



BALTIMORE

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Felt Tips

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ARE YOU USING THE RIGHT GLASS THICKNESS?

Rather than trust one's liability insurance to the glass tables that are published by manufacturers, it is a good idea to turn to the BOCA Code for some initial glass strength requirements. Gross error in the matter of glass thickness is easily avoided by combined use of BOCA Section 858 and Tables A, B, C and D in Appendix K.

It is observed that many drawings are lacking in:

1. Check of glass thickness for the various opening sizes and wind conditions
2. Check of glass sizes available from the manufacturers (this is particularly true of tempered glass)
3. Attention to the BOCA requirements for tempered glass in many openings (which have been Maryland law since July, 1969)
4. Awareness of the effect of having tinted glass in two or more thicknesses, with a consequent difference in appearance
5. Awareness of the cracking possible from blinds held too close to tinted glass, particularly when heat is blown into the cavity.

For work centered in the Chesapeake Bay area, take the maximum 50-year wind to be 90 MPH for glass up to 30 feet off the ground. For work in Baltimore, Washington and points inland, 80 MPH is adequate.

90 MPH works out to 26 lbs./sq.ft. Using a safety factor of 2.5, and assuming use of plate or sheet glass, we develop the following handy guide to glass thickness selection:

Lights up to	9 sq. ft.	SSB (Not more than 24" wide)
	14 sq. ft.	DSB
	27 sq. ft.	3/16 inch
	33 sq. ft.	7/32 inch
	41 sq. ft.	1/4 inch
	59 sq. ft.	5/16 inch
	74 sq. ft.	3/8 inch
	110 sq. ft.	1/2 inch

Remember that allowable wind loads have to be reduced for laminated glass, wired glass and etched glass. (1/4 inch wired glass is only good for 21 sq. ft. if you extrapolate BOCA Table C.) On the other hand, the outer light of double glazed units and all heat strengthened and tempered glass will be safe in larger sizes. (1/4 inch fully tempered glass would be good for over 100 sq. ft., if they made sheets that large.)

Of course other factors enter the picture, and no table of sizes should be blindly used without taking each of the following into consideration, where they pertain:

1. Heights above ground exceeding 30 feet
2. Method of glazing; restraints; number of edges supported
3. Height / width ratio of light
4. Wind funneling or other aerodynamic considerations
5. Type of glass (laminated, dual-pane, tempered, wired, etched)
6. Special temperature, shadow, structural load, surface wear and backup considerations.
7. Check spandrel glass for safety - backing requirements.