# LNP™ ELCRIN™ DX2321RC1

ER016924

## DESCRIPTION

LNP ELCRIN DX2321RC1 compound is based on post-consumer recycled (PCR) polycarbonate (PC) resin containing a total of up to 59% Recycled Content with 50% Post-Consumer Recycled Polycarbonate and 9% Pre-Consumer Recycled Glass Fiber. Added features of this grade include: high modulus, non-brominated and non-chlorinated flame retardant. Available in black color.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Mechanical Recycling, Non Cl/Br flame retardant, High stiffness/Strength, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content) |
| **Fillers** | Glass Fiber (Total fluorine >50ppm only from inorganic fluorine) |
| **Brands** | LNP™ ELCRIN™ |
| **Polymer Types** | Polycarbonate (PC) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Building and Construction | Building Component |
| Consumer | Personal Accessory |
| Electrical and Electronics | Electronic Components |
| Industrial | Electrical |

## TYPICAL PROPERTY VALUES

Revision 20260908

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, yield, 5 mm/min** | 76 | MPa | ISO 527 |
| **Tensile Stress, break, 5 mm/min** | 70 | MPa | ISO 527 |
| **Tensile Strain, yield, 5 mm/min** | 3.1 | % | ISO 527 |
| **Tensile Strain, break, 5 mm/min** | 4.4 | % | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 3900 | MPa | ISO 527 |
| **Flexural Stress, break, 2 mm/min** | 128 | MPa | ISO 178 |
| **Flexural Modulus, 2 mm/min** | 3900 | MPa | ISO 178 |
| **Tensile Stress, yld, Type I, 5 mm/min** | 78 | MPa | ASTM D638 |
| **Tensile Stress, brk, Type I, 5 mm/min** | 77 | MPa | ASTM D638 |
| **Tensile Strain, yld, Type I, 5 mm/min** | 3.2 | % | ASTM D638 |
| **Tensile Strain, brk, Type I, 5 mm/min** | 4.9 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 4000 | MPa | ASTM D638 |
| **Flexural Stress, brk, 1.3 mm/min, 50 mm span** | 128 | MPa | ASTM D790 |
| **Flexural Modulus, 1.3 mm/min, 50 mm span** | 4000 | MPa | ASTM D790 |
| IMPACT [1] | | | |
| **Izod Impact, notched 80*10*4 +23°C** | 10 | kJ/m² | ISO 180/1A |
| **Izod Impact, notched 80*10*4 -30°C** | 7 | kJ/m² | ISO 180/1A |
| **Izod Impact, unnotched 80*10*4 +23°C** | 56 | kJ/m² | ISO 180/1U |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Izod Impact, unnotched 80*10*4 -30°C | 48 | kJ/m² | ISO 180/1U |
| Izod Impact, unnotched, 23°C | 640 | J/m | ASTM D4812 |
| Izod Impact, unnotched, -30°C | 700 | J/m | ASTM D4812 |
| Izod Impact, notched, 23°C | 100 | J/m | ASTM D256 |
| Izod Impact, notched, -30°C | 60 | J/m | ASTM D256 |
| Instrumented Impact Total Energy, 23°C | 21 | J | ASTM D3763 |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 9 | kJ/m² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 6 | kJ/m² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | 53 | kJ/m² | ISO 179/1eU |
| THERMAL [1] | | | |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 123 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 118 | °C | ISO 75/Af |
| Vicat Softening Temp, Rate B/50 | 126 | °C | ASTM D1525 |
| Vicat Softening Temp, Rate B/120 | 128 | °C | ASTM D1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 121 | °C | ASTM D648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 115 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 3.90E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 7.90E-05 | 1/°C | ASTM E831 |
| PHYSICAL [1] | | | |
| Density | 1.27 | g/cm³ | ISO 1183 |
| Moisture Absorption (23°C / 50% RH) | 0.03 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 16 | cm³/10 min | ISO 1133 |
| Melt Volume Rate, MVR at 300°C/2.16 kg | 29 | cm³/10 min | ISO 1133 |
| Specific Gravity | 1.27 | - | ASTM D792 |
| Mold Shrinkage, flow [2] | 0.3 – 0.6 | % | SABIC method |
| Mold Shrinkage, xflow [2] | 0.3 – 0.6 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 17 | g/10 min | ASTM D1238 |
| Melt Flow Rate, 300°C/2.16 kgf | 34 | g/10 min | ASTM D1238 |
| ELECTRICAL [1] | | | |
| Dielectric Constant | | | |
| 1.1 GHz | 3.05 | - | SABIC method |
| 2.5 GHz | 3.03 | - | SABIC method |
| 5 GHz | 3.02 | - | SABIC method |
| 10 GHz | 3.01 | - | SABIC method |
| Dissipation Factor | | | |
| 1.1 GHz | 0.007 | - | SABIC method |
| 2.5 GHz | 0.007 | - | SABIC method |
| 5 GHz | 0.007 | - | SABIC method |
| 10 GHz | 0.007 | - | SABIC method |
| FLAME CHARACTERISTICS [3] | | | |
| UL Yellow Card Link | E207780-104639175 | - | - |
| UL Recognized, 94V-2 Flame Class Rating | ≥0.6 | mm | UL 94 |
| UL Recognized, 94V-0 Flame Class Rating | ≥1.5 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 110 | °C | |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Drying Time | 3 – 6 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 285 – 310 | °C | |
| Rear - Zone 1 Temperature | 260 – 280 | °C | |
| Middle - Zone 2 Temperature | 270 – 290 | °C | |
| Front - Zone 3 Temperature | 280 – 300 | °C | |
| Nozzle Temperature | 285 – 305 | °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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