

A photograph of a young couple in a bedroom. The woman, with dark hair in a bun, is sitting up and looking down at a book held by the man. The man is lying in bed, looking up at the woman. They are both smiling. The room has a large window with white curtains in the background.

# Sound Control **Glass Options**

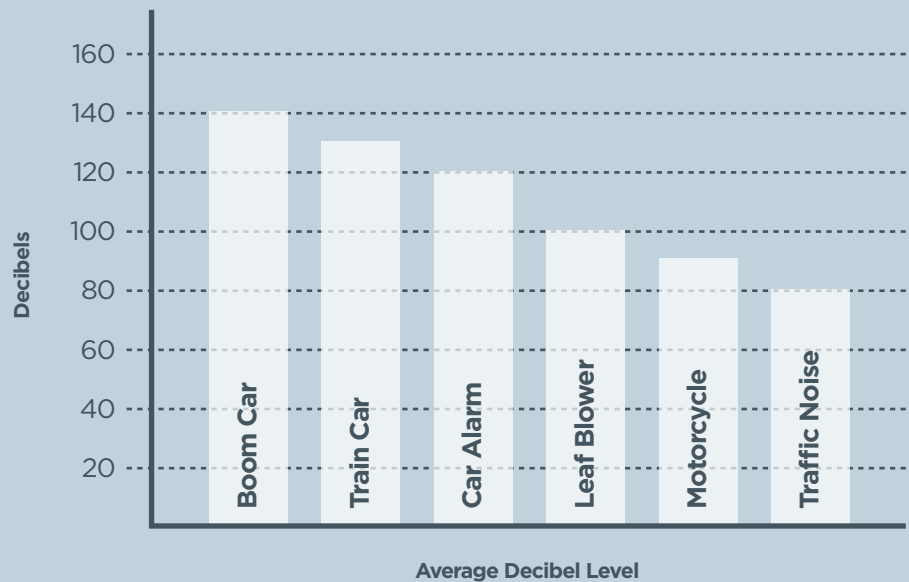


# Noise.

## It's reaching new levels.

It's a noisy world we live in. There are more cars and trucks on the road, more planes, trains, more people with things that make noise – lawn mowers, leaf blowers, car stereos, motorcycles, car alarms. Our sleep is disturbed by barking dogs and wailing sirens. It's not just annoying. Noise pollution can be bad for your health.

### noise levels



The loudness of sound is measured in decibels (dB). With every 10 dB increase, loudness doubles. The risk of hearing loss starts at about 100 dB.

## Sound Control Glass.

### Like earplugs for your windows.

All Great Lakes® Window vinyl replacement windows are available with sound control glass. Great Lakes Window sound control insulated glass units (IGU) block outside noise in four ways.

1. Thicker glass – Like a thick wall, thicker glass in an IGU is better at blocking sound than thin glass.
2. Dissimilar glass – Glass panels of different thicknesses in an IGU block a greater range of sound waves than panels of the same thickness. One panel blocks low frequency sounds and the other blocks high frequency sounds.
3. Laminated glass in an IGU – Laminate absorbs sound waves to prevent sound traveling through the glass.
4. Wider air space – The air space between the glass panels in an IGU also helps block sound. The wider the air space, the better.





# Rating sound transmission performance

Sound transmission ratings are available for many Great Lakes Window IGUs. Generally, the higher the number the more effective a window is at preventing outside noise from entering your home. (See ratings on reverse.) Of course, tight window construction and the frame material affect overall acoustic performance. Being a poor conductor of sound, vinyl is an excellent material for sound control.

**STC** - The most widely recognized rating system for measuring sound control is Sound Transmission Class (STC). STC measures a material's ability to resist sound transfer at mid- to high-frequency such as speech, radio and television.

**OITC** - Outdoor-Indoor Transmission Class is a newer rating system for measuring sound control. OITC measures sound resistance to lower frequency noises such as traffic, planes, trains and industrial processes.

## How much of a difference does a change in ratings make?

Higher STC ratings mean better sound control. A small change in the STC rating can make a big difference.

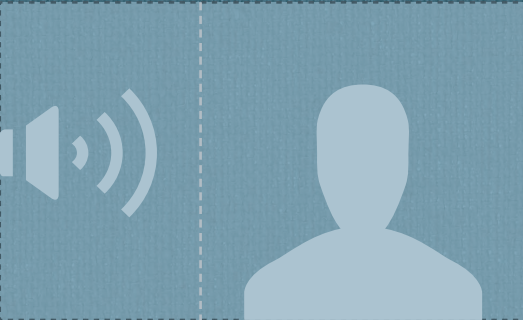
Change in STC Rating	Change in Apparent Loudness
+1	Almost imperceptible
+3	Just noticeable
+5	Clearly noticeable
+10	Reduces to half as loud

# How sound reaches our ears

Sound travels through the air in waves that can pass through walls and windows. These sound waves cause our eardrums to vibrate. The vibrations are then transmitted through our inner ear to nerve fibers that transmit information to our brain.

Pitch or frequency is measured in hertz (Hz). Loud noise is caused by bigger, more powerful sound waves while sound waves that are close together are higher in pitch. For example, whistles produce high frequency sound while the rumble of a train or heavy truck produces low frequency sound waves.

Because sound waves can transmit through windows and any gaps in your home's wall system, it's important to have quality windows that have been installed correctly with quality installation supplied by our Great Lakes Window network of professional remodelers. Great Lakes Window vinyl replacement windows with sound control insulated glass block and absorb sound waves to keep outside noise where it belongs – outside.



# Great Lakes Window Vinyl Replacement Windows Sound Transmission Ratings

Style	Series	IG Configuration	Overall IGU	STC	OITC
Awning	ecoSmart ComfortSmart HarborLight	3.0 / 3.0 Double Strength	7/8"	28	22
		3.0 / 5.0 Sound Control	7/8"	35	28
		3.0 / 5.8 Laminated	7/8"	37	29
		3.0 / 3.0 / 3.0 Double Strength	7/8"	27	23
Casement	ecoSmart ComfortSmart HarborLight	3.0 / 3.0 Double Strength	7/8"	28	22
		3.0 / 5.0 Sound Control	7/8"	33	26
		3.0 / 5.8 Laminated	7/8"	34	28
		3.0 / 3.0 / 3.0 Double Strength	7/8"	29	24
Casement/ Fixed	ecoSmart ComfortSmart HarborLight	3.0 / 3.0 Double Strength	7/8"	28	22
		3.0 / 5.0 Sound Control	7/8"	32	26
		3.0 / 5.8 Laminated	7/8"	34	28
		3.0 / 3.0 / 3.0 Double Strength	7/8"	27	23
Double Hung	ecoSmart*	3.0 / 3.0 Double Strength	1"	31	25
		3.0 / 5.0 Sound Control	1"	36	30
		3.0 / 5.8 Laminated	1"	35	29
		3.0 / 3.0 / 3.0	1"	32	26
		3.0 / 3.0 / 3.0 Double Strength	1"	35	30
	ComfortSmart**	3.0 / 3.0 Double Strength	7/8"	27	22
		3.0 / 5.0 Sound Control	7/8"	33	28
		3.0 / 5.8 Laminated	7/8"	33	27
		3.0 / 3.0 / 3.0 Double Strength	7/8"	27	25
	HarborLight	3.0 / 3.0 Double Strength	7/8"	28	22
		3.0 / 5.0 Sound Control	7/8"	32	27
		3.0 / 5.8 Laminated	7/8"	33	28
Fixed Picture Window	ecoSmart	3.0 / 3.0 Double Strength	1"	30	24
		3.0 / 5.0 Sound Control	1"	33	27
		3.0 / 5.8 Laminated	1"	34	28
		3.0 / 3.0 / 3.0 Double Strength	1"	31	26
		3.0 / 3.0 / 5.0 Sound Control	1"	34	29
	ComfortSmart	3.0 / 3.0 Double Strength	1"	27	22
		3.0 / 5.0 Sound Control	1"	31	25
		3.0 / 5.8 Laminated	1"	32	26
		3.0 / 3.0 / 3.0 Double Strength	1"	27	23
	HarborLight	3.0 / 3.0 Double Strength	1"	26	21
		3.0 / 5.0 Sound Control	1"	31	25
		3.0 / 5.8 Laminated	1"	33	27
Horizontal Sliding	ecoSmart*	3.0 / 3.0 Double Strength	1"	30	24
		3.0 / 5.0 Sound Control	1"	35	28
		3.0 / 5.8 Laminated	1"	36	28
		3.0 / 3.0 / 3.0 Double Strength	1"	31	25
		3.0 / 3.0 / 5.0 Sound Control	1"	36	29
	ComfortSmart**	3.0 / 3.0 Double Strength	7/8"	26	20
		3.0 / 5.0 Sound Control	7/8"	33	27
		3.0 / 5.8 Laminated	7/8"	33	27
		3.0 / 3.0 / 3.0 Double Strength	7/8"	29	24
	HarborLight	3.0 / 3.0 Double Strength	7/8"	27	22
		3.0 / 5.0 Sound Control	7/8"	31	27
		3.0 / 5.8 Laminated	7/8"	32	27
Sliding Patio Door	ecoSmart	3.0 / 5.0 Sound Control	1"	32	27
		3.0 / 5.8 Laminated	1"	33	27
		3.0 / 3.0 / 3.0 Double Strength	1"	29	24
		3.0 / 3.0 / 5.0 Sound Control	1"	32	28
	ComfortSmart	3.0 / 3.0 Double Strength	1"	29	22
		3.0 / 5.0 Sound Control	1"	32	27
		3.0 / 5.8 Laminated	1"	33	27
		3.0 / 3.0 / 3.0 Double Strength	1"	29	24
	HarborLight	3.0 / 3.0 / 5.0 Sound Control	1"	32	28
		3.0 / 3.0 Double Strength	3/4"	29	22
		3.0 / 5.0 Sound Control	3/4"	32	27
		3.0 / 5.8 Laminated	3/4"	33	27

## KEY

IG: Insulated Glass

IGU: Insulated Glass Unit

STC: Sound Transmission Class

OITC: Outdoor-Indoor Transmission Class

## Glass Thickness

2.5mm: Single strength glass

3.0mm: Double strength glass

5.0mm: 3/16" glass

5.8mm: Two 2.5mm sheets of glass with a sheet of .03mm transparent polyvinyl

STC and OITC values are determined in accordance with ASTM E90, E1425-91 and E1332-94 testing procedures.

\*ecoSmart values shown with SmartCore and RigidCore

\*\*ComfortSmart values shown with SmartCore and Rigid Core

Values may change with additional options, please contact your territory manager for details.

**Great Lakes Window**  
30499 Tracy Road  
Walbridge, OH 43465

(844) 247-6226

www.greatlakeswindow.com