Lexan® Thermoclear®
Multi-wall Polycarbonate Sheet

Loading Guidelines
Wind & Snow Loading

The wind speed is used to determine the actual loading upon the glazing panels. In mathematical terms, the pressure loading is calculated by multiplying the square of the design wind speed by 0.002531

\[ q = KV^2 \]

where \( q \) = dynamic wind pressure in lb - force/ft\(^2\)
\( K = 0.002531 \)
\( V \) = design wind speed in mph

**Fig. 38**

<table>
<thead>
<tr>
<th>windspeed mph</th>
<th>windpress lb/ft(^2)</th>
<th>windspeed mph</th>
<th>windpress lb/ft(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>1.04</td>
<td>150</td>
<td>56</td>
</tr>
<tr>
<td>30</td>
<td>2.50</td>
<td>170</td>
<td>72</td>
</tr>
<tr>
<td>50</td>
<td>6.00</td>
<td>70</td>
<td>12.00</td>
</tr>
<tr>
<td>100</td>
<td>25.00</td>
<td>120</td>
<td>36.00</td>
</tr>
</tbody>
</table>

For glazing projects with an unusual loading condition, please contact your local GE Structured Products Sales Office.

**Support Conditions**

Note: Regardless of support configuration selected, the sheet should always be installed so that the rib structure channels are sloping downwards. Sheet “width” is the dimension perpendicular to the rib structure, “length” the dimension parallel.

**Safety factor**

The tables indicate the maximum allowable sheet at a specified loading which results into an acceptable sheet deflection behavior while minimizing the RISK of sheet buckling or pop-out effect calculated with a safety factor of 1.5.

*N.B. The values indicated in the tables are applicable for a LEXAN Thermoclear sheet edge engagement in the glazing frame of at least .75 inches.*

**General Comments**

For sloped glazing applications a minimum slope of 5° (1 in/1 ft sheet length) is advised to allow for rainwater drainage.
Thicknes Selection For Flat Glazing

Because of LEXAN® Thermoclear® sheet’s exceptional stiffness to weight ratio, it is ideally suited for load bearing applications such as vertically installed or sloped glazing.

The following information has been generated to assist the designer in selecting the proper gauge, sheet size and support spacing for their applications.

The design information has been organized in graph form based on fixed widths of 24", 36", 48", 72", and 83". In all cases, the ribs are running perpendicular to the width. The data has been further organized according to allowable deflection limits. Select the maximum design deflection and choose the graph having the proper width dimension. Then plot, starting from the specified design load (PSF) across the Y axis to the maximum deflection desired. The recommended maximum unsupported sheet length is located at the intersection.
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