



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## Lexan™ Series Amorphous Polycarbonate Engineering Plastic

Lexan polycarbonate is a transparent amorphous thermoplastic. It exhibits outstanding mechanical, optical, and thermal properties: high impact strength, long-term high transparency, stability at high temperatures, flame/UV resistance, and can be thermoformed to complex shapes. Lexan polycarbonate is ideal for various applications such as aerospace, transportation, and construction.

The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers. We offer our customers the proper product for their specific application. A variety of dimensions and diameter sizes are available. Product colors vary according to material type.

| PROPERTIES                 | ISO/IEC                                   |                   | TYPICAL VALUES    |                 | ASTM               |            | TYPICAL VALUES                |                      |                   |
|----------------------------|---|-------------------|-------------------|-----------------|--------------------|------------|-------------------------------|----------------------|-------------------|
|                            | Test Method                               | Units             | Generic           | Flame Resistant | Test Method        | Units      | Generic                       | Flame Resistant      |                   |
| <b>PHYSICAL</b>            | Specific Gravity                          |                   | -                 | -               | ASTM D792          |            | 1.20                          | -                    |                   |
|                            | Density                                   | ISO 1183          | g/cm <sup>3</sup> | -               | 1.24               | ASTM D570  | %                             | 0.15                 | -                 |
|                            | Water Absorption: 24 hrs.                 |                   | %                 | -               | 0.35               | ASTM D570  | %                             | 0.15                 | -                 |
|                            | Water Absorption Equilibrium at 73 °F     |                   | %                 | -               | -                  | ASTM D570  | %                             | 0.35                 | -                 |
| <b>THERMAL</b>             | CLTE                                      |                   | 1/°C              | -               | 7-10 <sup>-5</sup> | ASTM D696  | µin/in-°F                     | 37.5                 | -                 |
|                            | Thermal Conductivity                      |                   | W/m°C             | -               | 0.20               | ASTM C177  | BTU-in/hr-ft <sup>2</sup> -°F | 1.35                 | -                 |
|                            | Specific Heat at 40 °C                    |                   |                   | -               | -                  | ASTM C351  | BTU/lb-°F                     | 0.30                 | -                 |
|                            | Heat Deflection Temperature at 264 PSI    |                   |                   | -               | -                  | ASTM D648  | °F                            | 270                  | -                 |
|                            | Heat Deflection Temperature at 66 PSI     | ISO 75/Be         | °C                | -               | 138                | ASTM D648  | °F                            | 280                  | -                 |
|                            | Brittle Temperature (on resin)            |                   |                   | -               | -                  | ASTM D746  | °F                            | -211                 | -                 |
|                            | Vicat Softening Temperature: Rate B / 120 | ISO 306           | °C                | -               | 145                |            |                               | -                    | -                 |
|                            | Mold Shrinkage                            | ISO 527           | %                 | -               | 0.6 - 0.8          |            |                               | -                    | -                 |
|                            | Horizontal Burn (Flame Spread): AEB       |                   |                   | -               | -                  | ASTM D635  | Inches                        | <1                   | -                 |
|                            | Ignition Temperature: Self                |                   |                   | -               | -                  |            | °F                            | >1000                | -                 |
| UL Flammability            | UL94                                      |                   | HB                | V-2 / V-0 / V-0 | UL 94              |            | HB                            | V-2 / V-0 / V-0      |                   |
| <b>MECHANICAL</b>          | Tensile Strength at Yield                 | ISO 527           | MPa               | -               | 60                 | ASTM D638  | PSI                           | 9,500                | -                 |
|                            | Tensile Strength at Break                 | ISO 527           | MPa               | -               | 70                 |            |                               | -                    | -                 |
|                            | Tensile Modulus                           | ISO 527           | MPa               | -               | 2,350              | ASTM D638  | KSI                           | 345                  | -                 |
|                            | Tensile Elongation at Break               | ISO 527           | %                 | -               | 120                |            |                               | -                    | -                 |
|                            | Flexural Strength                         | ISO 178           | MPa               | -               | 90                 | ASTM D790  | PSI                           | 13,500               | -                 |
|                            | Flexural Modulus                          | ISO 178           | MPa               | -               | 2,300              | ASTM D790  | KSI                           | 345                  | -                 |
|                            | Compressive Strength                      |                   |                   | -               | -                  | ASTM D695  | PSI                           | 12,500               | -                 |
|                            | Compressive Modulus                       |                   |                   | -               | -                  | ASTM D695  | KSI                           | 345                  | -                 |
|                            | Poisson's Ratio                           |                   |                   | -               | -                  | ASTM E132  |                               | 0.37                 | -                 |
|                            | IZOD Impact Strength: Notched             | ISO 180/1A @ 23°C | kJ/m <sup>2</sup> | -               | 65                 | ASTM D256A | ft-lbs/in                     | 12 - 16              | -                 |
|                            | IZOD Impact Strength: Unnotched           |                   |                   | -               | -                  | ASTM D256A | ft-lbs/in                     | 60                   | -                 |
|                            | Gardner Impact at 23°C / -30°C            |                   | J                 | -               | -                  | ASTM D3029 | J                             | -                    | > 40 / > 40       |
|                            | Shear Strength at Yield                   |                   |                   | -               | -                  | ASTM D732  | PSI                           | 6,000                | -                 |
|                            | Shear Modulus                             |                   |                   | -               | -                  | ASTM D732  | KSI                           | 114                  | -                 |
|                            | Taber Abrasion: CS17, 1000g, 1,000 Cycles |                   |                   | -               | -                  | ASTM D1242 | mg                            | -                    | 9                 |
| Rockwell Hardness: M Scale |   |                   | -                 | -               | ASTM D785          |            | 70                            | 74                   |                   |
| Rockwell Hardness: R Scale |   |                   | -                 | -               | ASTM D785          |            | 118                           | -                    |                   |
| <b>ELECTRICAL</b>          | Dielectric Strength                       | IEC 60243         | kV/mm             | -               | 17                 |            |                               | -                    | -                 |
|                            | Dielectric Constant at 60 Hz              |                   |                   | -               | -                  | ASTM D150  |                               | 3.17                 | 3.17              |
|                            | Dielectric Constant at 1 MHz              |                   |                   | -               | -                  | ASTM D150  |                               | -                    | 2.96              |
|                            | Dissipation Factor at 50 Hz               |                   |                   | -               | -                  | ASTM D150  |                               | -                    | 0.0010            |
|                            | Dissipation Factor at 60 Hz               |                   |                   | -               | -                  | ASTM 150   |                               | 0.0009               | -                 |
|                            | Dissipation Factor at 1 MHz               |                   |                   | -               | -                  | ASTM 150   |                               | -                    | 0.01              |
|                            | Volume Resistivity                        |                   |                   | -               | -                  | ASTM D257  | Ohm-cm                        | 8.2·10 <sup>16</sup> | >10 <sup>15</sup> |

The data supplied are typical values. They are not to be considered specification values. All of the information, suggestions, and recommendations about these properties and uses of the products herein are based on tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty - expressed or implied - including, without limitation, warranties of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.