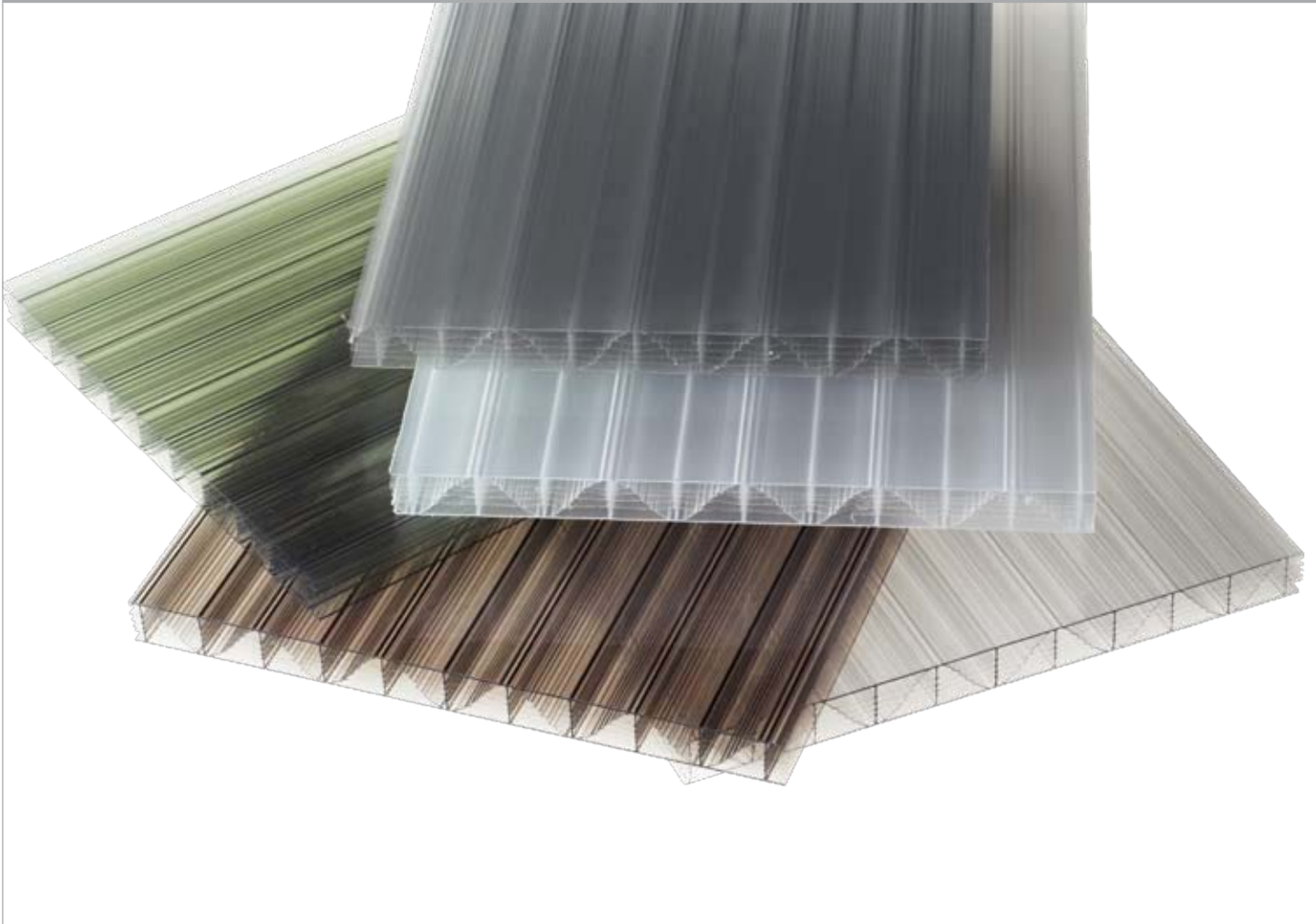


Specialty Film & Sheet



# 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.

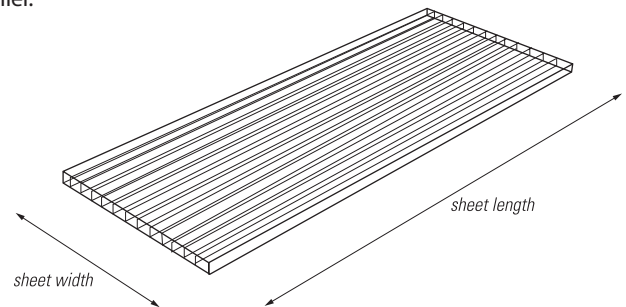
**Snow Loading**  
Snow loadings on roof glazings shall be considered equivalent to a vertically, uniformly distributed load, acting per ft<sup>2</sup> of the horizontal projection of the glazing. Snow loading factors can be obtained from the appropriate local building norm.

**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

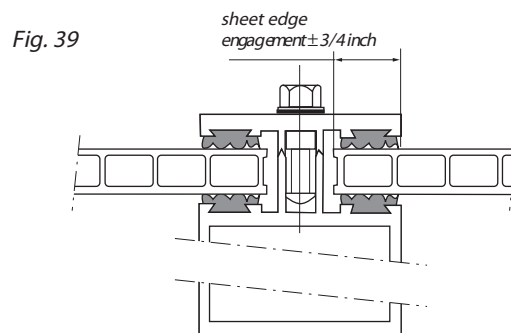
Note: Regardless of support configuration selected, the sheet should always be installed so that the rib structure channels are sloping downwards. Sheet "width" is the dimension perpendicular to the rib structure, "length" the dimension parallel.



## 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.

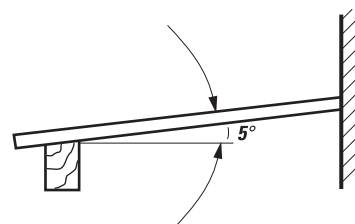
*N.B. The values indicated in the tables are applicable for a LEXAN Thermoclear sheet edge engagement in the glazing frame of at least .75 inches.*



## 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



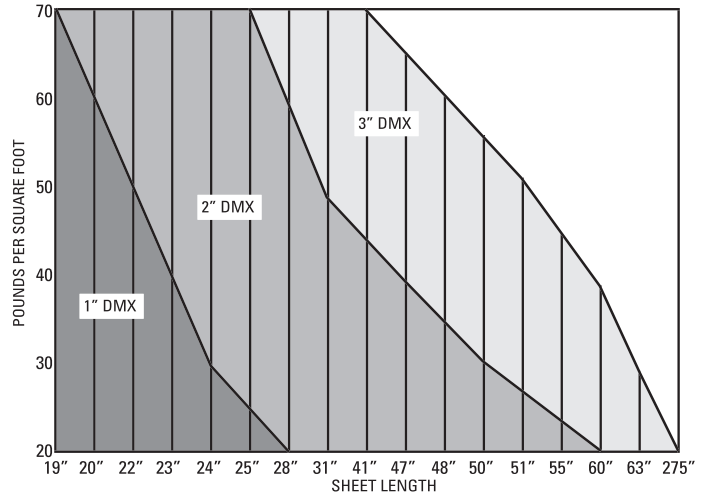
# Thickness Selection For Flat Glazing

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.

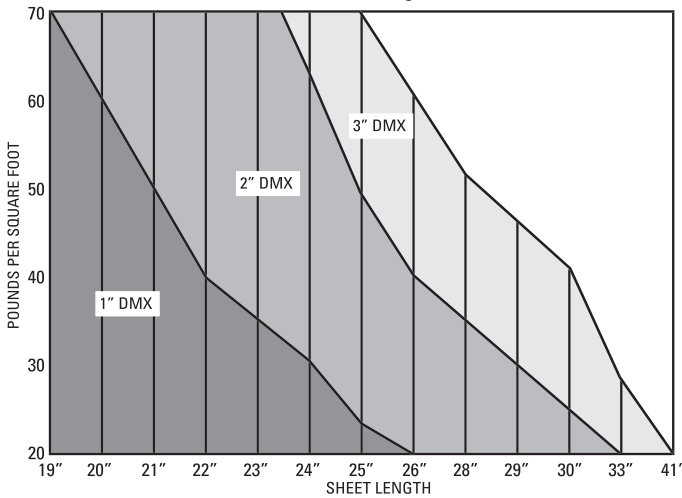
The following information has been generated to assist the designer in selecting the proper gauge, sheet size and support spacing for their applications.

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.

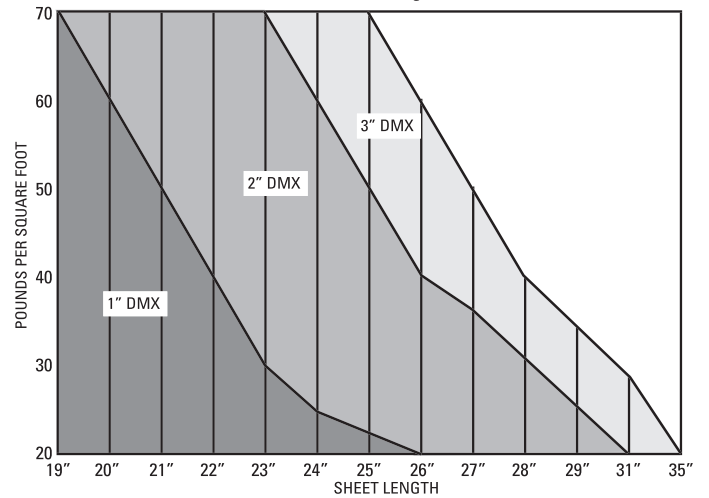
24" Sheet Width  
6mm LTC 1300 g/m<sup>2</sup>



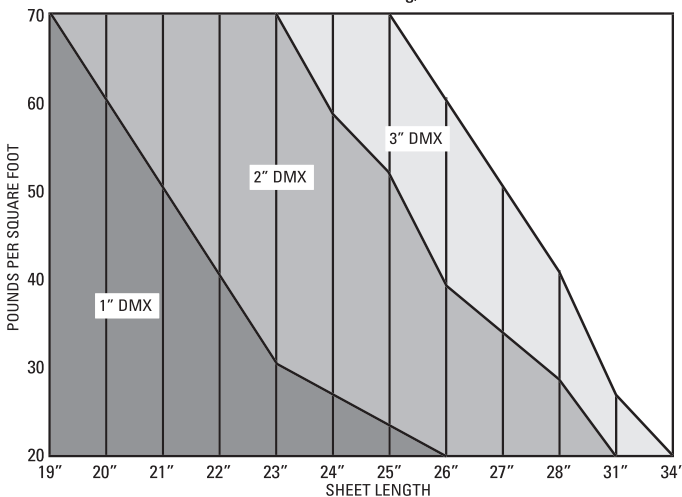
36" Sheet Width  
6mm LTC 1300 g/m<sup>2</sup>



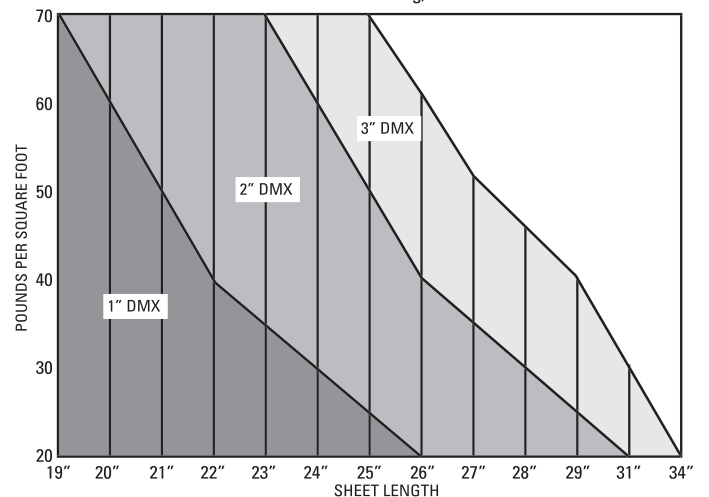
48" Sheet Width  
6mm LTC 1300 g/m<sup>2</sup>

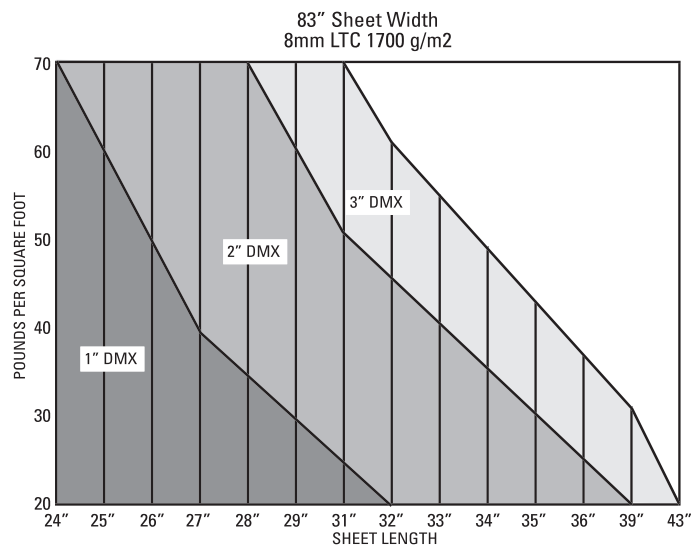
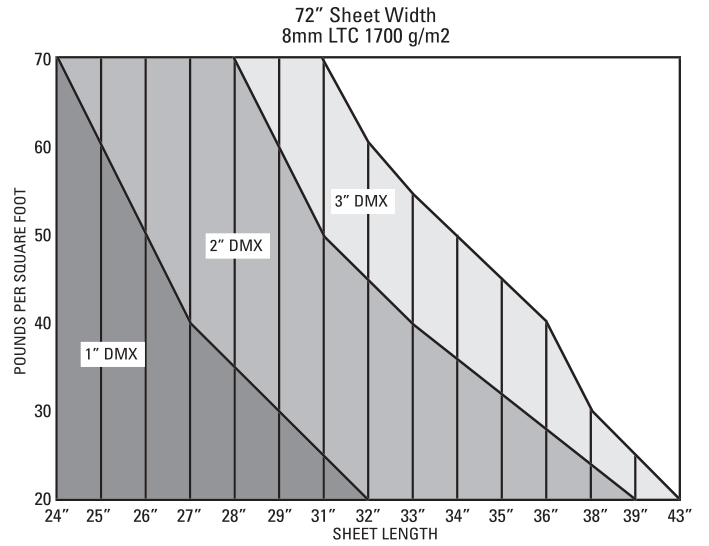
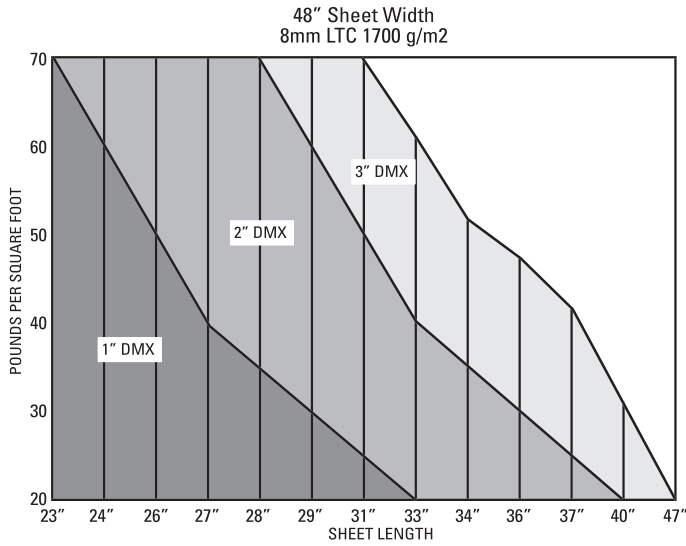
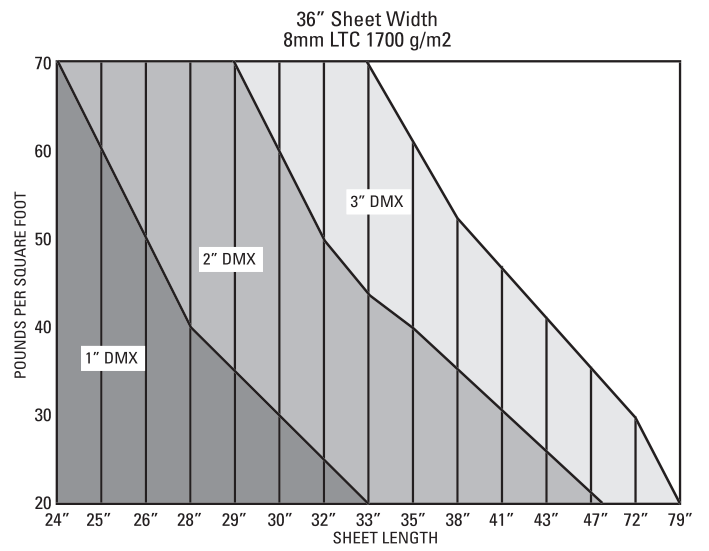
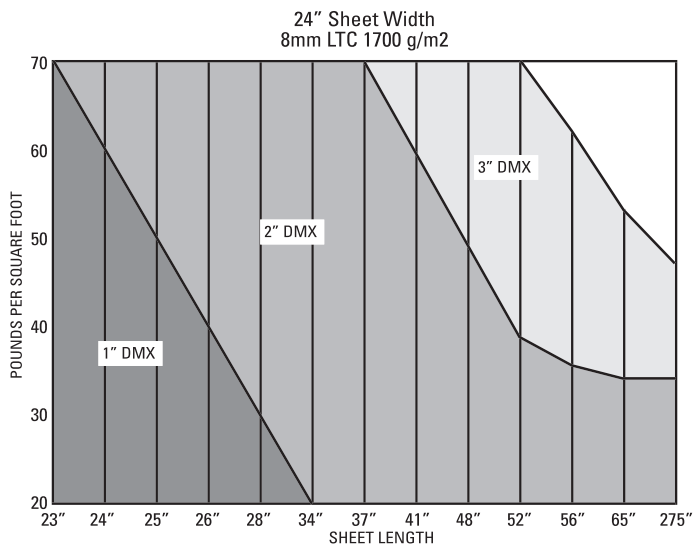


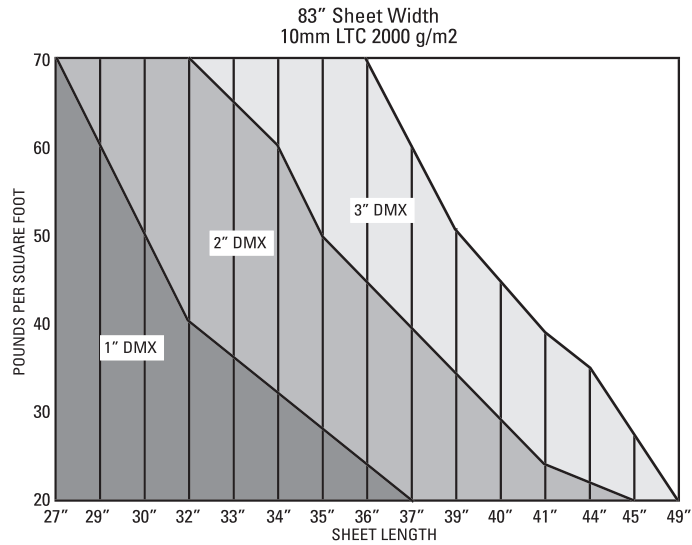
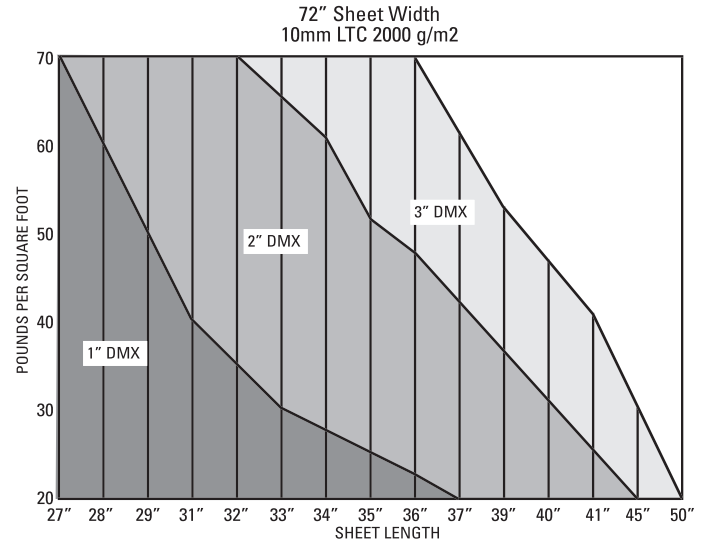
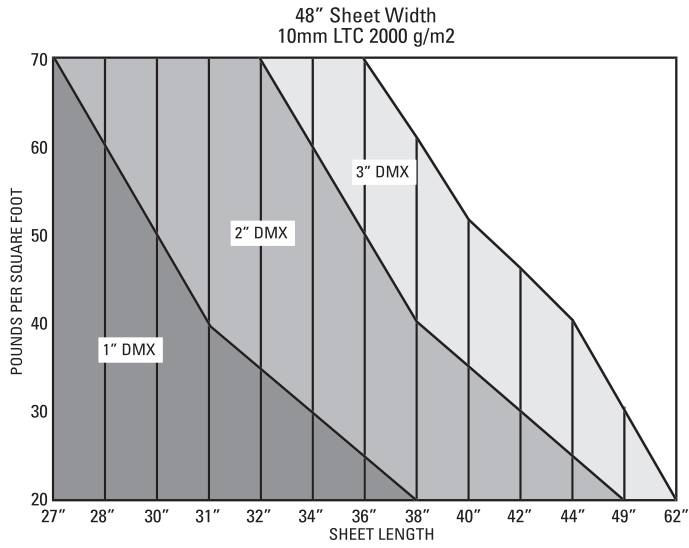
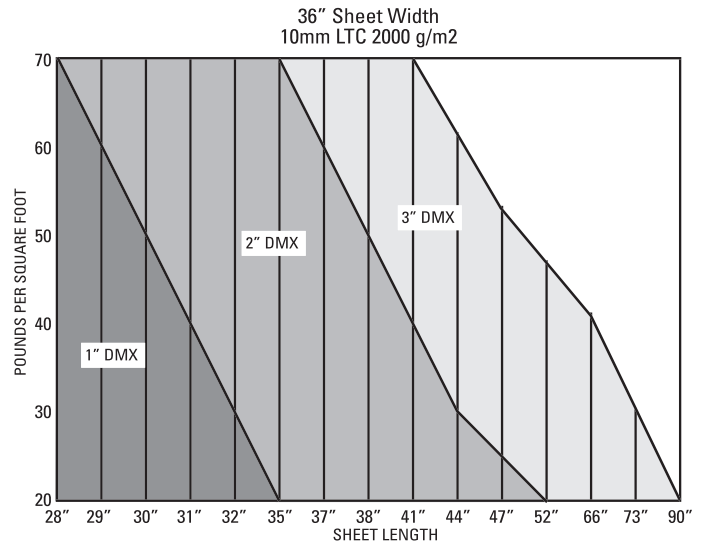
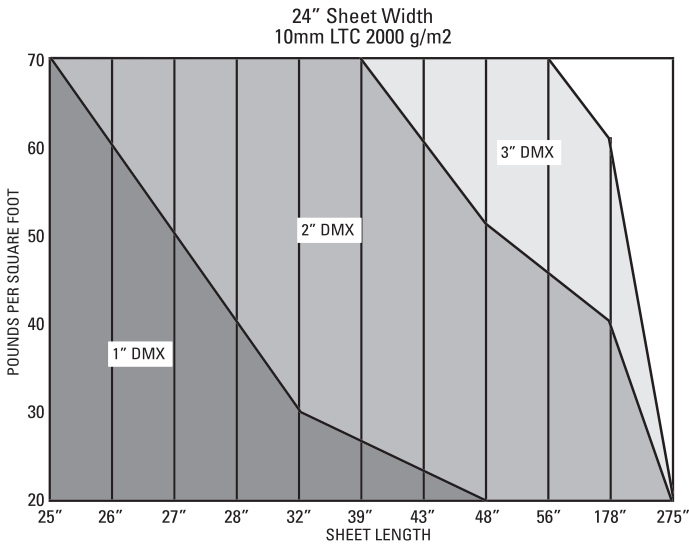
72" Sheet Width  
6mm LTC 1300 g/m<sup>2</sup>

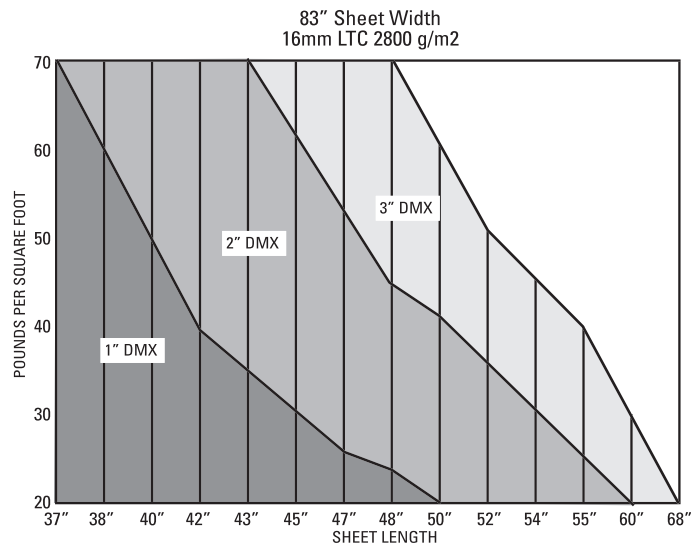
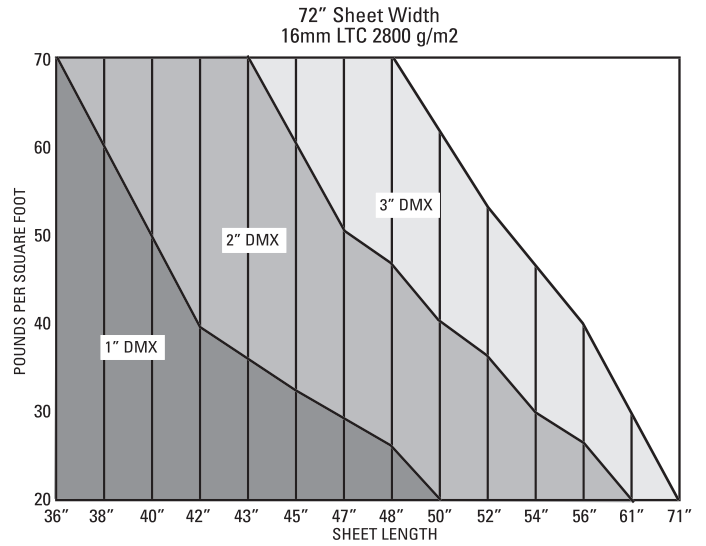
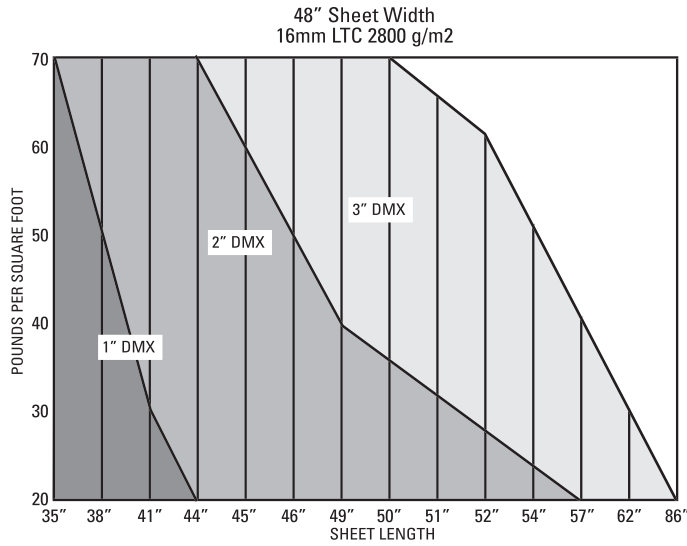
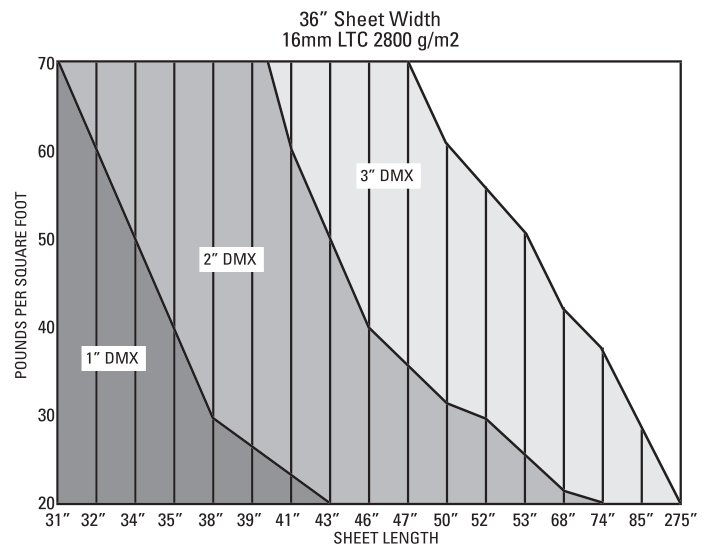
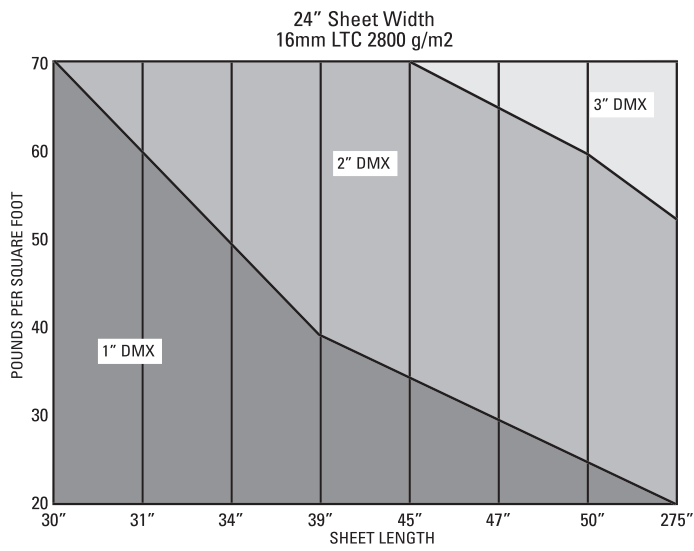


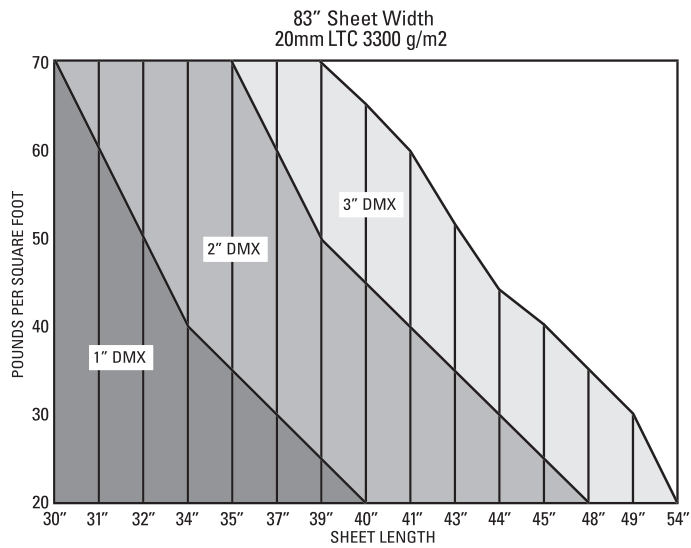
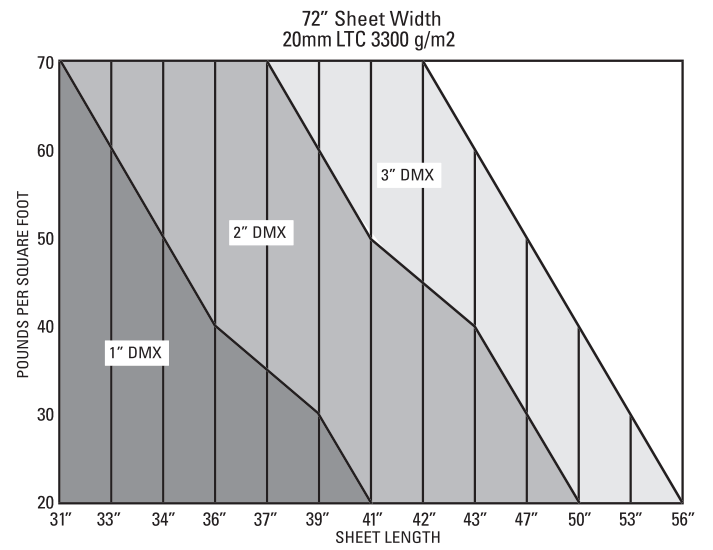
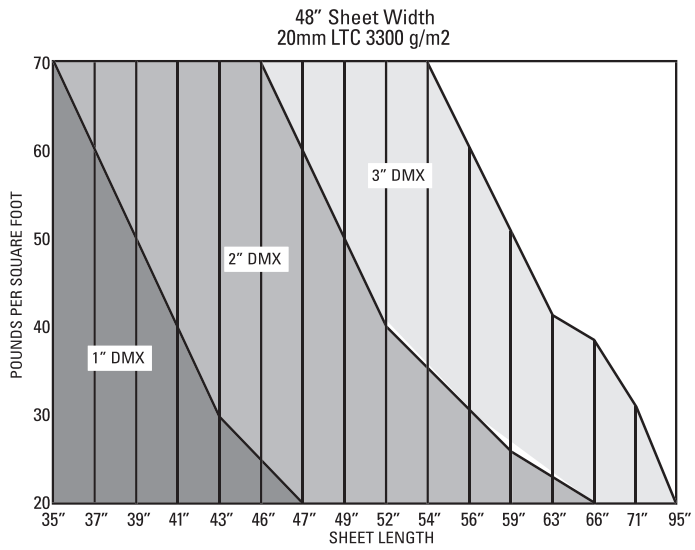
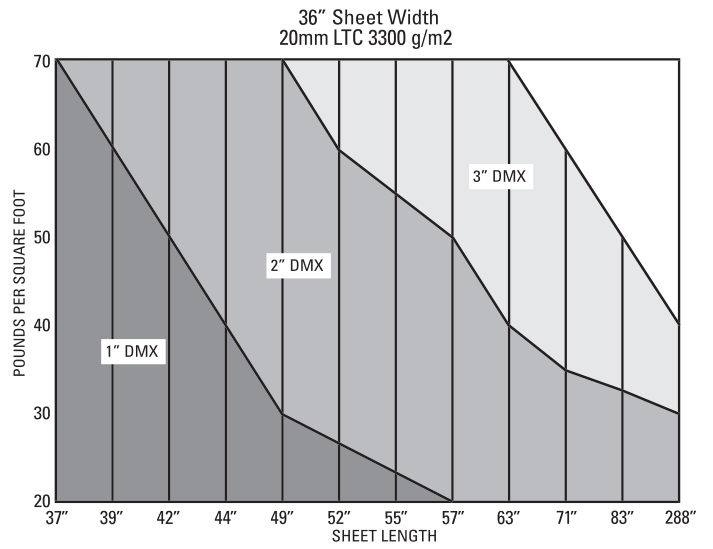
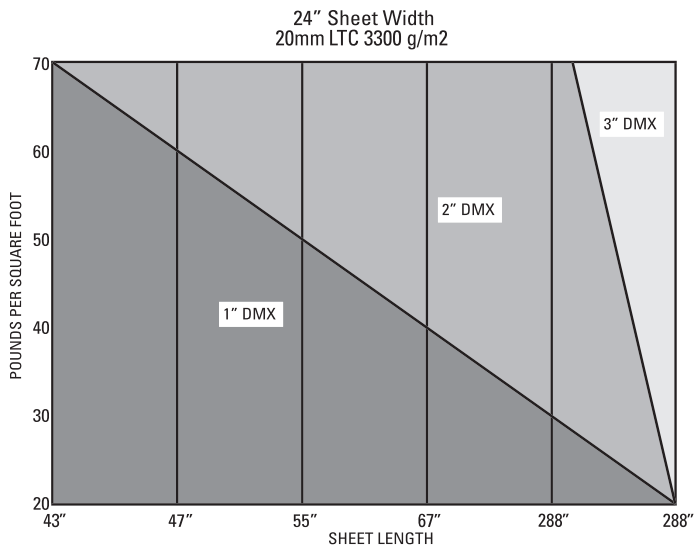
83" Sheet Width  
6mm LTC 1300 g/m<sup>2</sup>

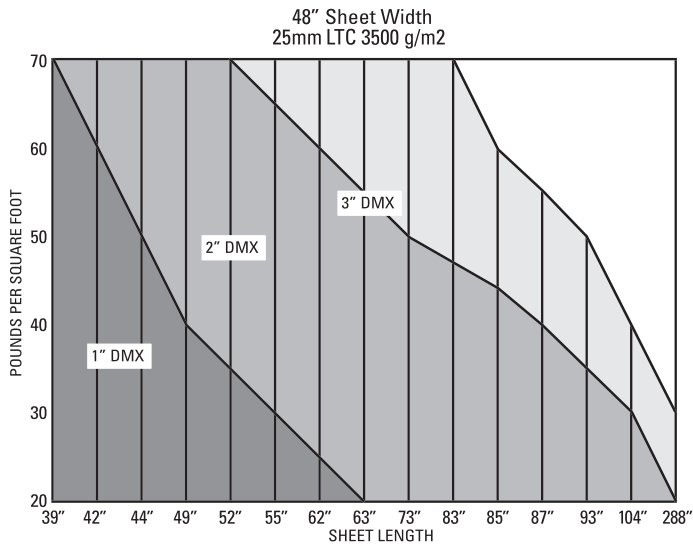
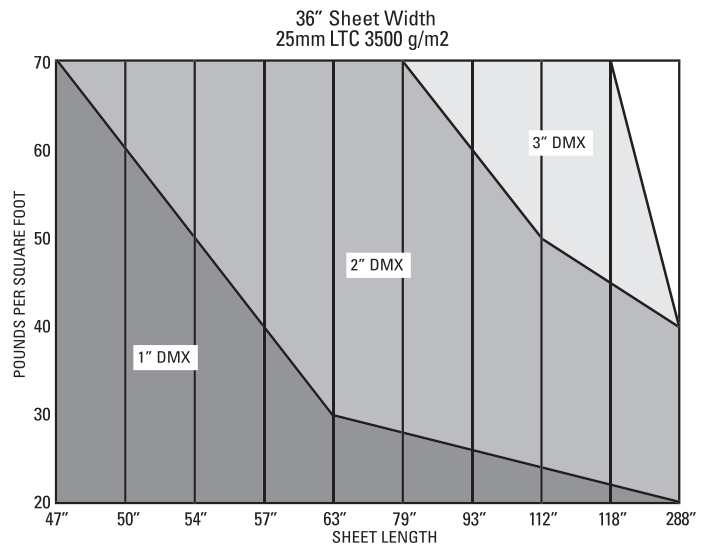
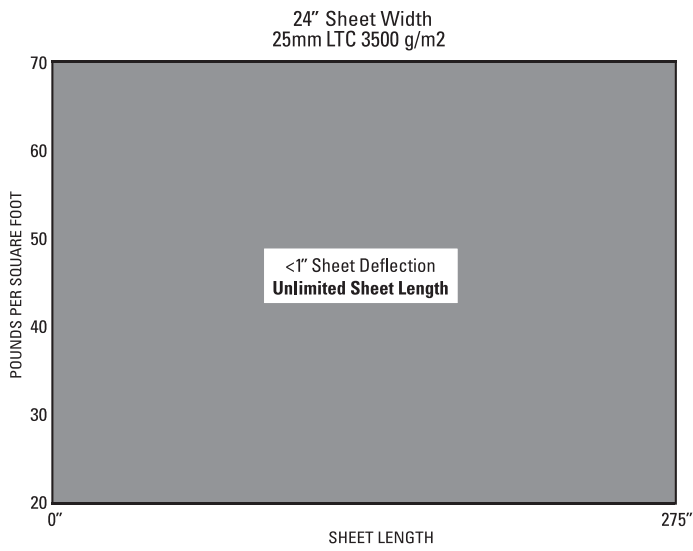














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