



## LEXAN™ Resin 945U

### Americas: COMMERCIAL

LEXAN 945U Polycarbonate (PC) resin is a non-filled, injection moldable grade. This non-chlorinated, non-brominated flame retardant PC has an UL-94 V0 rating and is UV stabilized, providing additional weathering capability. LEXAN resin 945U is available in various opaque color options and is a general-purpose resin ideal for a wide variety of applications.

| TYPICAL PROPERTIES <sup>1</sup>              | TYPICAL VALUE | Unit                | Standard     |
|----------------------------------------------|---------------|---------------------|--------------|
| <b>MECHANICAL</b>                            |               |                     |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 630           | kgf/cm <sup>2</sup> | ASTM D 638   |
| Tensile Stress, brk, Type I, 50 mm/min       | 660           | kgf/cm <sup>2</sup> | ASTM D 638   |
| Tensile Strain, yld, Type I, 50 mm/min       | 6             | %                   | ASTM D 638   |
| Tensile Strain, brk, Type I, 50 mm/min       | 125           | %                   | ASTM D 638   |
| Tensile Modulus, 50 mm/min                   | 23100         | kgf/cm <sup>2</sup> | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 1020          | kgf/cm <sup>2</sup> | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 23800         | kgf/cm <sup>2</sup> | ASTM D 790   |
| <b>IMPACT</b>                                |               |                     |              |
| Izod Impact, notched, 23°C                   | 81            | cm-kgf/cm           | ASTM D 256   |
| Instrumented Impact Total Energy, 23°C       | 744           | cm-kgf              | ASTM D 3763  |
| <b>THERMAL</b>                               |               |                     |              |
| Vicat Softening Temp, Rate B/50              | 143           | °C                  | ASTM D 1525  |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 137           | °C                  | ASTM D 648   |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 126           | °C                  | ASTM D 648   |
| CTE, -40°C to 40°C, flow                     | 6.66E-05      | 1/°C                | ASTM E 831   |
| CTE, -40°C to 40°C, xflow                    | 6.66E-05      | 1/°C                | ASTM E 831   |
| 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 D 792   |
| Mold Shrinkage, flow, 3.2 mm (5)             | 0.6 - 0.8     | %                   | SABIC Method |
| Melt Flow Rate, 300°C/1.2 kgf                | 10            | g/10 min            | ASTM D 1238  |
| <b>ELECTRICAL</b>                            |               |                     |              |
| Arc Resistance, Tungsten {PLC}               | 7             | PLC Code            | ASTM D 495   |



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| TYPICAL PROPERTIES <sup>1</sup>               | TYPICAL VALUE | Unit     | Standard       |
|-----------------------------------------------|---------------|----------|----------------|
| <b>ELECTRICAL</b>                             |               |          |                |
| 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 Recognized, 94V-2 Flame Class Rating (3)   | 0.8           | mm       | UL 94          |
| UL Recognized, 94V-0 Flame Class Rating (3)   | 1.52          | mm       | UL 94          |
| 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        |



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| PROCESSING PARAMETERS       | TYPICAL VALUE | Unit |
|-----------------------------|---------------|------|
| <b>Injection Molding</b>    |               |      |
| 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   |