

# LEXAN™ 9030TG SHEET

## PRODUCT DATASHEET

### DESCRIPTION

LEXAN™ 9030TG based polycarbonate sheet is the standard grade of LEXAN sheet. Inherently high impact UV stabilized LEXAN 9030TG sheet is an excellent candidate for glazing for economical protection against breakage or intrusion. As LEXAN has, better insulation properties than glass it may contribute to lower energy costs. LEXAN 9030TG sheet may be thermoformed, pressure formed, cold-formed or used in flat applications.

Applicable to: 9030TG manufactured in Campinas Brazil

### TYPICAL PROPERTY VALUES

| PROPERTY                               | TEST METHOD   | UNITS                         | VALUE 9030TG *         |
|--|---------------|-------------------------------|------------------------|
| <b>PHYSICAL</b>                        |               |                               |                        |
| Specific Gravity                       | ASTM D792     | -                             | 1.20                   |
| Refractive Index @ 77°F                | ASTM D542A    | -                             | 1.586                  |
| Light Transmission (Average at 0.118") | ASTM D1003    | %                             | 86                     |
| Initial Haze                           |               | HU                            | <1                     |
| Rockwell Hardness (M scale)            | ASTM D785     | -                             | 70                     |
| Rockwell Hardness (R scale)            | ASTM D785     |                               | 118                    |
| Taber @ 100 cycles                     | ASTM D1044    |                               |                        |
|  | (ANSI Z126.1) | % haze                        | 10                     |
| Water Absorption, 24 hrs               | ASTM D570     | %                             | 0.15                   |
| Water Absorption, Equilibrium          | @ 73°F        | %                             | 0.35                   |
| <b>MECHANICAL</b>                      |               |                               |                        |
| Tensile Strength, Yield                | ASTM D638     | psi                           | 9,500                  |
| Tensile Modulus                        | ASTM D638     | psi                           | 345,000                |
| Flexural Strength                      | ASTM D790     | psi                           | 13,500                 |
| Flexural Modulus                       | ASTM D790     | psi                           | 345,000                |
| Compressive Strength                   | ASTM D695     | psi                           | 12,500                 |
| Compressive Modulus                    | ASTM D695     | psi                           | 345,000                |
| Poisson's Ratio                        | ASTM E132     | -                             | 0.37                   |
| Izod Impact Strength Notched @ 0.118"  | ASTM D256A    | ft-lbs/in                     | 12–16                  |
| Unnotched @ 0.118"                     |               |                               | 60<br>(no failure)     |
| Shear Strength @ Yield                 | ASTM D732     | psi                           | 6,000                  |
| Shear Modulus                          | ASTM D732     | psi                           | 114,000                |
| <b>THERMAL</b>                         |               |                               |                        |
| Coefficient of Thermal Expansion       | ASTM D696     | in/in/°F                      | 3.75 x10 <sup>-5</sup> |
| Coefficient of Thermal Conductivity    | ASTM C177     | Btu•in/hr•ft <sup>2</sup> •°F | 1.35                   |

| PROPERTY   | TEST METHOD | UNITS     | VALUE 9030TG *         |
|--|-------------|-----------|------------------------|
| Specific Heat @ 40°C                                   | ASTM C351   | BTU/lb-°F | 0.30                   |
| Heat Deflection Temperature @ 264 psi                  | ASTM D648   | °F        | 270                    |
| @ 66 psi   |             |           | 280                    |
| Brittle Temperature (on resin)                         | ASTM D746   | °F        | -211                   |
| <b>FLAMMABILITY</b>                                    |             |           |                        |
| Horizontal Burn (Flame Spread) AEB                     | ASTM D635   | in        | <1                     |
| Ignition Temperature, Self                             |             | °F        | >1000                  |
| UL Flammability (File # 121562)                        | UL94HB      | Pass/Fail | HB                     |
| <b>ELECTRICAL</b>                                      |             |           |                        |
| Dielectric Constant @ 60 Hz                            | ASTM D150   | —         | 3.17                   |
| Volume Resistivity                                     | ASTM D257   | Ohm-cm    | 8.2 x 10 <sup>16</sup> |
| Dissipation Factor (@60 Hz) also known as Power Factor | ASTM D150   |           | 0.0009                 |

These typical values are not intended for specification purposes. If minimum certifiable properties are required, please contact your local SABIC representative.

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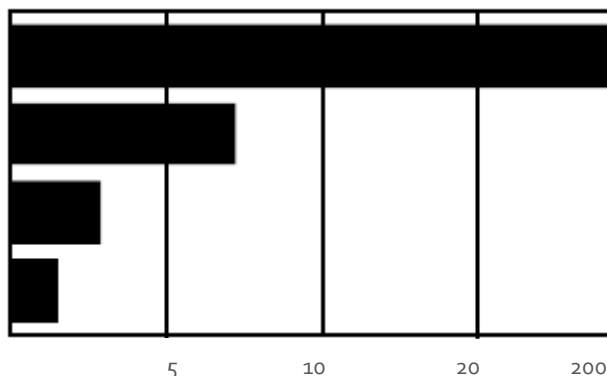
## IMPACT RESISTANCE<sup>¶</sup>

1/4" LEXAN 9030TG Sheet

1/4" Acrylic

1/4" Tempered Glass

1/4" Laminated Glass



¶) Drop Dart Test with a 5-lb steel dart and a 1" diameter tip.

Measured in foot-pounds

## CHEMICAL RESISTANCE

LEXAN™ 9030TG sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. Specific (application related) testing is always advised, especially in applications where the LEXAN 9030TG sheet will come into contact with aggressive chemicals.

## PROCESSING

LEXAN 9030TG sheet can be used for thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results. LEXAN 9030TG sheet has a forming temperature range of 350–400°F. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of 0.007–0.009 in/in taken into account.

## PRE-DRYING

It is important to ensure that LEXAN™ 9030TG sheet is free of moisture prior to thermoforming. A hot air circulating oven set at 250°F is recommended. Pre-drying times vary from 3–24 hours, depending on sheet thickness.

## ASSEMBLING / PAINTING

Parts made from LEXAN 9030TG sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Since some of these materials can cause environmental stress cracking, please consult SABIC, for advice on specific applications. A list of approved paint systems and suppliers is available upon request.

## PRODUCT AVAILABILITY

|                           |  |   |   |
|---------------------------|--|---|---|
| Standard Width<br>in/mm:  | 50.39"/1280mm                                | 49.21"/1250mm   | 80.70"/2050m  |
| Standard Gauge            | 0.03", 0.04", 0.06"                          | 0.08", 0.118", 0.157", 0.236", 0.315", 0.354",<br>0.394", 0.472", 0.55" | 0.08", 0.118", 0.157", 0.236", 0.315", 0.354",<br>0.394", 0.472", 0.55" |
|                           | 0.75mm, 1mm, 1.5mm                           | 2mm, 3mm, 4mm, 6mm, 8mm, 9mm, 10mm,<br>12mm, 14mm                       | 2mm, 3mm, 4mm, 6mm, 8mm, 9mm, 10mm,<br>12mm, 14mm                       |
| Standard Length<br>in/mm: | 39.37", 96", 118.11", 120", 236.22"          |   |   |
|                           | 1000mm, 2439mm, 3000mm, 3050mm & 6000mm      |   |   |
| Standard Colors:          | Clear 112, Bronze 5109, Opal 82253, Grey 713 |   |   |



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