

## LEXANT™ FR RESINS 945A

REGION ASIA

### DESCRIPTION

LEXAN 945A Polycarbonate (PC) is an injection moldable non-halogenated, unfilled transparent flame retardant grade with medium flow. It has an MVR of 10 (300°C/1.2kg) and a UL94 V0@3.0mm, and is available in various color options.

### TYPICAL PROPERTY VALUES

Revision 20260509

| 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       | 67             | 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     | 2370           | MPa      | ASTM D790    |
| Hardness, Rockwell M                         | 70             | -        | ASTM D785    |
| Hardness, Rockwell R                         | 118            | -        | ASTM D785    |
| <b>IMPACT</b>                                |                |          |              |
| Izod Impact, notched, 23°C                   | 801            | J/m      | ASTM D256    |
| Instrumented Dart Impact Total Energy, 23°C  | 79             | J        | ASTM D3763   |
| Izod Impact, unnotched, 23°C                 | NB             | J/m      | ASTM D4812   |
| <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                     | 6.84E-05       | 1/°C     | ASTM E831    |
| CTE, -40°C to 40°C, xflow                    | 7.38E-05       | 1/°C     | ASTM E831    |
| Specific Heat                                | 1.25           | J/g·°C   | ASTM C351    |
| Thermal Conductivity                         | 0.27           | W/m·°C   | ASTM C177    |
| 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    |
| Moisture Absorption, (23°C/50% RH/24 hrs)    | 0.15           | %        | ASTM D570    |
| Water Absorption, (23°C/24hrs)               | 0.15           | %        | ASTM D570    |
| Water Absorption, (23°C/Saturated)           | 0.23           | %        | ASTM D570    |
| 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>OPTICAL</b>                               |                |          |              |
| Light Transmission, 2.54 mm                  | >85            | %        | ASTM D1003   |
| Haze, 2.54 mm                                | 1              | %        | ASTM D1003   |

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| PROPERTIES                                    | TYPICAL VALUES | UNITS    | TEST METHODS   |
|-----------------------------------------------|----------------|----------|----------------|
| <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)            | 3              | PLC Code | UL 746A        |
| Comparative Tracking Index (UL) (PLC)         | 2              | PLC Code | UL 746A        |
| <b>FLAME CHARACTERISTICS</b>                  |                |          |                |
| UL Recognized, 94V-2 Flame Class Rating       | 0.8            | mm       | UL 94          |
| UL Recognized, 94V-1 Flame Class Rating       | 2.5            | mm       | UL 94          |
| UL Recognized, 94V-0 Flame Class Rating       | 3.0            | mm       | UL 94          |
| Glow Wire Flammability Index 960°C, passes at | 1              | mm       | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.0 mm    | 850            | °C       | IEC 60695-2-13 |
| Oxygen Index (LOI)                            | 35             | %        | ISO 4589       |
| <b>INJECTION MOLDING</b>                      |                |          |                |
| Drying Temperature                            | 120            | °C       |                |
| Drying Time                                   | 2 – 4          | Hrs      |                |
| Maximum Moisture Content                      | 0.02           | %        |                |
| Melt Temperature                              | 280 – 310      | °C       |                |
| Nozzle Temperature                            | 270 – 290      | °C       |                |
| Front - Zone 3 Temperature                    | 280 – 310      | °C       |                |
| Middle - Zone 2 Temperature                   | 270 – 290      | °C       |                |
| Rear - Zone 1 Temperature                     | 260 – 280      | °C       |                |
| Hopper Temperature                            | 60 – 80        | °C       |                |
| Mold Temperature                              | 80 – 110       | °C       |                |

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