

3form Sound Transmission Class (STC) Values

Sound Transmission Class Values of 3form Materials

Sound Transmission Class (STC) is a single number quantifier used to rate partitions, doors and windows for their effectiveness in blocking sound. The higher the STC, the more effective the partition. STC should not be confused with NRC, which is a measure of reverberation control. Testing for STC is conducted in laboratories using a best-fit approach to a set of curves, and test room characteristics are factored out for applicability to a range of field conditions. Field performance depends on many factors including perimeter seals, penetration details, and flanking paths, so materials with close STC ratings are often equivalent in practice.

Acoustical testing was conducted in accordance with the following:

ASTM E 90-04; "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions."

ASTM E 413-04; "Classification for Rating Sound Insulation."

ASTM E 2235-04; "Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods."

100 PERCENT

THICKNESS	STC VALUE
1" [25.4 mm]	34

PEP

THICKNESS	STC VALUE
3/4" [19.0 mm]	28

CHROMA

THICKNESS	STC VALUE
1/2" [12.0 mm]	32
1" [25.4 mm]	36

PRESSED GLASS

THICKNESS	STC VALUE
1/4" [6.3 mm]	36
1/2" [12.7 mm]	38

DUO

THICKNESS	STC VALUE
1/4" [6.0 mm]	17
5/8" [16.0 mm]	18

VARIA

THICKNESS	STC VALUE
1/8" [3.0 mm]	25
3/16" [5.0 mm]	29
1/4" [6.0 mm]	31
3/8" [10.0 mm]	34
1/2" [12.0 mm]	34
1" [25.4 mm]	38

Note: In field tests Varia performs similarly to glass

MONOLITHIC GLASS

THICKNESS	STC VALUE
1/4" [6.3 mm]	31
1/2" [12.7 mm]	36

As a matter of comparison, the following tables demonstrate various STC values for typical communication cases and other common construction materials applied as single layers. Higher STC values can be achieved with multiple layer systems.

STC VALUE	PRIVACY	STC VALUE	CONSTRUCTION
25	Normal speech - Easily understood	18	Hollow metal door without seals
30	Normal speech - Audible, but unintelligible	22	Solid wood door without seals
35	Loud speech - Understood	28	1/2" drywall
40	Loud speech - Audible, but unintelligible	36	1/2" Glass (monolithic)
45	Loud speech - Barely audible	38	1/2" Glass (laminated)
50	Shouting - Barely audible	38	1/2" drywall on wood studs, both sides
55	Shouting - Not audible	41	4" painted concrete block
		46	8" hollow concrete block