               |                                  |                         |              |
| Density                                      | 1.37                             | g/cm <sup>3</sup>       | ASTM D792    |
| <b>Melt Flow Rate</b>                        |                                  |                         |              |
| 300°C/2.16 kgf                               | 31                               | g/10 min                | ASTM D1238   |
| 300°C/1.2 kgf                                | 16                               | g/10 min                | ASTM D1238   |
| <b>Melt Volume Rate</b>                      |                                  |                         |              |
| 300°C/2.16 kg                                | 27                               | cm <sup>3</sup> /10 min | ISO 1133     |
| 300°C/1.2 kg                                 | 13                               | cm <sup>3</sup> /10 min | ISO 1133     |
| Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>  | 0.2 – 0.4                        | %                       | ASTM D955    |
| Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup> | 0.2 – 0.4                        | %                       | ASTM D955    |
| Water Absorption, (23°C/24hrs)               | 0.03                             | %                       | ISO 62-1     |
| <b>ELECTRICAL <sup>(1)</sup></b>             |                                  |                         |              |
| <b>Dielectric Constant</b>                   |                                  |                         |              |
| 1.1 GHz                                      | 3.21                             | -                       | SABIC method |
| 1.9 GHz                                      | 3.22                             | -                       | SABIC method |
| 5 GHz                                        | 3.22                             | -                       | SABIC method |
| 10 GHz                                       | 3.22                             | -                       | SABIC method |
| <b>Dissipation Factor</b>                    |                                  |                         |              |
| 1.1 GHz                                      | 0.0064                           | -                       | SABIC method |
| 1.9 GHz                                      | 0.0065                           | -                       | SABIC method |
| 5 GHz                                        | 0.0067                           | -                       | SABIC method |
| 10 GHz                                       | 0.0069                           | -                       | SABIC method |
| <b>FLAME CHARACTERISTICS <sup>(3)</sup></b>  |                                  |                         |              |
| UL Yellow Card Link                          | <a href="#">E207780-10254744</a> | -                       | -            |
| UL Recognized, 94V-0 Flame Class Rating      | ≥0.6                             | mm                      | UL 94        |
| <b>INJECTION MOLDING <sup>(4)</sup></b>      |                                  |                         |              |
| Drying Temperature                           | 110                              | °C                      |              |
| Drying Time                                  | 3 – 6                            | Hrs                     |              |
| Maximum Moisture Content                     | 0.02                             | %                       |              |
| Melt Temperature                             | 285 – 310                        | °C                      |              |
| Nozzle Temperature                           | 280 – 305                        | °C                      |              |
| Front - Zone 3 Temperature                   | 280 – 300                        | °C                      |              |
| Middle - Zone 2 Temperature                  | 270 – 290                        | °C                      |              |
| Rear - Zone 1 Temperature                    | 260 – 280                        | °C                      |              |
| Mold Temperature                             | 80 – 110                         | °C                      |              |
| Back Pressure                                | 0.1 – 0.3                        | MPa                     |              |
| Screw Speed                                  | 50 – 90                          | rpm                     |              |

- (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) 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.
- (3) 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.
- (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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