

# LNPTM ELCRINTM EXL1414AG

## DESCRIPTION

LNP ELCRIN EXL1414AG is based on Polycarbonate (PC) siloxane copolymer and is a medium flow opaque injection molding (IM) grade that incorporates renewable feedstock through ISCC+ mass-balance certification. This resin offers extreme low temperature (-40°C) ductility in combination with excellent processability and mold release, providing opportunities for shorter IM cycle times compared with standard PC. ELCRIN EXL1414AG resin is available in a wide range of opaque colors and is targeted for a variety of applications.

| GENERAL INFORMATION   |                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------|
| Features              | Bio-Renewable, Impact resistant, Low temperature impact, No PFAS intentionally added |
| Fillers               | Unreinforced                                                                         |
| Polymer Types         | Polycarbonate (PC)                                                                   |
| Processing Techniques | Injection Molding                                                                    |

  

| INDUSTRY                   | SUB INDUSTRY                                                                                               |
|----------------------------|------------------------------------------------------------------------------------------------------------|
| Automotive                 | Automotive Interiors, Automotive Under the Hood, Automotive Exteriors, Recreational/Specialty Vehicles     |
| Building and Construction  | Building Component, Water Management                                                                       |
| Consumer                   | Ophthalmics, Sport/Leisure, Personal Accessory, Home Appliances, Personal Recreation, Commercial Appliance |
| Electrical and Electronics | Mobile Phone - Computer - Tablets, Lighting                                                                |
| Hygiene and Healthcare     | Surgical devices, General Healthcare, Patient Testing                                                      |
| Industrial                 | Electrical, Defense                                                                                        |

## TYPICAL PROPERTY VALUES

Revision 20260227

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS |
|----------------------------------------------|----------------|-------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |       |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 54             | MPa   | ASTM D638    |
| Tensile Stress, brk, Type I, 50 mm/min       | 55             | MPa   | ASTM D638    |
| Tensile Strain, yld, Type I, 50 mm/min       | 6              | %     | ASTM D638    |
| Tensile Strain, brk, Type I, 50 mm/min       | 91.5           | %     | ASTM D638    |
| Tensile Modulus, 50 mm/min                   | 2150           | MPa   | ASTM D638    |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 92             | MPa   | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2230           | MPa   | ASTM D790    |
| Hardness, Rockwell L                         | 89             | -     | ASTM D785    |
| Hardness, Rockwell R                         | 121            | -     | ASTM D785    |
| <b>IMPACT <sup>(1)</sup></b>                 |                |       |              |
| Izod Impact, notched, 23°C                   | 777            | J/m   | ASTM D256    |
| Izod Impact, notched, -30°C                  | 627            | J/m   | ASTM D256    |
| Instrumented Dart Impact Total Energy, 23°C  | 68             | J     | ASTM D3763   |
| <b>THERMAL <sup>(1)</sup></b>                |                |       |              |
| Vicat Softening Temp, Rate B/50              | 145            | °C    | ASTM D1525   |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 124            | °C    | ASTM D648    |
| CTE, -40°C to 40°C, flow                     | 6.97E-05       | 1/°C  | ASTM E831    |

| PROPERTIES                                          | TYPICAL VALUES                   | UNITS      | TEST METHODS   |
|-----------------------------------------------------|----------------------------------|------------|----------------|
| CTE, -40°C to 40°C, xflow                           | 7.47E-05                         | 1/°C       | ASTM E831      |
| CTE, 23°C to 80°C, flow                             | 7.2E-05                          | 1/°C       | ISO 11359-2    |
| CTE, 23°C to 80°C, xflow                            | 7.2E-05                          | 1/°C       | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C                   | Passes                           | -          | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50                     | 145                              | °C         | ISO 306        |
| Vicat Softening Temp, Rate B/120                    | 146                              | °C         | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm             | 140                              | °C         | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm             | 128                              | °C         | ISO 75/Ae      |
| Relative Temp Index, Elec <sup>(2)</sup>            | 80                               | °C         | UL 746B        |
| Relative Temp Index, Mech w/impact <sup>(2)</sup>   | 80                               | °C         | UL 746B        |
| Relative Temp Index, Mech w/o impact <sup>(2)</sup> | 80                               | °C         | UL 746B        |
| PHYSICAL <sup>(1)</sup>                             |                                  |            |                |
| Specific Gravity                                    | 1.18                             | -          | ASTM D792      |
| Mold Shrinkage, flow, 3.2 mm                        | 0.4 – 0.8                        | %          | SABIC method   |
| Mold Shrinkage, xflow, 3.2 mm                       | 0.4 – 0.8                        | %          | SABIC method   |
| Water Absorption, (23°C/saturated)                  | 0.35                             | %          | ISO 62-1       |
| Melt Volume Rate, MVR at 300°C/ 1.2 kg              | 10                               | cm³/10 min | ISO 1133       |
| FLAME CHARACTERISTICS <sup>(2)</sup>                |                                  |            |                |
| UL Yellow Card Link                                 | <a href="#">E207780-10259085</a> | -          | -              |
| UL Recognized, 94HB Flame Class Rating              | 0.4                              | mm         | UL 94          |
| INJECTION MOLDING <sup>(3)</sup>                    |                                  |            |                |
| Drying Temperature                                  | 120                              | °C         |                |
| Drying Time                                         | 3 – 4                            | Hrs        |                |
| Drying Time (Cumulative)                            | 48                               | Hrs        |                |
| Maximum Moisture Content                            | 0.02                             | %          |                |
| Melt Temperature                                    | 295 – 315                        | °C         |                |
| Nozzle Temperature                                  | 290 – 310                        | °C         |                |
| Front - Zone 3 Temperature                          | 295 – 315                        | °C         |                |
| Middle - Zone 2 Temperature                         | 280 – 305                        | °C         |                |
| Rear - Zone 1 Temperature                           | 270 – 295                        | °C         |                |
| Mold Temperature                                    | 70 – 95                          | °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         |                |

(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) 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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