# LNP™ ELCRIN™ EXL8423RCC

## DESCRIPTION

LNP ELCRIN EXL8423RCC is based on Polycarbonate (PC) siloxane copolymer resin. Added features of this grade include: Medium Flow, Colorable, Low Temperature Ductility and 20% Post Consumer Recycle (PCR) content. This grade is targeted for applications that require improved aesthetics and wider color space to overcome restricted color space of traditional PCR grades.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Mechanical Recycling, Aesthetics/Visual effects, Impact resistant, Low temperature impact, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content) |
| **Fillers** | Unreinforced |
| **Polymer Types** | Polycarbonate (PC) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Automotive | Recreational/Specialty Vehicles |
| Building and Construction | Building Component |
| Consumer | Personal Accessory, Home Appliances |
| Electrical and Electronics | Mobile Phone - Computer - Tablets |
| Industrial | Electrical |

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, yield, 50 mm/min** | 57 | MPa | ISO 527 |
| **Tensile Stress, break, 50 mm/min** | 65 | MPa | ISO 527 |
| **Tensile Strain, yield, 50 mm/min** | 6 | % | ISO 527 |
| **Tensile Strain, break, 50 mm/min** | 135 | % | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 2100 | MPa | ISO 527 |
| **Flexural Modulus, 2 mm/min** | 2170 | MPa | ISO 178 |
| **Flexural Strength, 2 mm/min** | 88 | MPa | ISO 178 |
| **Tensile Modulus, 50 mm/min** | 2100 | MPa | ASTM D638 |
| **Tensile Stress, yld, Type I, 50 mm/min** | 57 | MPa | ASTM D638 |
| **Tensile Stress, brk, Type I, 50 mm/min** | 60 | MPa | ASTM D638 |
| **Tensile Strain, yld, Type I, 50 mm/min** | 6 | % | ASTM D638 |
| **Tensile Strain, brk, Type I, 50 mm/min** | 117 | % | ASTM D638 |
| **Flexural Strength, 1.3 mm/min, 50 mm span** | 94 | MPa | ASTM D790 |
| **Flexural Modulus, 1.3 mm/min, 50 mm span** | 2200 | MPa | ASTM D790 |
| IMPACT [1] | | | |
| **Izod Impact, notched 80*10*4 +23°C** | 69 | kJ/m² | ISO 180/1A |
| **Izod Impact, unnotched 80*10*4 +23°C** | 230 | kJ/m² | ISO 180/1U |
| **Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm** | 307 | kJ/m² | ISO 179/1eU |
| **Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm** | 74 | kJ/m² | ISO 179/1eA |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Izod Impact, notched, 23°C | 930 | J/m | ASTM D256 |
| Izod Impact, unnotched, 23°C | 2540 | J/m | ASTM D4812 |
| THERMAL [1] | | | |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 126 | °C | ISO 75/Af |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 140 | °C | ISO 75/Bf |
| Vicat Softening Temp, Rate B/50 | 144 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 145 | °C | ISO 306 |
| CTE, 23°C to 80°C, flow | 6.5E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 6.4E-05 | 1/°C | ISO 11359-2 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 127 | °C | ASTM D648 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 141 | °C | ASTM D648 |
| Vicat Softening Temp, Rate B/50 | 145 | °C | ASTM D1525 |
| Vicat Softening Temp, Rate B/120 | 145 | °C | ASTM D1525 |
| CTE, 23°C to 50°C, flow | 6.5E-05 | 1/°C | ASTM E831 |
| CTE, 23°C to 50°C, xflow | 6.4E-05 | 1/°C | ASTM E831 |
| Relative Temp Index, Elec [2] | 80 | °C | UL 746B |
| Relative Temp Index, Mech w/impact [2] | 80 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [2] | 80 | °C | UL 746B |
| PHYSICAL [1] | | | |
| Density | 1.19 | g/cm³ | ISO 1183 |
| Water Absorption, (23°C/24hrs) | 0.15 | % | ISO 62-1 |
| Mold Shrinkage, flow [3] | 0.4 – 0.8 | % | SABIC method |
| Mold Shrinkage, xflow [3] | 0.4 – 0.8 | % | SABIC method |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 11 | cm³/10 min | ISO 1133 |
| Specific Gravity | 1.19 | - | ASTM D792 |
| Water Absorption, (23°C/24hrs) | 0.15 | % | ASTM D570 |
| Melt Flow Rate, 300°C/1.2 kgf | 12 | g/10 min | ASTM D1238 |
| FLAME CHARACTERISTICS [2] | | | |
| UL Yellow Card Link | E207780-104400893 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥0.47 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 120 | °C | |
| Drying Time (Cumulative) | 3 – 4 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Nozzle Temperature | 295 – 315 | °C | |
| Melt Temperature | 270 – 295 | °C | |
| Front - Zone 3 Temperature | 280 – 305 | °C | |
| Middle - Zone 2 Temperature | 295 – 315 | °C | |
| Rear - Zone 1 Temperature | 290 – 310 | °C | |
| Mold Temperature | 70 – 95 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 40 – 70 | rpm | |

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(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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