# LNP™ ELCRES™ CRX1414U

PC — Saudi Basic Industries Corporation (SABIC)

## Product Texts

LNP ELCRES CRX1414U is an UV stabilized, amorphous Polycarbonate (PC) copolymer resin that offers medium flow, high ductility in combination with excellent chemical resistance. This grade is available for custom coloring and may be an excellent candidate for a wide variety of applications that need improved chemical resistance.

UL Yellow Card E121562-104548089

| Processing/Physical Characteristics | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Melt volume-flow rate, MVR | **9** | cm³/10min | ISO 1133 |
| Temperature | **300** | °C | - |
| Load | **1.2** | kg | - |
| **ASTM Data** | | | |
| Melt Flow Index, MFI | **10** | g/10min | ASTM D 1238 |
| Temperature | **300** | °C | - |
| Load | **1.2** | kg | - |
| Mold Shrinkage, MD | **0.0065** | mm/mm | ASTM D 955 |
| Mold Shrinkage, TD | **0.0065** | mm/mm | ASTM D 955 |

| Mechanical properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Tensile Modulus | **1850** | MPa | ISO 527 |
| Yield stress | **50** | MPa | ISO 527 |
| Yield strain | **6** | % | ISO 527 |
| Stress at break | **57** | MPa | ISO 527 |
| Strain at break | **100** | % | ISO 527 |
| Flexural modulus, 23°C | **2060** | MPa | ISO 178 |
| Flexural strength | **83** | MPa | ISO 178 |
| Charpy impact strength, +23°C | **N** | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, +23°C | **65** | kJ/m² | ISO 179/1eA |
| Izod impact strength, +23°C | **N** | kJ/m² | ISO 180/1U |
| Izod notched impact strength, +23°C | **55** | kJ/m² | ISO 180/1A |
| Izod notched impact strength | **35** | kJ/m² | ISO 180/1A |
| Temperature | **-70** | °C | - |
| **ASTM Data** | | | |
| Tensile Modulus | **1900** | MPa | ASTM D 638 |
| Tensile Strength at Yield | **52** | MPa | ASTM D 638 |
| Tensile Strength at Break | **59** | MPa | ASTM D 638 |
| Elongation at Yield | **6** | % | ASTM D 638 |
| Elongation at Break | **100** | % | ASTM D 638 |
| Flexural Modulus | **2050** | MPa | ASTM D 790 |
| Flexural Strength | **88** | MPa | ASTM D 790 |
| Izod Impact notched, 1/8 in | **813** | J/m | ASTM D 256 |
| Izod Impact notched, Low-Temperature | **728** | J/m | ASTM D 256 |
| Temperature | **-30** | °C | - |
| Izod Impact unnotched, 1/8 in | **N** | J/m | ASTM D 256 |

| Thermal properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Temp. of deflection under load, 1.80 MPa | **122** | °C | ISO 75-1/-2 |
| Temp. of deflection under load, 0.45 MPa | **136** | °C | ISO 75-1/-2 |
| Vicat softening temperature, B | **141** | °C | ISO 306 |
| Coeff. of linear therm. expansion, parallel | **70** | E-6/K | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion, normal | **70** | E-6/K | ISO 11359-1/-2 |
| **ASTM Data** | | | |
| UL 94 Flame rating | **HB** | - | UL 94 |
| Thickness tested | **0.75** | mm | - |

| | | | |
|---|---|---|---|
| Coefficient of Thermal Expansion, MD | **70** | E-6/K | ASTM D 696 |
| Coefficient of Thermal Expansion, TD | **70** | E-6/K | ASTM D 696 |
| DTUL @ 66 psi | **137** | °C | ASTM D 648 |
| DTUL @ 264 psi | **124** | °C | ASTM D 648 |
| Vicat Temperature | **141** | °C | ASTM D 1525 |

| **Other properties** | **Value** | **Unit** | **Test Standard** |
|---|---|---|---|
| Humidity absorption | **0.08** | % | Sim. to ISO 62 |
| Density | **1190** | kg/m³ | ISO 1183 |
| Density | **1200** | kg/m³ | ASTM D 792 |

| **Processing Recommendation Injection Molding** | **Value** | **Unit** | **Test Standard** |
|---|---|---|---|
| Pre-drying - Temperature | **120** | °C | - |
| Pre-drying - Time | **3 - 4** | h | - |
| Processing humidity | **≤0.02** | % | - |
| Melt temperature | **290 - 340** | °C | - |
| Mold temperature | **80 - 110** | °C | - |
| Zone 1 | **270 - 320** | °C | - |
| Zone 2 | **280 - 330** | °C | - |
| Zone 3 | **290 - 340** | °C | - |
| Nozzle temperature | **290 - 340** | °C | - |
| Screw speed | **50 - 100** | rpm | - |
| Back pressure | **0.3 - 0.7** | MPa | - |

## Characteristics

**Processing**
Injection Molding

**Special Characteristics**
High impact or impact modified, U.V. stabilized or stable to weather

**Features**
Amorphous, Ductile, Copolymer

**Chemical Resistance**
General Chemical Resistance

**Applications**
Electrical and Electronical, Medical, Packaging

**Regional Availability**
North America, Europe, Asia Pacific, South and Central America