

Acoustical Guide – Determining Minimum STC Rating

1 RAL TL 85 and TL 95 sound transmission loss tests are in accordance with ASTM E90.

STC ratings have been determined from TL data using ASTM E413. See Section 3 for actual TL data.

2 Estimated. Computation based on a one-third octave band TL at 80 Hz (which was not measured in the laboratory) that is equal to the 100 Hz one-third octave band TL minus 2dB.

3 The overall heat transfer coefficient in BTU/hr/sq ft/°F

4 AS - Air Space

5 Unsealed configurations are individual glass panels separated by wood stops and caulked into the laboratory test opening using glazing putty.

6 0.030", 0.060" - Saflex™ interlayer thicknesses

7 The second and third glass panels of the triple glass configurations tested are sealed insulating glass units. After sealed IG units were installed into the laboratory test opening, the first glass panel and wood spacers were used to complete the triple glass configurations.

Riverbank Acoustical Laboratories TEST NO.	Nominal Thickness - (Configuration)	STC	OITC2	Rw	U-Value3 Summer	U-Value3 Winter
Monolithic						
TL 85-169	1/4"	31	29	32	1.01	1.08
TL 85-198	1/2"	36	33	37	.97	1.03
Laminated						
TL 85-218	1/4" - (Lami - 0.030" - Lami)	35	31	35	1.00	1.06
TL 85-170	1/4" - (1/8" - 0.030" - 1/8")	35	31	35	.99	1.05
TL 85-224	1/4" - (1/8" - 0.060" - 1/8")	35	32	35	.97	1.03
TL 85-234	1/4" - (1/8" - 0.045" - 1/8")	35	31	35	.98	1.04
TL 85-200	3/8" - (3/16" - 0.030" - 3/16")	36	33	36	.97	1.03
TL 85-229	3/8" - (1/4" - 0.030" - 1/8")	36	33	36	.97	1.03
TL 85-223	3/8" - (1/4" - 0.060" - 1/8")	37	33	37	.95	1.00
TL 85-225	1/2" - (1/4" - 0.030" - 1/4")	38	34	38	.95	1.01
TL 85-232	1/2" - (1/4" - 0.045" - 1/4")	38	34	38	.94	.99
TL 85-228	1/2" - (1/4" - 0.060" - 1/4")	39	34	39	.93	.98
TL 85-222	5/8" - (3/8" - 0.030" - 1/4")	40	36	40	.93	.99
TL 85-230	3/4" - (1/2" - 0.060" - 1/4")	41	36	41	.90	.95
Insulating 4, 5						
TL 85-212	1/2" - (1/8" - 1/4" AS - 1/8") (SEALED)	28	26	30	.62	.57
TL 85-213	5/8" - (1/8" - 3/8" AS - 1/8") (SEALED)	31	26	32	.57	.52
TL 85-294	1" - (1/4" - 1/2" AS - 1/4") (SEALED)	35	28	35	.54	.48
TL 85-215	1-3/8" - (3/16" - 1" AS - 3/16") (SEALED)	35	27	37	.54	.48
TL 85-293	1-1/2" - (1/4" - 1" AS - 1/4") (UNSEALED)	37	30	37	.52	.48
TL 85-216	4-3/8" - (3/16" - 4" AS - 3/16") (UNSEALED)	44	35	44	.52	.48
Laminated Insulating 4, 5, 6						
TL 95-296	5/8" - (1/8" - 0.030" - 1/8" - 1/4" AS - 1/8") (SEALED)	35	31	35	.61	.56
TL 85-189	13/16" - (1/8" - 0.030" - 1/8" - 3/8" AS - 3/16") (SEALED)	37	31	37	.55	.50
TL 85-238	15/16" - (1/8" - 0.030" - 1/8" - 1/2" AS - 3/16") (SEALED)	39	31	39	.53	.48
TL 85-235	1" - (1/8" - 0.030" - 1/8" - 1/2" AS - 1/4") (SEALED)	39	31	39	.53	.48
TL 85-192	1-1/8" - (1/8" - 0.030" - 1/4" - 1/2" AS - 1/4") (SEALED)	40	31	40	.53	.47
TL 85-239	1-7/16" - (1/8" - 0.030" - 1/8" - 1" AS - 3/16") (UNSEALED)	42	33	42	.51	.48
TL 85-173	2-7/16" - (1/8" - 0.030" - 1/8" - 2" AS - 3/16") (UNSEALED)	45	35	45	.51	.48
TL 85-194	2-11/16" - (1/4" - 0.030" - 1/4" - 2" AS - 3/16") (UNSEALED)	46	38	46	.50	.47
TL 85-196	2-7/8" - (1/4" - 0.030" - 1/4" - 2" AS - 3/8") (UNSEALED)	46	42	47	.49	.46
TL 95-298	1-11/16" - (1/4" - 0.030" - 1/4" - 1" AS - 3/16") (UNSEALED)	47	36	47	.52	.47
TL 85-174	4-7/16" - (1/8" - 0.030" - 1/8" - 4" AS - 3/16") (UNSEALED)	48	39	48	.51	.48
TL 85-195	4-11/16" - (1/4" - 0.030" - 1/4" - 4" AS - 3/16") (UNSEALED)	49	41	49	.50	.47
TL 85-197	4-7/8" - (1/4" - 0.030" - 1/4" - 4" AS - 3/8") (UNSEALED)	49	44	50	.49	.46
TL 85-240	4-7/8" - (1/2" - 0.030" - 1/4" - 4" AS - 1/8") (UNSEALED)	49	40	49	.49	.46
Double Laminated Insulating 4, 5, 6						
TL 85-172	1-1/16" - (1/8" - 0.030" - 1/8" - 1/2" AS - 1/8" - 0.030" - 1/8") (SEALED)	42	33	42	.52	.47
TL 95-299	1-9/16" - (1/8" - 0.030" - 1/8" - 1" AS - 1/8" - 0.030" - 1/8") (UNSEALED)	46	37	46	.52	.47
TL 85-236	1-13/16" - (1/4" - 0.030" - 1/4" - 1" AS - 1/8" - 0.060" - 1/8") (UNSEALED)	46	34	46	.49	.46
TL 85-221	5-1/16" - (1/4" - 0.060" - 1/4" - 4" AS - 1/4" - 0.030" - 1/4") (UNSEALED)	50	42	50	.48	.45
TL 85-220	5-5/16" - (1/2" - 0.060" - 1/4" - 4" AS - 1/4" - 0.030" - 1/4") (UNSEALED)	50	42	50	.47	.44
TL 85-237	4-13/16" - (1/4" - 0.030" - 1/4" - 4" AS - 1/8" - 0.060" - 1/8") (UNSEALED)	51	44	51	.49	.46
TL 95-301A	4-9/16" - (1/8" - 0.030" - 1/8" - 4" AS - 1/8" - 0.030" - 1/8") (UNSEALED)	52	38	51	.51	.47
TL 95-302	4-13/16" - (1/8" - 0.030" - 1/8" - 4" AS - 1/4" - 0.060" - 1/4") (UNSEALED)	53	45	53	.49	.46
Triple Glazing 4, 6, 7						
TL 95-294	1-3/4" - (1/4" - 1/2" AS - 1/4" - 1/2" AS - 1/4") (SEALED)	39	31	39	.37	.31
TL 95-295	1-13/16" - (1/4" LAM. - 1/2" AS - 1/4" LAM. - 1/2" AS - 1/4" LAM.) (UNSEALED)	44	33	44	.36	.30
TL 95-297	2-1/4" - (1/4" - 1" AS - 1/4" - 1/2" AS - 1/4") (UNSEALED)	46	37	47	.36	.30
TL 95-300	2-5/16" - (1/4" LAM. - 1" AS - 1/4" LAM. - 1/2" AS - 1/4" LAM.) (UNSEALED)	49	39	49	.35	.30

Figure 1.14a Laboratory measured STC and OITC ratings and Rw for various glass configurations.*

* [The data and information set forth are based on samples tested and are not guaranteed for all samples or applications.]