



**LEXAN™ Resin BPL1000**  
**Americas: COMMERCIAL**

Lexan™ BPL1000 Polycarbonate (PC) resin is an injection moldable grade featuring high flow and good impact performance. It contains non-chlorinated and non-brominated flame retardant systems with UL-94 V0 rating at 0.8mm. Lexan BPL1000 resin offers various opaque color options and is ideal for thin wall applications.

| TYPICAL PROPERTIES <sup>1</sup>              | TYPICAL VALUE | Unit                | Standard    |
|----------------------------------------------|---------------|---------------------|-------------|
| <b>MECHANICAL</b>                            |               |                     |             |
| Tensile Stress, yld, Type I, 50 mm/min       | 640           | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Stress, brk, Type I, 50 mm/min       | 520           | kgf/cm <sup>2</sup> | ASTM D 638  |
| Tensile Strain, yld, Type I, 50 mm/min       | 4.7           | %                   | ASTM D 638  |
| Tensile Strain, brk, Type I, 50 mm/min       | 96.3          | %                   | ASTM D 638  |
| Tensile Modulus, 5 mm/min                    | 27300         | kgf/cm <sup>2</sup> | ASTM D 638  |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 1040          | kgf/cm <sup>2</sup> | ASTM D 790  |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 27100         | kgf/cm <sup>2</sup> | ASTM D 790  |
| Tensile Stress, yield, 50 mm/min             | 64            | MPa                 | ISO 527     |
| Tensile Stress, break, 50 mm/min             | 53            | MPa                 | ISO 527     |
| Tensile Strain, yield, 50 mm/min             | 4.7           | %                   | ISO 527     |
| Tensile Strain, break, 50 mm/min             | 96.8          | %                   | ISO 527     |
| Tensile Modulus, 1 mm/min                    | 2460          | MPa                 | ISO 527     |
| Flexural Stress, yield, 2 mm/min             | 94            | MPa                 | ISO 178     |
| Flexural Modulus, 2 mm/min                   | 2360          | MPa                 | ISO 178     |
| <b>IMPACT</b>                                |               |                     |             |
| Izod Impact, notched, 23°C                   | 61            | cm-kgf/cm           | ASTM D 256  |
| Izod Impact, notched, -30°C                  | N/A           | cm-kgf/cm           | ASTM D 256  |
| Instrumented Impact Total Energy, 23°C       | 495           | cm-kgf              | ASTM D 3763 |
| Izod Impact, notched 80*10*4 +23°C           | 17            | kJ/m <sup>2</sup>   | ISO 180/1A  |
| Izod Impact, notched 80*10*4 -30°C           | 12            | kJ/m <sup>2</sup>   | ISO 180/1A  |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 17            | kJ/m <sup>2</sup>   | ISO 179/1eA |
| <b>THERMAL</b>                               |               |                     |             |
| Vicat Softening Temp, Rate B/50              | 111           | °C                  | ASTM D 1525 |



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| <b>THERMAL</b>                              |               |                         |                |
| HDT, 0.45 MPa, 3.2 mm, unannealed           | 105           | °C                      | ASTM D 648     |
| CTE, -40°C to 40°C, flow                    | 7.E-05        | 1/°C                    | ASTM E 831     |
| CTE, -40°C to 40°C, xflow                   | 7.E-05        | 1/°C                    | ASTM E 831     |
| CTE, -40°C to 40°C, flow                    | 7.E-05        | 1/°C                    | ISO 11359-2    |
| CTE, -40°C to 40°C, xflow                   | 7.E-05        | 1/°C                    | ISO 11359-2    |
| Ball Pressure Test, 75°C +/- 2°C            | PASS          | -                       | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50             | 112           | °C                      | ISO 306        |
| Vicat Softening Temp, Rate B/120            | 114           | °C                      | ISO 306        |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm       | 96            | °C                      | ISO 75/Af      |
| Relative Temp Index, Elec                   | 80            | °C                      | UL 746B        |
| Relative Temp Index, Mech w/impact          | 80            | °C                      | UL 746B        |
| Relative Temp Index, Mech w/o impact        | 80            | °C                      | UL 746B        |
| <b>PHYSICAL</b>                             |               |                         |                |
| Specific Gravity                            | 1.16          | -                       | ASTM D 792     |
| Mold Shrinkage on Tensile Bar, flow (2) (5) | 0.5 - 0.7     | %                       | SABIC Method   |
| Mold Shrinkage, flow, 3.2 mm (5)            | 0.5 - 0.7     | %                       | SABIC Method   |
| Mold Shrinkage, xflow, 3.2 mm (5)           | 0.5 - 0.7     | %                       | SABIC Method   |
| Melt Flow Rate, 300°C/1.2 kgf               | 25.2          | g/10 min                | ASTM D 1238    |
| Density                                     | 1.2           | g/cm <sup>3</sup>       | ISO 1183       |
| Water Absorption, (23°C/sat)                | 0.35          | %                       | ISO 62         |
| Moisture Absorption (23°C / 50% RH)         | 0.15          | %                       | ISO 62         |
| Melt Volume Rate, MVR at 300°C/1.2 kg       | 23            | cm <sup>3</sup> /10 min | ISO 1133       |
| <b>ELECTRICAL</b>                           |               |                         |                |
| Dielectric Strength, in oil, 1.6 mm         | 27            | kV/mm                   | ASTM D 149     |
| Volume Resistivity                          | >1.E+15       | Ohm-cm                  | IEC 60093      |



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| <b>ELECTRICAL</b>                             |               |      |                |
| Surface Resistivity, ROA                      | >1.E+15       | Ohm  | IEC 60093      |
| Relative Permittivity, 1 MHz                  | 2.9           | -    | IEC 60250      |
| Dissipation Factor, 50/60 Hz                  | 0.03          | -    | IEC 60250      |
| Dissipation Factor, 1 MHz                     | 0.01          | -    | IEC 60250      |
| Comparative Tracking Index                    | 200           | V    | IEC 60112      |
| Relative Permittivity, 50/60 Hz               | 3             | -    | IEC 60250      |
| <b>FLAME CHARACTERISTICS</b>                  |               |      |                |
| UL Recognized, 94V-2 Flame Class Rating (3)   | 0.45          | mm   | UL 94          |
| UL Recognized, 94V-0 Flame Class Rating (3)   | 0.8           | mm   | UL 94          |
| Glow Wire Flammability Index 960°C, passes at | 1             | mm   | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.0 mm    | 800           | °C   | IEC 60695-2-13 |
| Oxygen Index (LOI)                            | 36            | %    | ISO 4589       |



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| PROCESSING PARAMETERS       | TYPICAL VALUE | Unit |
|-----------------------------|---------------|------|
| <b>Injection Molding</b>    |               |      |
| Drying Temperature          | 90            | °C   |
| Drying Time                 | 4             | hrs  |
| Maximum Moisture Content    | 0.02          | %    |
| Melt Temperature            | 280 - 300     | °C   |
| Nozzle Temperature          | 270 - 290     | °C   |
| Front - Zone 3 Temperature  | 280 - 300     | °C   |
| Middle - Zone 2 Temperature | 270 - 290     | °C   |
| Rear - Zone 1 Temperature   | 260 - 280     | °C   |
| Hopper Temperature          | 60 - 80       | °C   |
| Mold Temperature            | 90            | °C   |