



# LEXAN™ FR RESINS 945U

REGION AMERICAS

## DESCRIPTION

LEXAN™ 945U resin is a 10 MFR polycarbonate, MVR of 10. UV stabilized. Mold release. Non-chlorinated, non-brominated flame retardant, UL94 V0 rated. UL746C f1 rated. Available in opaque colors.

## TYPICAL PROPERTY VALUES

| PROPERTIES                                   | TYPICAL VALUES                 | UNITS    | TEST METHODS |
|----------------------------------------------|--------------------------------|----------|--------------|
| <b>MECHANICAL</b>                            |                                |          |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 62                             | MPa      | ASTM D638    |
| Tensile Stress, brk, Type I, 50 mm/min       | 65                             | MPa      | ASTM D638    |
| Tensile Strain, yld, Type I, 50 mm/min       | 6                              | %        | ASTM D638    |
| Tensile Strain, brk, Type I, 50 mm/min       | 125                            | %        | ASTM D638    |
| Tensile Modulus, 50 mm/min                   | 2270                           | MPa      | ASTM D638    |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 101                            | MPa      | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2340                           | MPa      | ASTM D790    |
| <b>IMPACT</b>                                |                                |          |              |
| Izod Impact, notched, 23°C                   | 801                            | J/m      | ASTM D256    |
| Instrumented Dart Impact Total Energy, 23°C  | 73                             | J        | ASTM D3763   |
| <b>THERMAL</b>                               |                                |          |              |
| Vicat Softening Temp, Rate B/50              | 143                            | °C       | ASTM D1525   |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 137                            | °C       | ASTM D648    |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 126                            | °C       | ASTM D648    |
| CTE, -40°C to 40°C, flow                     | 6.66E-05                       | 1/°C     | ASTM E831    |
| CTE, -40°C to 40°C, xflow                    | 6.66E-05                       | 1/°C     | ASTM E831    |
| Relative Temp Index, Elec                    | 130                            | °C       | UL 746B      |
| Relative Temp Index, Mech w/impact           | 120                            | °C       | UL 746B      |
| Relative Temp Index, Mech w/o impact         | 130                            | °C       | UL 746B      |
| <b>PHYSICAL</b>                              |                                |          |              |
| Specific Gravity                             | 1.19                           | -        | ASTM D792    |
| Mold Shrinkage, flow, 3.2 mm                 | 0.6 – 0.8                      | %        | SABIC method |
| Melt Flow Rate, 300°C/ 1.2 kgf               | 10                             | g/10 min | ASTM D1238   |
| <b>ELECTRICAL</b>                            |                                |          |              |
| Arc Resistance, Tungsten {PLC}               | 7                              | PLC Code | ASTM D495    |
| Hot Wire Ignition {PLC}                      | 2                              | PLC Code | UL 746A      |
| High Voltage Arc Track Rate {PLC}            | 3                              | PLC Code | UL 746A      |
| High Ampere Arc Ign, surface {PLC}           | 2                              | PLC Code | UL 746A      |
| Comparative Tracking Index (UL) {PLC}        | 3                              | PLC Code | UL 746A      |
| <b>FLAME CHARACTERISTICS</b>                 |                                |          |              |
| UL Yellow Card Link                          | <a href="#">E121562-220903</a> | -        | -            |
| UL Yellow Card Link 2                        | <a href="#">E121562-565243</a> | -        | -            |
| UL Recognized, 94V-2 Flame Class Rating      | 0.8                            | mm       | UL 94        |
| UL Recognized, 94V-0 Flame Class Rating      | 1.5                            | mm       | UL 94        |

| PROPERTIES                                    | TYPICAL VALUES | UNITS | TEST METHODS   |
|-----------------------------------------------|----------------|-------|----------------|
| Glow Wire Flammability Index 960°C, passes at | 1              | mm    | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.5 mm    | 800            | °C    | IEC 60695-2-13 |
| UV-light, water exposure/immersion            | F1             | -     | UL 746C        |
| INJECTION MOLDING                             |                |       |                |
| 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    |                |