



SOUNDPROOFWINDOWS

**Easily
Achieve**

STC_s from 48 to 57



STC Results Chart

Existing Window	Glass Configuration and thickness	Existing Window by itself	Air Space between Existing Window & Soundproof Window			
			2"	3"	4"	5"
Glass	1/8"	27	43	48	49	52
Glass	1/4"	30	46	51	51	54
Window	dual pane 1/8 over 1/8	26	45	48	49	50
Window	dual pane 1/8 over 3/16	31	47	51	53	55
Window	dual pane 1/8 over 1/4	32	49	52	54	55
Sliding Glass Door	dual pane 1/8 over 3/16	30			50	
Glass	9/16 lami	38	52	57	56	59

*Sleep like a baby . . .
enjoy peace and quiet*

Improves U-factors

**Improves clear glass from 0.50 to 0.29
Low-e Glass from 0.29 to 0.21**

Complete STC Test Results Inside
Details on over 40 configurations

Solve Your Noise Problem . . .

Don't Try to Patch the Noise Problem—Fix It

Installing typical windows with an STC of 26-30 does not fix any noise problems. Upgrading to windows with an STC of 36-40 will help, but there will still be a noise problem. Noise may be reduced or even meet city requirements, but the noise problem will persist. With STC values from 48-57 you can truly solve the noise problem, and save more energy.

Use ONE Window for Your Entire Project.

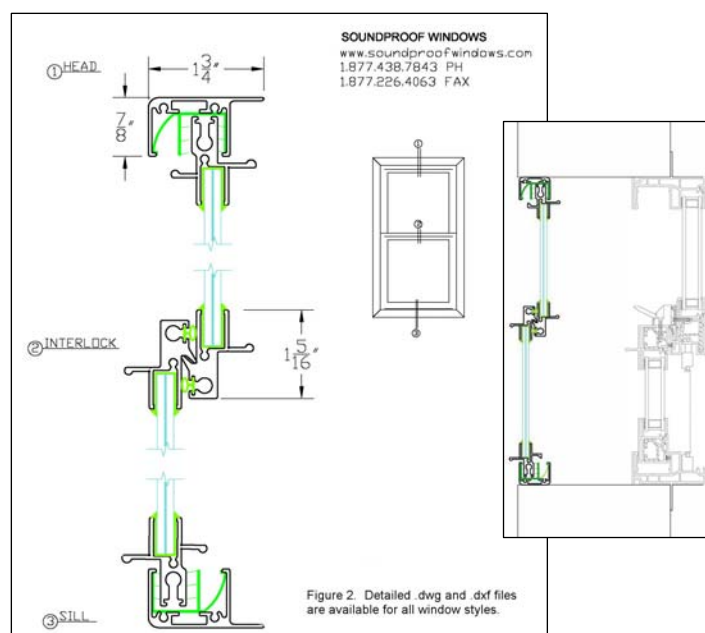
Stay with the primary windows you designed for the project. Just add our windows behind your preferred window for the best noise reduction available anywhere. Add our soundproofing windows to one area, one side, or the whole project. The outside appearance stays the same, but you can even change your mind later and soundproof other areas that were not originally designed to be soundproofed.

Excellent for Historical Restorations

When you need to keep those single pane windows, just work on getting them operable and well sealed. Then add our windows and get the noise reduction you want and the energy savings you need.

High Traffic Locations Can be Quiet.

Location. Location. Location. Now the noise problems of many locations can be solved and you can use those locations you had to walk away from before. Often the land cost savings will completely pay for the additional construction costs. Do you wish you had Soundproof Windows available to you on any of your previous projects?



We have architectural drawings available for your convenience in .dwg, .dxf or .pdf format.

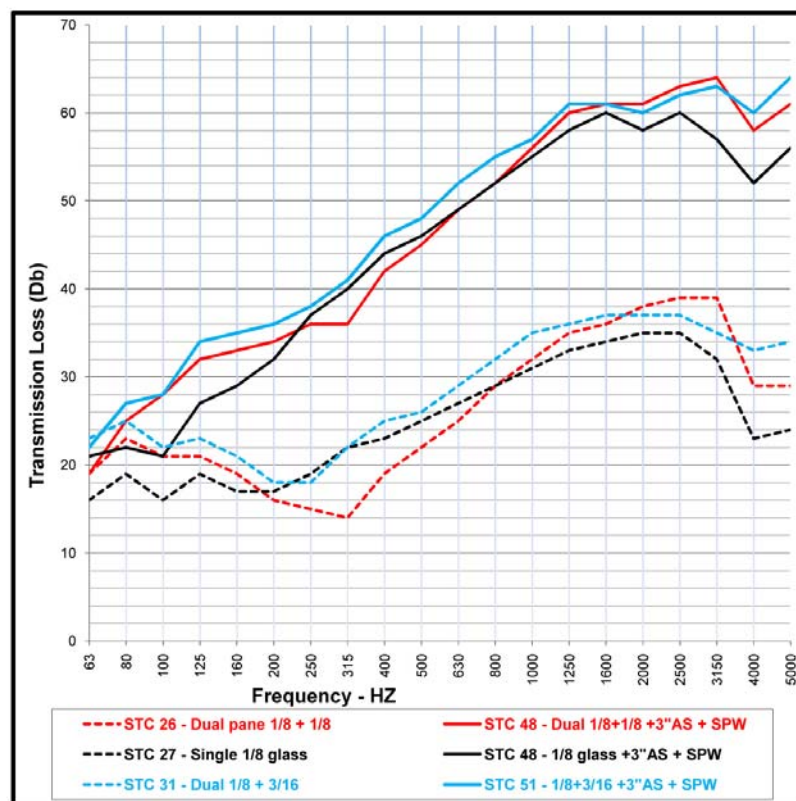


Figure 1. This line graph shows the STC frequency results from testing these six combinations. The dotted lines are the primary windows and the solid lines are those same windows with a Soundproof Window added behind it with a 3" glass to glass air space between them. For more results see the back page.

Dual Pane vs. Single Pane—which is better?

The dotted red is dual pane (STC 26) and the dotted black (STC 27) is single pane. Not much difference. The myth that dual pane is better for noise comes mainly from the air leakage of the older single pane windows. The air leaks make all the difference. Different glass has different benefits at various frequencies, but as a whole, dual pane glass is not better or worse than single pane.

Extensive Test Results For Your Reference

We have tested all the common window glass configurations paired with our Soundproof Window at air spaces from 2 inches to 8 inches. See the back page for the results of our sound testing. This can be an excellent reference source for current and future projects.

Better Test Results Because Of Superior Design

We have designed our windows with one thing in mind—noise reduction. We designed from scratch rather than adapting from another window design. We designed custom parts. Our good test results happened because we have designed a superior noise reduction window. As an added benefit, our windows works great for energy savings by insulating the insulated windows.

Get the noise reduction you want...

■ ■ ■ And Save More Energy

Insulate Your Insulating Windows


Whatever your window or glass configuration may be, glass is simply a terrible insulator. Add our window and you will add insulation value to your windows. Convert a single pane to the value of a dual pane. Convert a simple dual pane into a good low-e equivalent window. Add our window behind a good low-e window and get unheard of performance in an untinted window.

99% UV Blockage

Since we use laminated glass 99% of UV radiation is blocked. This is a marked improvement over low-e glass, which typically blocks no more than 70% of the UV radiation.

Excellent for Historical Restorations and Building Conversions

Historical preservation often means you cannot replace the glass currently in the windows. There are many scenarios where you must keep the original windows and glass. By adding our windows, you solve the insulation problem and the air infiltration problem common to older windows. You likely double the insulation value of the window and cut the air infiltration down by over 95%.

LEED Referenced Energy Performance Requirements						
		North		South		
		Northern	Central	Central	Southern	
4.1 Good Windows Prerequisite	U-factor SHGC	0.35 Any	0.40 0.45	0.40 0.40	0.55 0.35	
4.2 Enhanced Windows Optional, 2 points	U-factor SHGC	0.31 Any	0.35 0.40	0.35 0.35	0.55 0.33	
4.3 Exceptional windows Optional, 3 points	U-factor SHGC	0.28 Any	0.32 0.40	0.32 0.30	0.55 0.30	
Clear/Clear Dual Pane Milgard Style Line Vinyl Window	U-factor SHGC	0.49 0.63	⇒	0.29 0.58	Clear/Clear Dual Pane plus SOUNDPROOFWINDOWS	
Clear/Low-e Dual Pane Milgard Style Line Vinyl Window Low-e SuncoatMAX™ with argon	U-factor SHGC	0.29 0.30	⇒	0.21 0.25	Clear/Low-e Dual Pane plus SOUNDPROOFWINDOWS	

Notes:

*Get the noise reduction you want . . .
and the energy savings you need.*

Soundproof Windows STC Test Results

Sound Transmission Loss Data Details

Various windows and glass spacing combinations

1/3 Octave Band (HZ)	STC	OTC	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Test Report Number
1/8" Inch Glass																						
1/8 Single glass	27	24	19	16	19	17	17	19	22	23	25	27	29	31	33	34	35	35	32	23	24	TL08-287
+ 2"AS* + SPW*	43	32	23	20	23	25	28	32	36	39	41	43	44	45	48	50	52	57	58	51	55	TL08-306
+ 3"AS + SPW	48	34	22	21	27	29	32	37	40	44	46	49	52	55	58	60	58	60	57	52	56	TL08-288
+ 4"AS + SPW	49	36	20	23	30	32	34	39	41	45	47	49	49	50	53	54	55	58	58	53	56	TL08-307
+ 5"AS + SPW	52	38	22	25	32	35	37	42	43	48	51	54	55	57	58	57	59	59	60	54	59	TL08-289
1/4" Inch Glass																						
1/4 Single glass	30	27	24	20	23	23	22	24	26	28	29	31	33	35	36	35	29	26	29	32	33	TL08-292
+ 2"AS + SPW	46	36	26	24	28	30	32	37	41	44	46	48	49	49	51	50	44	47	57	56	60	TL08-305
+ 3"AS + SPW	51	39	26	26	32	35	36	41	44	48	51	53	55	58	61	60	52	52	54	60	63	TL08-291
+ 4"AS + SPW	51	41	27	30	34	37	38	43	45	50	51	53	53	54	55	54	48	49	52	59	60	TL08-304
+ 5"AS + SPW	54	43	29	31	36	40	40	46	48	52	55	57	58	60	60	58	52	50	55	60	64	TL08-290
1/4 + 2" AS + SPW65	51	39	27	27	29	39	38	45	44	48	49	49	49	52	56	57	52	56	60	62	62	TL09-286
1/4 + 3" AS + SPW65	58	43	30	28	39	43	43	49	51	54	57	58	59	63	66	65	58	58	60	63	63	TL09-285
Vinyl Dual Pane Window - 1/8" + 1/2" AS + 1/8" (Typical dual pane)																						
Dual 1/8" over 1/8"	26	21	23	21	21	19	16	15	14	19	22	25	29	32	35	36	38	39	39	29	29	TL08-261
+ 2"AS + SPW	45	36	25	24	29	30	31	33	34	39	42	46	49	52	55	58	58	61	63	58	60	TL08-300
+ 3"AS + SPW	48	38	25	28	32	33	34	36	36	42	45	49	52	56	60	61	61	63	64	58	61	TL08-265
+ 4"AS + SPW	49	41	27	32	34	36	36	39	37	44	47	50	52	54	57	58	59	61	62	58	59	TL08-301
+ 5"AS + SPW	50	42	28	32	36	38	38	41	38	46	49	53	56	58	59	60	61	62	65	60	63	TL08-266
+ 6"AS + SPW	51	43	28	32	37	39	39	41	39	47	50	53	56	57	58	60	60	61	63	60	62	TL08-267
+ 8"AS + SPW	53	45	30	35	39	42	42	44	41	50	52	56	52	55	57	59	59	61	64	61	63	TL08-268
+ 3"AS + SPW65	53	41	29	27	37	40	40	42	41	46	49	52	54	55	61	65	66	66	66	60	60	TL09-290
+ 4"AS + SPW65	54	43	30	30	39	42	41	44	42	48	51	53	56	58	60	61	62	64	63	59	60	TL09-293
Vinyl Dual Pane Window - 1/8" + 7/16" AS + 3/16"																						
Dual 1/8" over 3/16"	31	26	25	22	23	21	18	18	22	25	26	29	32	35	36	37	37	37	35	33	34	TL08-269
+ 2"AS + SPW	47	37	26	25	30	30	32	34	39	43	45	48	51	54	58	59	58	60	64	59	62	TL08-270
+ 3"AS + SPW	51	40	27	28	34	35	36	38	41	46	48	52	55	57	61	61	60	62	63	60	64	TL08-272
+ 4"AS + SPW	53	42	28	31	36	37	38	41	44	48	50	53	55	57	60	59	60	60	61	63	64	TL08-271
+ 5"AS + SPW	55	44	30	32	37	39	40	43	45	51	52	55	57	59	60	60	60	61	62	62	65	TL08-273
+ 6"AS + SPW	56	44	30	31	39	41	41	44	46	52	54	57	58	58	61	63	62	61	63	63	64	TL08-274
+ 8"AS + SPW	57	46	32	35	40	43	44	46	47	54	56	59	55	56	59	60	60	61	64	63	65	TL08-275
Vinyl Dual Pane Window - 1/8" + 3/8" AS + 1/4"																						
Dual 1/8" over 1/4"	32	26	27	23	25	22	19	21	21	24	27	31	33	35	37	37	36	37	37	34	35	TL08-254
+ 2"AS + SPW	49	38	27	24	32	32	33	37	39	43	46	49	52	56	59	59	56	60	65	60	63	TL08-260
+ 3"AS + SPW	52	40	27	27	34	36	36	40	41	46	49	52	54	55	58	59	57	61	61	63	64	TL08-253
+ 4"AS + SPW	54	43	29	31	37	39	39	43	43	49	51	54	56	58	61	60	59	61	62	64	65	TL08-259
+ 5"AS + SPW	55	44	30	32	38	41	41	45	44	51	52	56	57	57	59	59	58	58	63	62	65	TL08-255
+ 6"AS + SPW	54	44	30	32	39	41	41	46	45	51	53	56	57	56	54	53	54	56	59	59	62	TL08-256
+ 8"AS + SPW	54	46	31	34	41	44	43	47	46	53	55	58	54	53	53	51	52	56	59	60	63	TL08-257
9/16" Commercial Laminated Glass 1/4" + .060PVB + 1/4"																						
9/16" Laminated	38	34	29	25	29	29	28	31	33	34	36	37	38	38	35	37	41	43	46	48	50	TL08-286
+ 2"AS + SPW	52	41	29	28	35	37	38	43	47	50	51	52	52	50	49	55	60	63	64	63	62	TL08-302
+ 3"AS + SPW	57	44	30	31	38	41	42	47	50	53	56	58	58	59	59	63	64	65	67	68	67	TL08-284
+ 4"AS + SPW	56	45	30	34	39	43	43	48	51	54	56	57	56	54	53	59	61	63	65	63	62	TL08-303
+ 5"AS + SPW	59	47	31	36	41	44	45	50	52	56	58	60	60	61	59	62	62	66	68	68	67	TL08-285
1/4" Glass (or 1/4 IGU- 1" overall) + .650 Laminated glass Studio Window Model ST65																						
1/4" + 2.0"AS+ST65	54	41	29	27	34	39	40	44	47	51	53	54	50	53	64	67	62	64	68	66	66	TL09-276
1/4" + 3.0"AS+ST65	58	43	29	28	38	43	43	48	50	54	56	58	55	59	68	69	63	64	65	66	66	TL09-278
1/4"IGU+2.0"AS+ST65	53	43	29	29	38	40	39	44	45	48	50	52	48	52	64	67	66	68	69	67	66	TL09-277
1/4"IGU+3.0"AS+ST65	57	46	32	33	40	43	42	47	49	52	55	57	54	59	68	70	67	67	68	67	67	TL09-279
Sound Studio Testing - All with .650 Laminated ST65 "live room" and .250 Lami ST25 "control room"																						
8.0" wall- both vertical	62	49	34	36	43	46	47	52	54	58	60	61	60	63	66	67	67	67	68	66	66	TL09-272
8.0" wall- ST65 slanted 3"	61	47	33	34	42	46	46	51	53	57	59	60	59	62	67	66	66	66	67	66	66	TL09-275
10.5" wall- both vertical	61	49	33	36	43	47	48	53	55	58	60	62	60	62	62	66	63	63	62	60	58	TL09-264
10.5" wall- ST65 slanted 5"	60	48	35	34	43	46	46	51	53	57	60	61	60	63	65	64	63	62	62	59	57	TL09-267
Sliding Glass Doors (SGD)																						
Standard SGD + 4"AS + SPW-SGD	50	39	25	26	32	36	32	40	40	49	51	56	60	62	62	61	62	60	61	57	62	TL08-309

*SPW= Soundproof Window

AS = Air Space

SPW25= .250" Laminated heavy frame w/rollers

SPW65= .650" Laminated glass model

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Vinyl windows and door are Milgard Style Line Series. IGU's were all 3/4" overall thickness. The Milgard SG Door was 1/8 + 3/16 IGU. Milgard units were tested at time of these tests and are shown above. The Milgard and Soundproof Window (SPW) windows were all 72"x48" operable sliding windows. Testing was done by Western Acoustical Labs (WEAL) - a fully accredited independent testing laboratory in California.