



Sound Control Glazing Options

Glass products can be used to reduce unwanted noise in residential homes, apartments and light commercial buildings. The need for acoustical glazing options is increasing due to noise caused by aircraft, trains, increasing highway traffic and general construction of homes and buildings in areas with high noise levels. The acoustical performance of windows and door is influenced not only by glass, but by the frame, sash, weather-stripping materials, assembly methods, installation methods and the home/building envelope acoustics. The information in this bulletin is glass (not product) specific and is provided as advisory information to our customers.

Some important "rules of thumb" to consider when making sound control glass selection:

- Sound transmission will decrease with increased glass thickness (weight per square foot)
- Sound transmission will decrease slightly as the glass area (or percentage) is increased compared to the frame/sash area.
- Insulated glass units (IGU) work best when the two lites of glass are different thicknesses.
- Laminated glass is more effective in reducing sound than plate glass of the same thickness. This is due to the PVB (polyvinylbutyral) inner layer in laminated glass, which is sandwiched between two pieces of plate glass.
- Insulated triple pane units are very energy efficient, but 1" overall IGU thickness or less, typically provides the same sound reduction as dual paned units.
- Gas filling with Argon and /or Krypton has an insignificant effect on the overall STC rating of an insulated glass unit.

Attached are performance ratings (STC) of standard glass options and our new sound control package and our laminated (security) glass options.

- STC stands for Sound Transmission Class. An STC is a single number rating system derived from measured values of sound transmission loss in accordance with ASTM Classification E90 and E413. An STC rating provides a standard industry accepted method for comparing the sound reduction effectiveness of various glass options and window and door systems. The higher the STC number the greater the resistance to sound transmission



General Glazing Option STC Values				
Glass or IGU Overall Thickness	Interior Lite Nominal Thickness	Air Space Nominal Thickness	Exterior Lite Nominal Thickness	STC* Rating
Single Glazed	n/a	n/a	3/32"	26
Single Glazed	n/a	n/a	1/8"	28
Single Glazed	n/a	n/a	3/16"	29
5/8" IGU	3/32"	7/16"	3/32"	27
5/8" IGU	1/8"	3/8"	1/8"	29
5/8" IGU	3/16"	1/4"	3/16"	31
3/4" IGU	3/32"	9/16"	3/32"	27
3/4" IGU	1/8"	1/2"	1/8"	30
3/4" IGU	3/16"	5/8"	3/16"	30
7/8" IGU	3/32"	11/16"	3/32"	28
7/8" IGU	1/8"	5/8"	1/8"	30
7/8" IGU	3/16"	1/2"	3/16"	33
7/8" IGU Triple Glazed (three lites of 1/8" glass and two 1/4" air spaces)				30
1" IGU	1/8"	3/4"	1/8"	32
1" IGU	3/16"	5/8"	3/16"	32
1" IGU Triple Glazed (three lites of 1/8" glass and two 5/16" air spaces)				32
5/8" IGU with Storm panel (1 1/2" air space between IGU and storm)				35
7/8" IGU with Storm panel (2 1/2" air space between IGU and storm)				41

Great Lakes Window Sound Control Options				
Glass or IGU Overall Thickness	Interior Lite Nominal Thickness	Air Space Nominal Thickness	Exterior Lite Nominal Thickness	STC Rating
Window Sound Package Options				
7/8" IGU	3/16"	9/16"	1/8"	33
7/8" IGU	3/16"	1/2"	3/16"	33
Window Security (Laminated-.030) Glass Package Options				
7/8" IGU	Lami (1/4").030"	1/2"	1/8"	35
7/8" IGU	Lami (1/4").030"	7/16"	3/16"	35
Patio Door and Picture Window Sound Package Options				
1" IGU	3/16"	3/4"	1/8"	32
1" IGU	3/16"	5/8"	3/16"	32
Patio Door and Picture Window Security (Laminated -.030") Glass Package Options				
1" IGU	Lami (1/4").030"	1/2"	1/8"	35
1" IGU	Lami (1/4").030"	7/16"	3/16"	35

Limitations:

- 1) Sound Package (1/8" and 3/16") is limited to 115 UI of glass area.
 - a. Over 115 UI of glass area 3/16 and 3/16" glass is used and the STC value of the glass is equivalent to the sound package option.
 - b. Glass over 35 square foot is required to be tempered.
- 2) Laminated Glass is limited to 22 square foot of glass area.

*Note: STC values shown in this bulletin are for the glass packages only and are not whole unit (window) values.