

# LNPTM ELCRINTM 610001UiQ2

## DESCRIPTION

LNP ELCRIN 610001UiQ2 (also known as ELCRIN ER011568) is a non-brominated, non-chlorinated flame retardant Polycarbonate / Polybutylene Terephthalate (PC/PBT) alloy, utilizing iQ PBT generation 2 technology with minimum 12% post consumer recycled content. Added features of this material include: good impact strength, good chemical resistance, improved heat resistance, bright white color achievable, UL V-0 rating at 1.5 mm thickness and easy flow ability.

| GENERAL INFORMATION   |                                                                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Features              | Chemical Resistance, Good Processability, Heat Stabilized, High Flow, Advanced Recycling, Non Cl/Br flame retardant, Impact resistant, Weatherable/UV stable |
| Fillers               | Unreinforced                                                                                                                                                 |
| Polymer Types         | Polycarbonate + PBT (PC+PBT)                                                                                                                                 |
| Processing Techniques | Injection Molding                                                                                                                                            |

  

| INDUSTRY                  | SUB INDUSTRY                                                             |
|---------------------------|--------------------------------------------------------------------------|
| Automotive                | Automotive Interiors, Automotive Crash and Chassis, Automotive Exteriors |
| Building and Construction | Building Component                                                       |
| Consumer                  | Sport/Leisure, Personal Accessory                                        |
| Industrial                | Material Handling                                                        |

## TYPICAL PROPERTY VALUES

Revision 20260908

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS |
|----------------------------------------------|----------------|-------|--------------|
| <b>MECHANICAL <sup>(1)</sup></b>             |                |       |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 55             | MPa   | ASTM D638    |
| Tensile Stress, brk, Type I, 50 mm/min       | 54             | MPa   | ASTM D638    |
| Tensile Strain, yld, Type I, 50 mm/min       | 5              | %     | ASTM D638    |
| Tensile Strain, brk, Type I, 50 mm/min       | 120            | %     | ASTM D638    |
| Tensile Modulus, 50 mm/min                   | 2170           | MPa   | ASTM D638    |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 85             | MPa   | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2260           | MPa   | ASTM D790    |
| Tensile Stress, yield, 50 mm/min             | 55             | MPa   | ISO 527      |
| Tensile Stress, break, 50 mm/min             | 46             | MPa   | ISO 527      |
| Tensile Strain, yield, 50 mm/min             | 5              | %     | ISO 527      |
| Tensile Strain, break, 50 mm/min             | 105            | %     | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 2120           | MPa   | ISO 527      |
| Flexural Stress, yield, 2 mm/min             | 83             | MPa   | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 2230           | MPa   | ISO 178      |
| <b>IMPACT <sup>(1)</sup></b>                 |                |       |              |
| Izod Impact, notched, 23°C                   | 800            | J/m   | ASTM D256    |
| Izod Impact, notched, 0°C                    | 700            | J/m   | ASTM D256    |
| Izod Impact, notched, -30°C                  | 342            | J/m   | ASTM D256    |
| Instrumented Dart Impact Total Energy, 23°C  | 60             | J     | ASTM D3763   |

| PROPERTIES                                              | TYPICAL VALUES                    | UNITS                   | TEST METHODS |
|---------------------------------------------------------|-----------------------------------|-------------------------|--------------|
| Instrumented Dart Impact Energy @ peak, 23°C            | 50                                | J                       | ASTM D3763   |
| Instrumented Dart Impact Peak Force, 23°C               | 4500                              | N                       | ASTM D3763   |
| Izod Impact, notched 80*10*4 +23°C                      | 58                                | kJ/m <sup>2</sup>       | ISO 180/1A   |
| Izod Impact, notched 80*10*4 0°C                        | 44                                | kJ/m <sup>2</sup>       | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C                      | 17                                | kJ/m <sup>2</sup>       | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm              | 60                                | kJ/m <sup>2</sup>       | ISO 179/1eA  |
| Charpy 0°C, V-notch Edgew 80*10*4 sp=62mm               | 48                                | kJ/m <sup>2</sup>       | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm             | 18                                | kJ/m <sup>2</sup>       | ISO 179/1eA  |
| THERMAL <sup>(1)</sup>                                  |                                   |                         |              |
| HDT, 1.82 MPa, 3.2mm, unannealed                        | 85                                | °C                      | ASTM D648    |
| HDT, 0.45 MPa, 3.2 mm, unannealed                       | 105                               | °C                      | ASTM D648    |
| Vicat Softening Temp, Rate B/50                         | 114                               | °C                      | ASTM D1525   |
| Vicat Softening Temp, Rate B/120                        | 115                               | °C                      | ASTM D1525   |
| CTE, -40°C to 40°C, flow                                | 7.1E-05                           | 1/°C                    | ASTM E831    |
| CTE, -40°C to 40°C, xflow                               | 7.6E-05                           | 1/°C                    | ASTM E831    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm                   | 90                                | °C                      | ISO 75/Af    |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm                  | 105                               | °C                      | ISO 75/Bf    |
| PHYSICAL <sup>(1)</sup>                                 |                                   |                         |              |
| Specific Gravity                                        | 1.25                              | -                       | ASTM D792    |
| Melt Flow Rate, 265°C/5.0 kgf                           | 23                                | g/10 min                | ASTM D1238   |
| Density                                                 | 1.25                              | g/cm <sup>3</sup>       | ISO 1183     |
| Melt Volume Rate, MVR at 265°C/5.0 kg                   | 20                                | cm <sup>3</sup> /10 min | ISO 1133     |
| Moisture Absorption, (23°C/50% RH/24hrs) <sup>(2)</sup> | 0.06                              | %                       | ISO 62-4     |
| Water Absorption, (23°C/24hrs) <sup>(2)</sup>           | 0.11                              | %                       | ISO 62-1     |
| Mold Shrinkage, flow <sup>(3)</sup>                     | 0.6 – 0.8                         | %                       | SABIC method |
| Mold Shrinkage, xflow <sup>(3)</sup>                    | 0.6 – 0.8                         | %                       | SABIC method |
| FLAME CHARACTERISTICS <sup>(4)</sup>                    |                                   |                         |              |
| UL Yellow Card Link                                     | <a href="#">E207780-104539688</a> | -                       | -            |
| UL Recognized, 94V-0 Flame Class Rating                 | ≥1.5                              | mm                      | UL 94        |
| UL Recognized, 94V-1 Flame Class Rating                 | ≥0.8                              | mm                      | UL 94        |
| UL Recognized, 94HB Flame Class Rating                  | ≥0.4                              | mm                      | UL 94        |
| INJECTION MOLDING <sup>(5)</sup>                        |                                   |                         |              |
| Drying Temperature                                      | 80 – 90                           | °C                      |              |
| Drying Time                                             | 3 – 4                             | Hrs                     |              |
| Drying Time (Cumulative)                                | 8                                 | Hrs                     |              |
| Maximum Moisture Content                                | 0.04                              | %                       |              |
| Melt Temperature                                        | 245 – 275                         | °C                      |              |
| Nozzle Temperature                                      | 245 – 275                         | °C                      |              |
| Front - Zone 3 Temperature                              | 245 – 275                         | °C                      |              |
| Middle - Zone 2 Temperature                             | 220 – 265                         | °C                      |              |
| Rear - Zone 1 Temperature                               | 220 – 255                         | °C                      |              |
| Mold Temperature                                        | 60 – 80                           | °C                      |              |
| Back Pressure                                           | 0.3 – 0.7                         | MPa                     |              |
| Screw Speed                                             | 40 – 70                           | rpm                     |              |
| Shot to Cylinder Size                                   | 30 – 80                           | %                       |              |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|------------|----------------|-------|--------------|
| Vent Depth | 0.038 – 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) Based on internal method similar to ISO 62.
- (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) 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.
- (5) 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.

## DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.