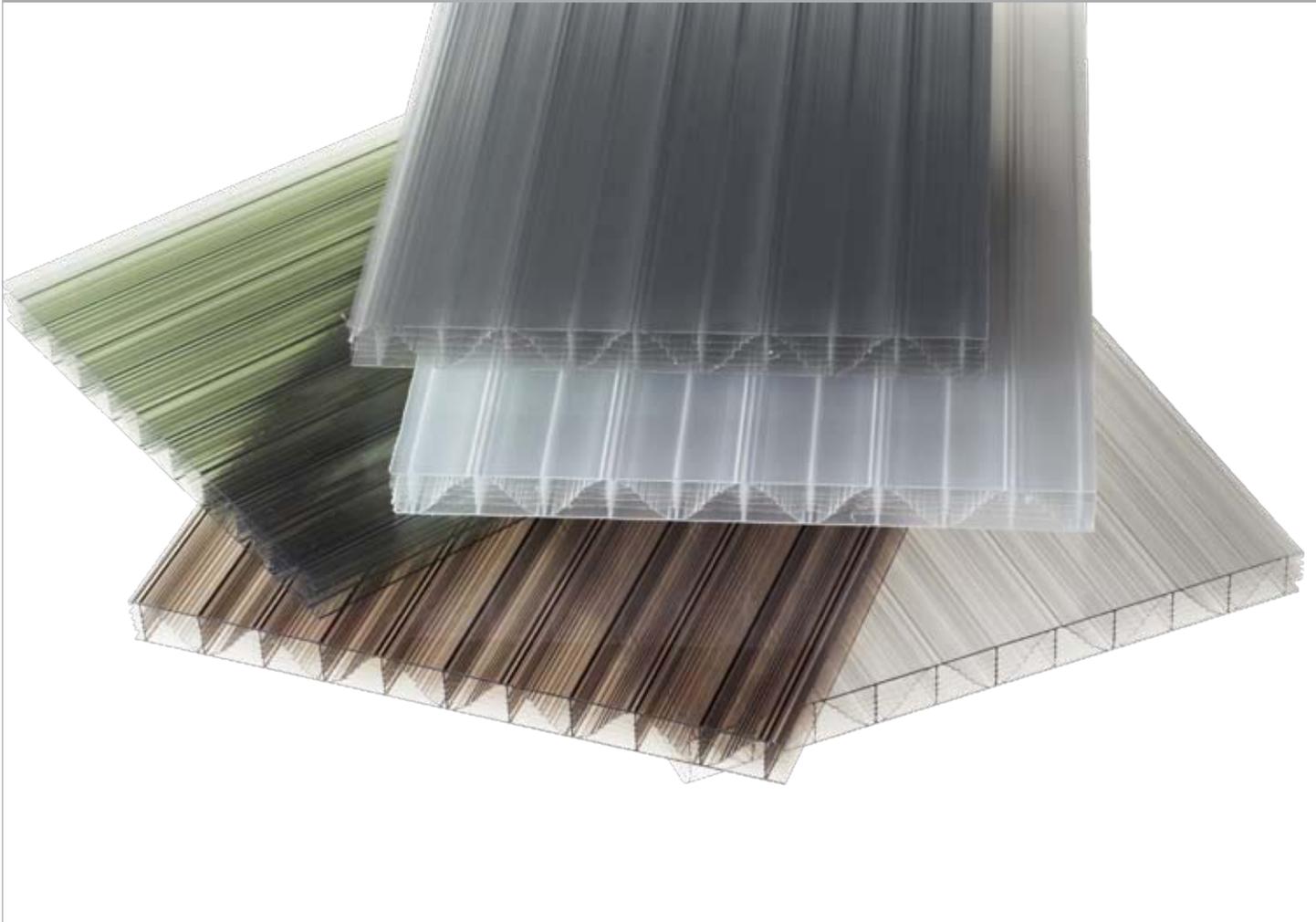


Specialty Film & Sheet



# Lexan\* Thermoclear\* Multi-wall Polycarbonate Sheet

Loading Guidelines

# Wind & Snow Loading

**Dynamic Wind Pressure** 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<sup>2</sup>  
 $K = 0.002531$   
 $V$  = design wind speed in mph

Fig. 38

Values of q in SI units (lb-force/ft <sup>2</sup> )			
windspeed mph	windpress lb-f/ft <sup>2</sup>	windspeed mph	windpress lb-f/ft <sup>2</sup>
20	1.04	150	56
30	2.50	170	72
50	6.00		
70	12.00		
100	25.00		
120	36.00		

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

**Pressure Coefficient** To allow for local fluctuations in the acceleration/deceleration of the wind by building or glazing geometry, it is necessary to include an appropriate pressure coefficient. The wind loading is obtained by multiplying the dynamic wind pressure by the pressure coefficient. Detailed pressure coefficient values can be found in the appropriate National Building Norms.

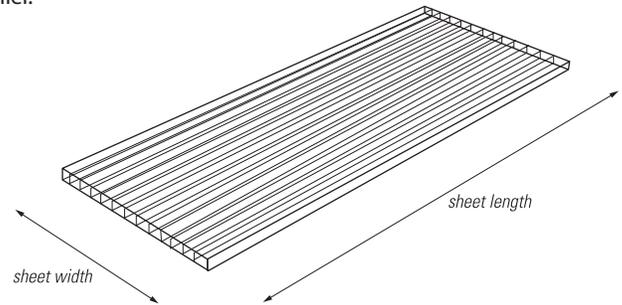
**Snow Loading** Snow loadings on roof glazings shall be considered equivalent to a vertically, uniformly distributed load, acting per ft<sup>2</sup> of the horizontal projection of the glazing. Snow loading factors can be obtained from the appropriate local building norm.

**Computer aided Sheet Engineering** A computer aided design program has been developed especially for large glazing projects, or projects with an uncommon shape or unusual loading conditions. The problem creates the finite element model of a particular glazing design, applies the specified loads and edge condition and runs the deflection analysis. Consult your nearest GE Structured Products Technical Service Center for further advice.

**Sheet Thickness Criteria and Table Interpretation**

## Support Conditions

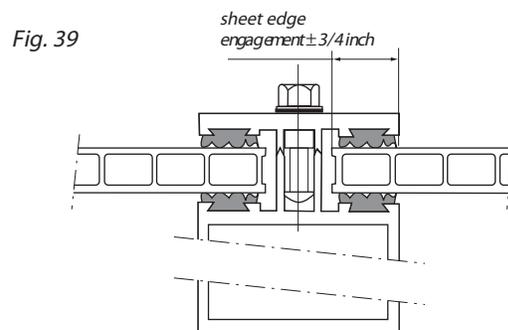
Note: Regardless of support configuration selected, the sheet should always be installed so that the rib structure channels are sloping downwards. Sheet "width" is the dimension perpendicular to the rib structure, "length" the dimension parallel.



## 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.

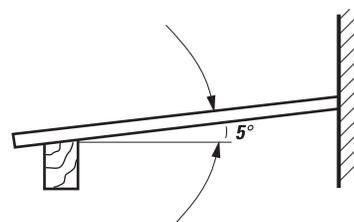
*N.B. The values indicated in the tables are applicable for a LEXAN Thermoclear sheet edge engagement in the glazing frame of at least .75 inches.*



## General Comments

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

Fig. 40

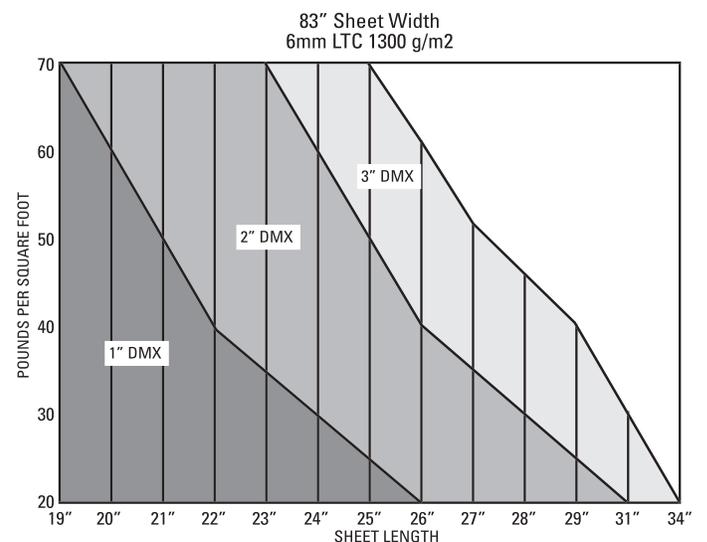
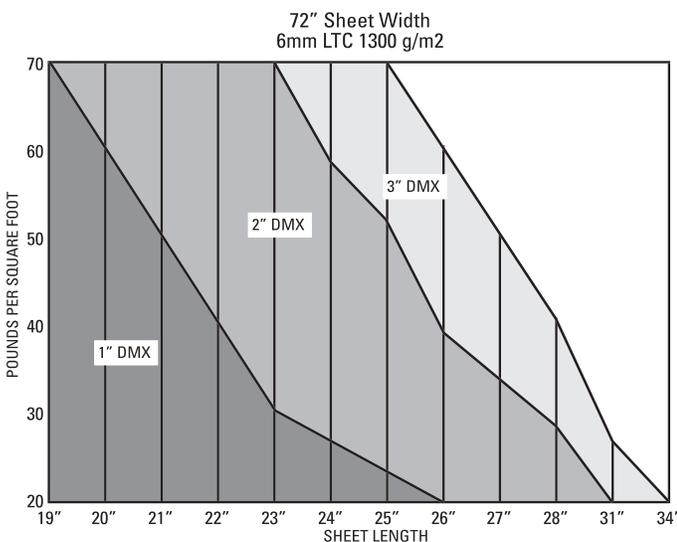
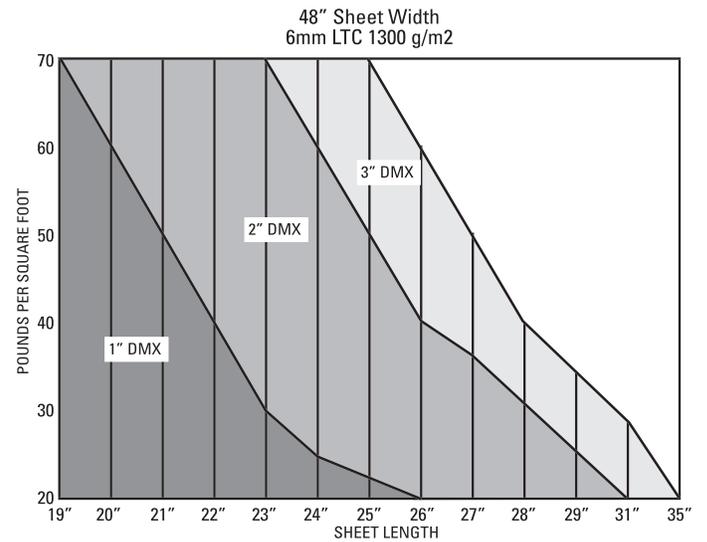
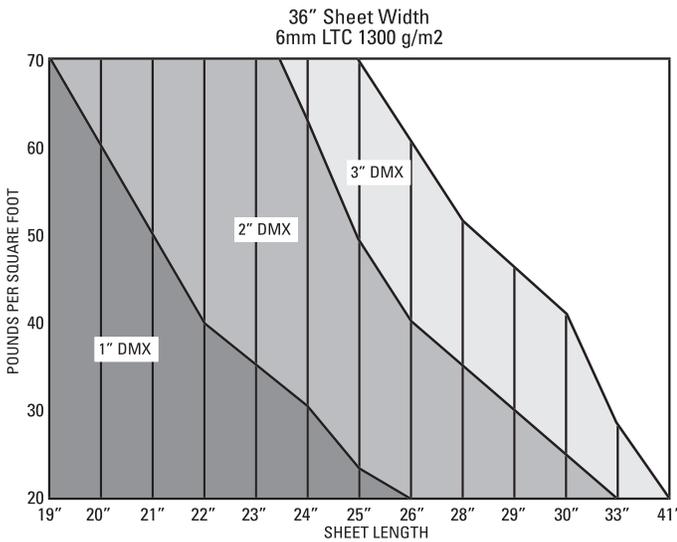
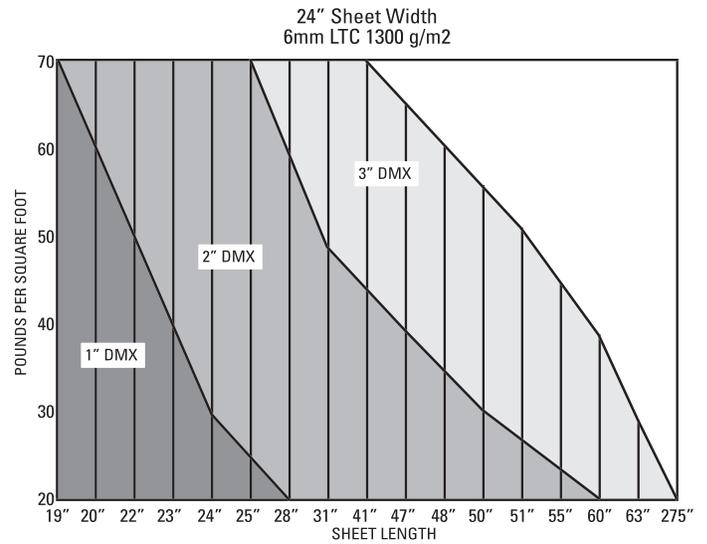


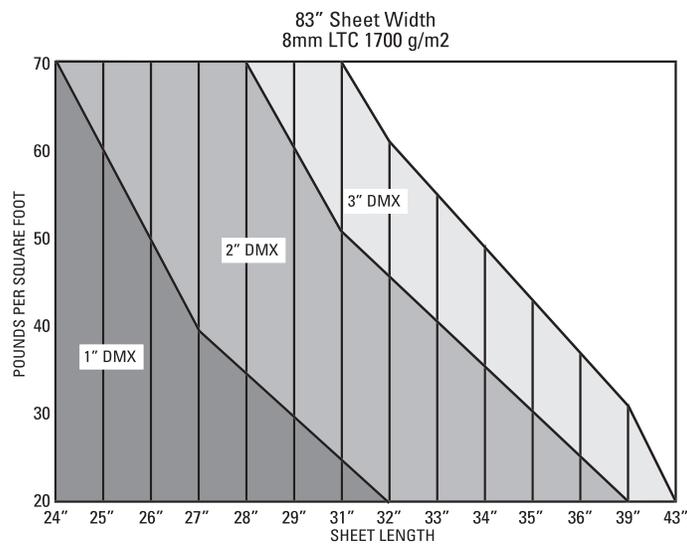
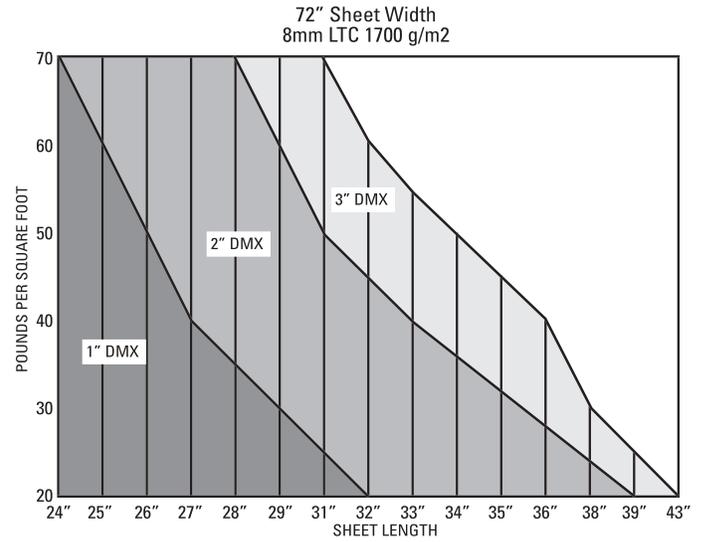
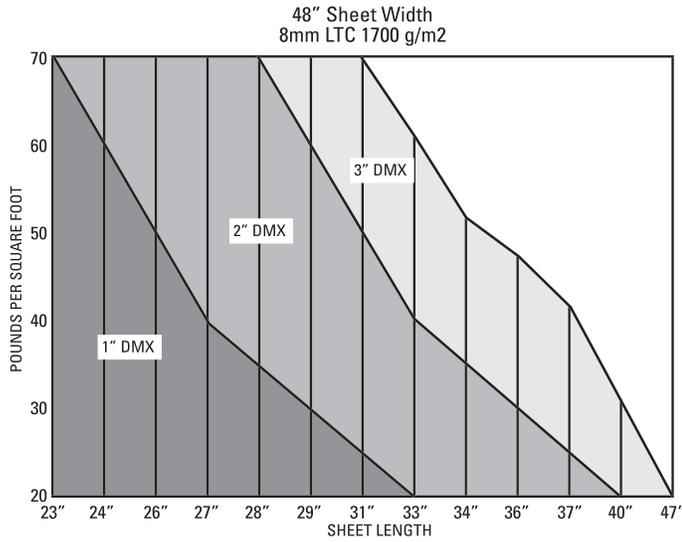
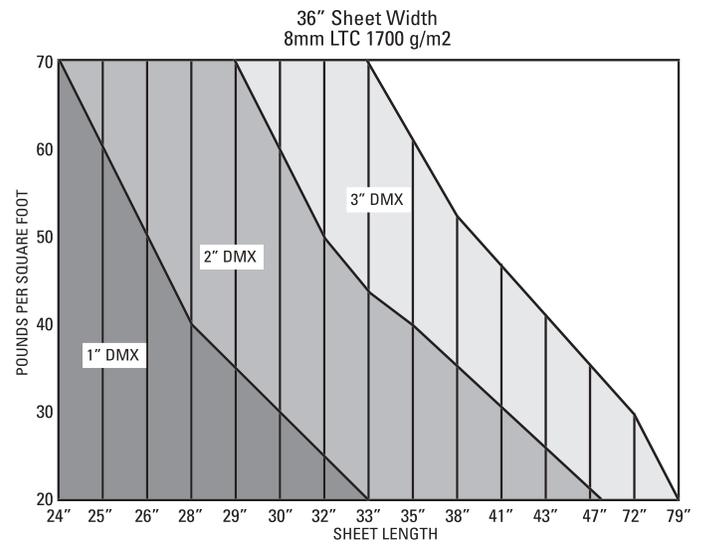
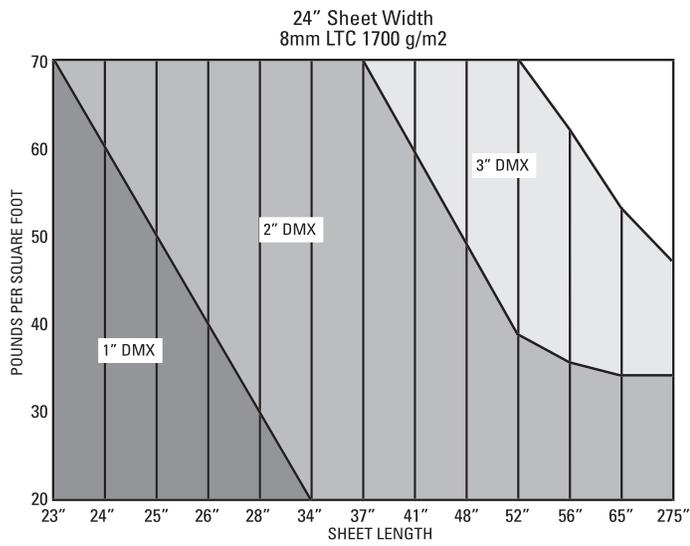
# Thickness Selection For Flat Glazing

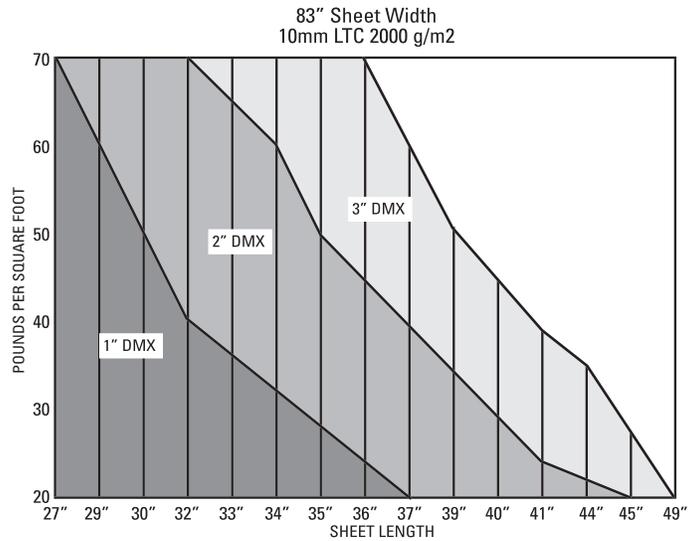
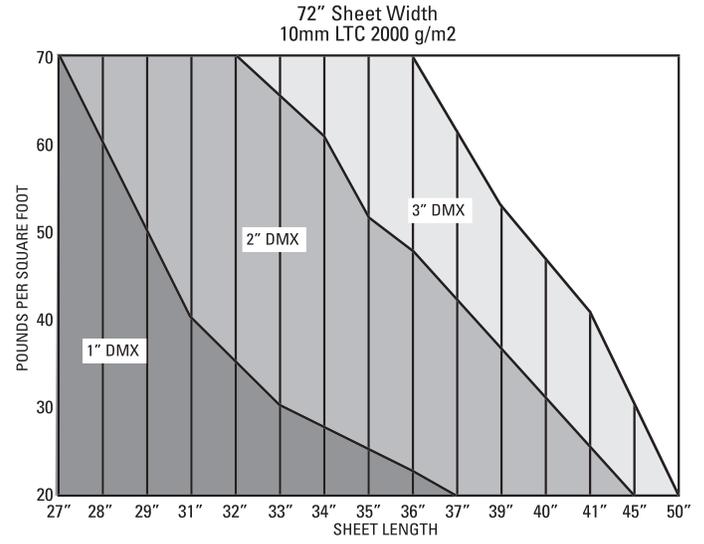
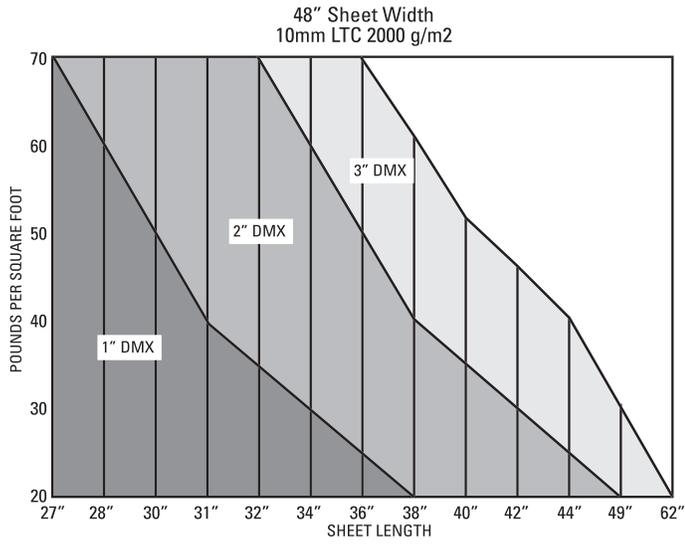
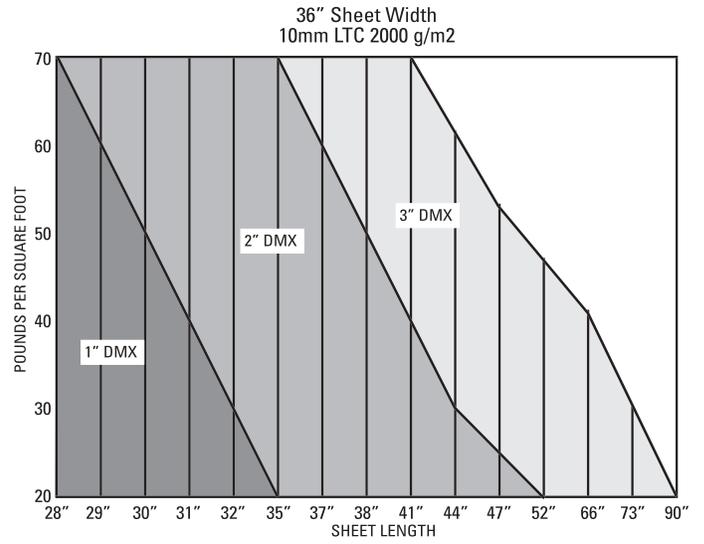
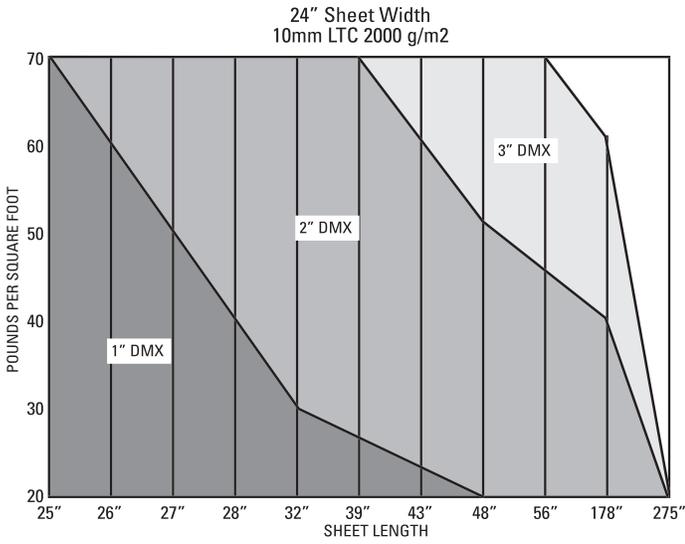
Because of LEXAN<sup>®</sup> ThermoClear<sup>®</sup> sheet's exceptional stiffness to weight ratio, it is ideally suited for load bearing applications such as vertically installed or sloped glazing.

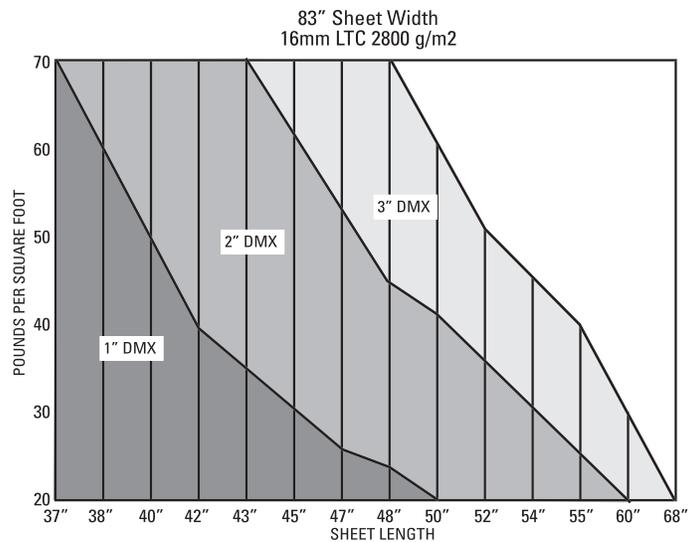
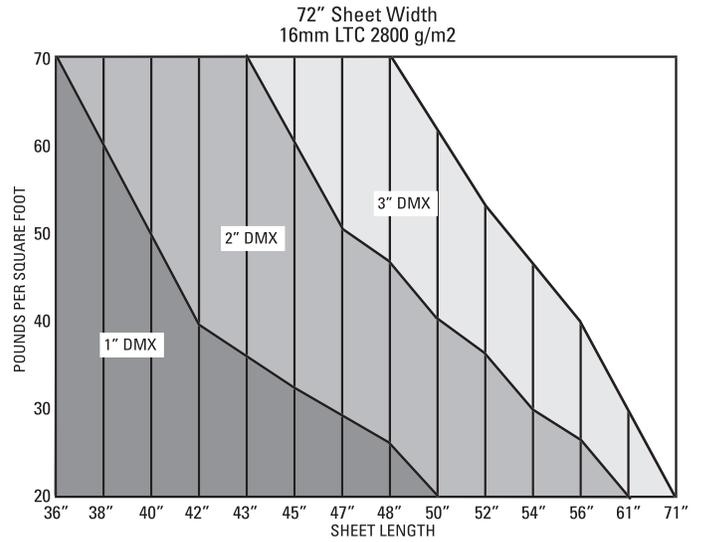
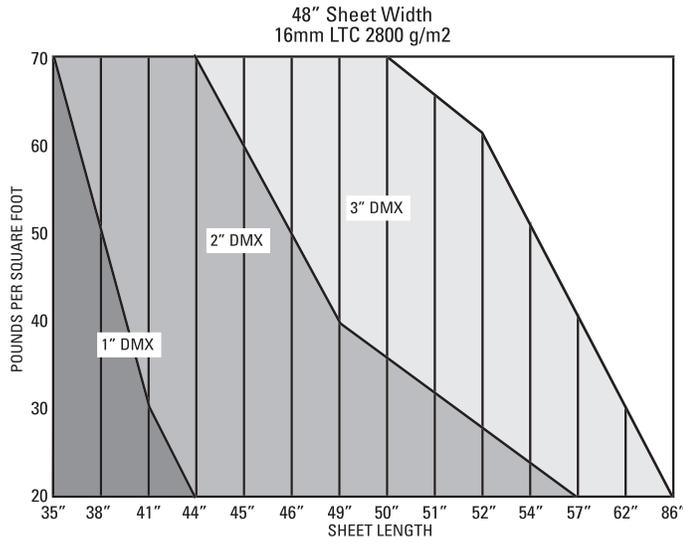
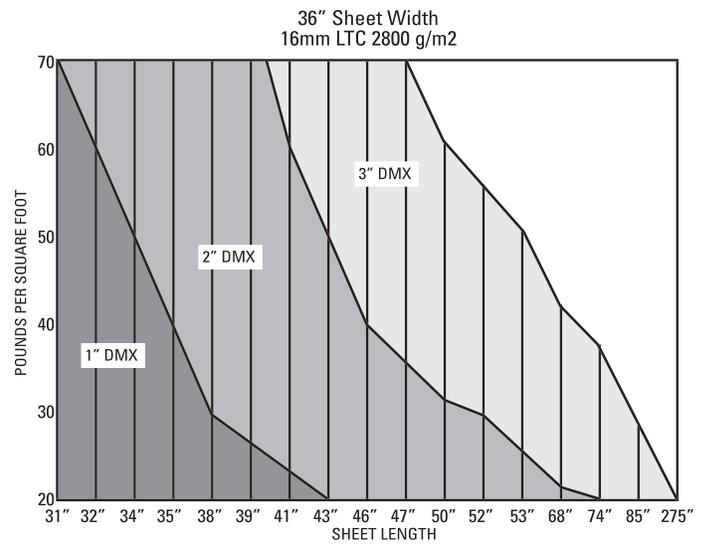
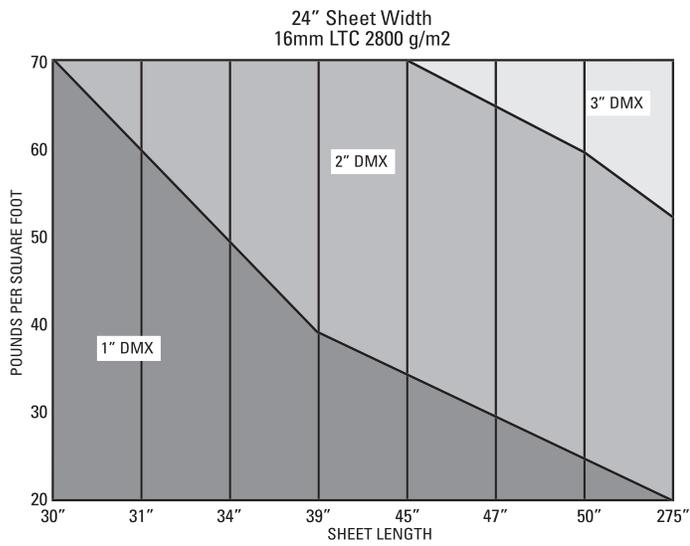
The following information has been generated to assist the designer in selecting the proper gauge, sheet size and support spacing for their applications.

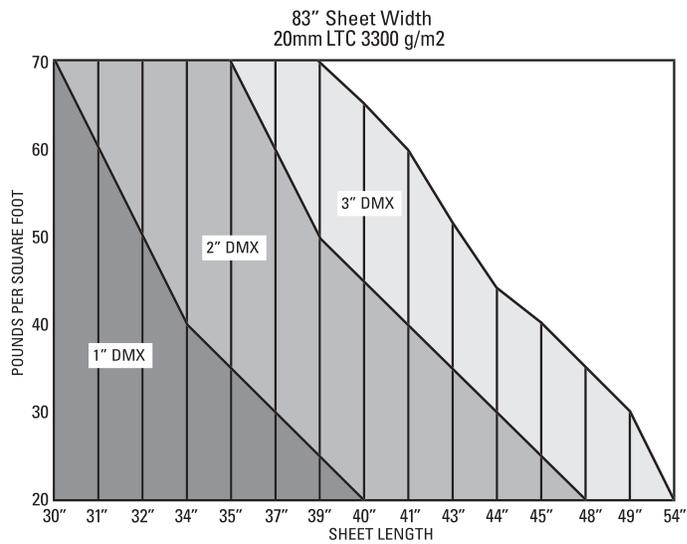
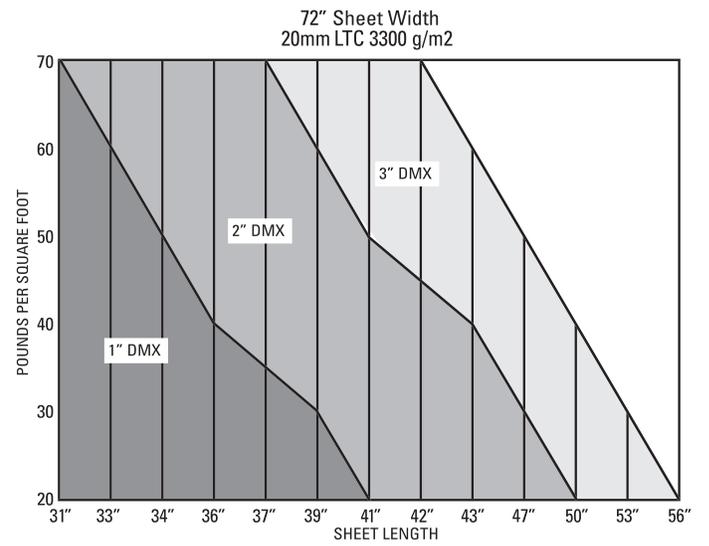
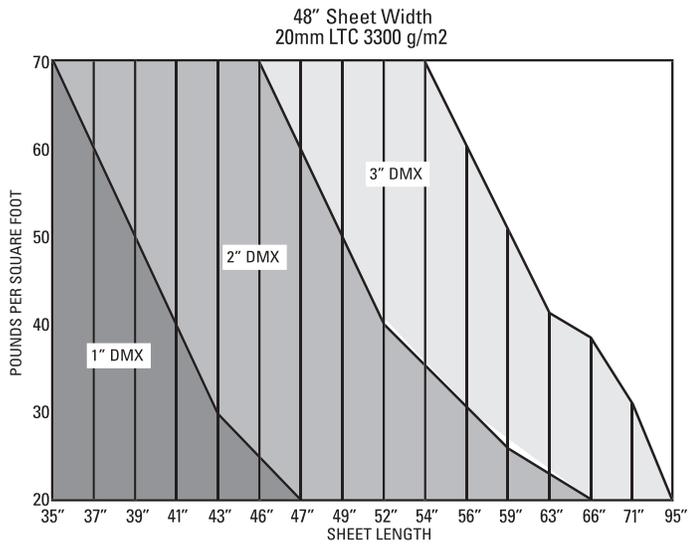
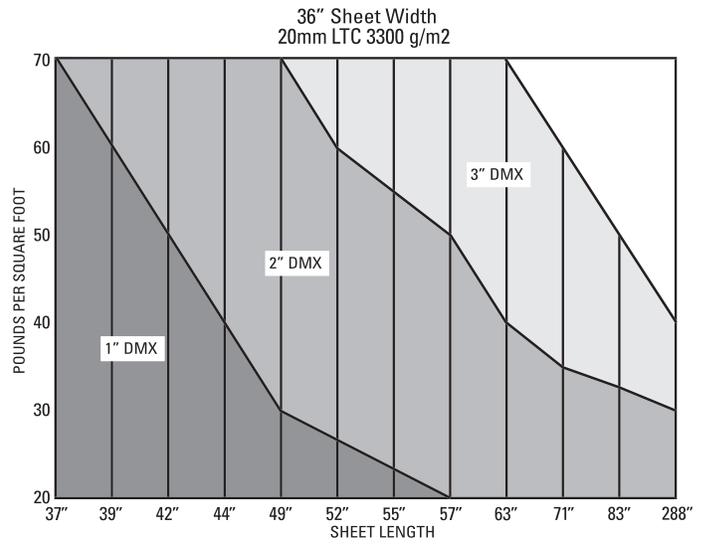
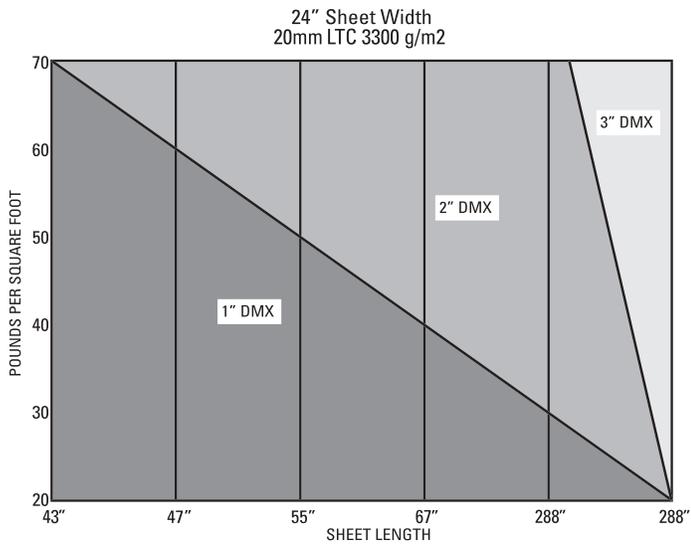
The design information has been organized in graph form based on fixed widths of 24", 36", 48", 72", and 83". In all cases, the ribs are running perpendicular to the width. The data has been further organized according to allowable deflection limits. Select the maximum design deflection and choose the 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.

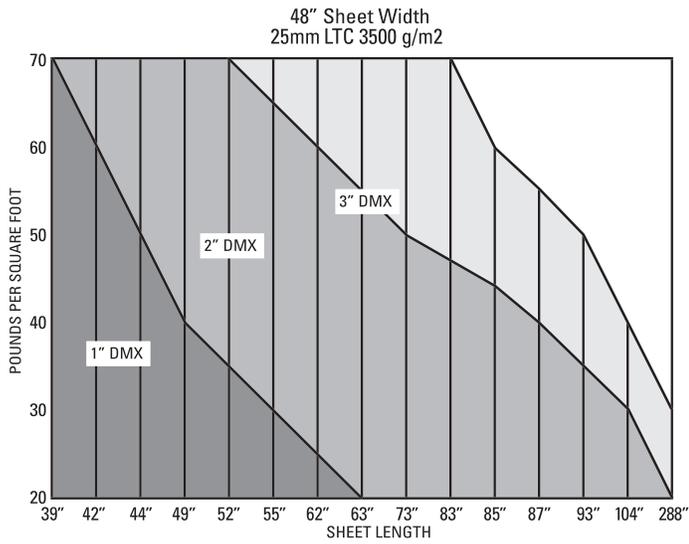
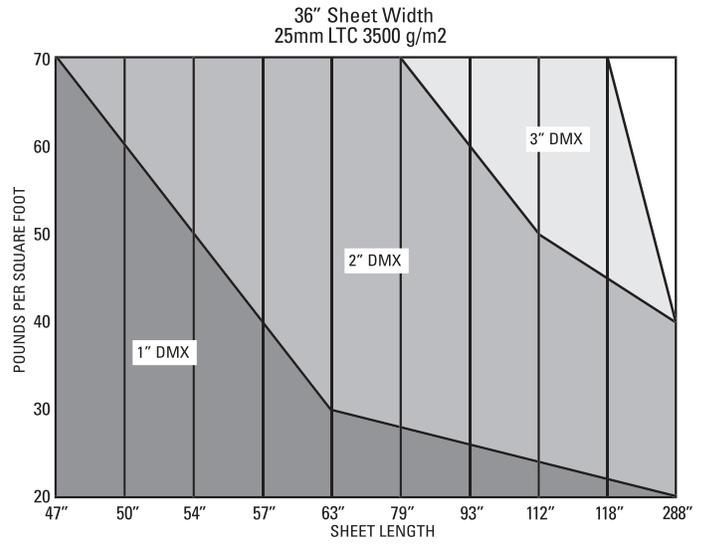
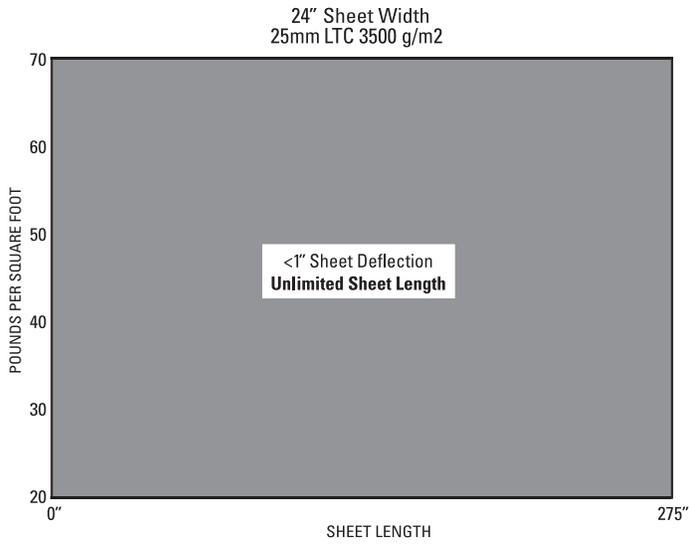












## Contact us

SABIC Innovative Plastics  
Specialty Film & Sheet  
One Plastics Avenue  
Pittsfield, MA 01201



### SABIC Innovative Plastics Global Disclaimer

THE MATERIALS, PRODUCTS AND SERVICES OF SABIC INNOVATIVE PLASTICS HOLDING BV, ITS SUBSIDIARIES AND AFFILIATES ("SELLER"), ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH CAN BE FOUND AT <http://www.sabic-ip.com> AND ARE AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION OR RECOMMENDATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SELLER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SELLER'S PRODUCTS, SERVICES OR RECOMMENDATIONS. EXCEPT AS PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user is responsible for making its own determination as to the suitability of Seller's products, services or recommendations for the user's particular use through appropriate end-use testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. No statement by Seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of such product, service, or design in a manner that infringes any patent or other intellectual property right.

SABIC Innovative Plastics is a trademark of SABIC Holding Europe BV  
\* Trademarks of SABIC Innovative Plastics IP BV  
© Copyright 2008. All rights reserved.

[www.sabic-ip.com](http://www.sabic-ip.com)