



Acoustical Performance of Glass and Wall Constructions

Sound Transmission Class Table	Overall Thickness	Inside	Construction Space	Outside	STC Value	ISO ³ RW
Single Laminated Glass ¹	1/4" (7.24 mm)	1/8"	0.030 P.V.B.	1/8"	35	35
	3/8" (9.53 mm)	1/4"	0.030 P.V.B.	1/8"	36	36
	3/8" (10.5 mm)	1/4"	0.060 P.V.B.	1/8"	37	37
	1/2" (12.1 mm)	1/4"	0.030 P.V.B.	1/4"	38	38
	1/2" (12.9 mm)	1/4"	0.060 P.V.B.	1/4"	39	39
	5/8" (16.2 mm)	3/8"	0.030 P.V.B.	1/4"	40	40
	3/4" (19.9 mm)	1/2"	0.060 P.V.B.	1/4"	41	41
Laminated Insulating Glass ²	1" (26.1 mm)	1/4" laminate	1/2", Air	1/4"	39	39
	15/16" (24.6 mm)	1/4" laminate	1/2", Air	3/16"	39	39
	1-1/8" (29.3 mm)	3/8" laminate	1/2", Air	1/4"	40	40
	1-7/16" (37.3 mm)	1/4" laminate	1", Air	3/16"	42	42
	2-7/16" (62.7 mm)	1/4" laminate	2", Air	3/16"	45	45
	4-1/2" (113.5 mm)	1/4" laminate	4", Air	3/16"	48	48
	4-5/8" (119.1 mm)	1/2" laminate	4", Air	3/16"	49	49
	1" (27.9 mm)	1/4" laminate	1/2", Air	1/4" laminate	42	42
4-3/4" (120.7 mm)	1/2" laminate	4", Air	1/4" laminate	51	51	
Airspaced Glass ¹	1/2" (14.5 mm)	1/8"	1/4", Air	1/8"	28	30 ⁴
	1" (27.9 mm)	1/4"	1/2", Air	1/4"	35	35
	1-1/2" (40.6 mm)	1/4"	1", Air	1/4"	37	37
Monolithic Glass ¹	1/4" (5.59 mm)	1/4"	-	-	31	32 ⁵
	1/2" (12.4 mm)	1/2"	-	-	36	37 ⁶
Walls ¹	1/2" Gypsum board (both sides) screwed to 3-5/8" metal studs				36	36
	4" Face brick, mortared together				45	45
	6" Lightweight concrete block, two coats of paint each side				46	46
	4" Hollow lightweight masonry block, plastered on both side				48	48
	8" Dense concrete block wall, two coats of paint each side				52	52
	Double layer of gypsum wall board (both sides)				54	54
	screwed to 3-5/8" metal studs, 3" sound attenuation blanket					

1. Tested under ASTM E90, panels caulked in place with wooden stops and glazing putty.
2. Tested under ASTM E90, laminated outside pane consisted of either 1/8"-0.030" P.V.B. -1/8" (total 1/4" thick), 1/4"- 0.030" P.V.B. -1/8" (total 3/8" thick), 1/4"-0.030" P.V.B. -1/4" (total 1/2" thick), 1/4"-0.030" P.V.B. -1/2" (total 3/4" thick), panels caulked in place in single frame with wooden stops and glazing putty. Units with less than 1" airspace were factory sealed. All other units were constructed in palace.
3. Weighted Sound Reduction Index (Rw) in accordance with ISO 717/3
4. Deviates below Rw 30 contour by 10 dB at 400 Hz
5. Deviates below Rw 32 contour by 9 dB at 2,500 Hz
6. Deviates below Rw 37 contour by 9 dB at 1,200 Hz