

SOUND RESISTANCE

STC ratings, Sound Transmission Coefficients, are the measure of resistance to sound. Specific materials (i.e. glass, wood, concrete) have STC ratings as do multiple components (i.e. the sum of the parts - glass in sash in jamb). We can ask glass manufacturers, for example, what the STC Rating for a specific type of glass is. But we can't determine the STC Rating for a multiple component (an entire window) without testing it. Even the published STC Ratings for materials is provided based upon the size of the material. A large piece of 1/4" glass will have a lower STC rating than a smaller piece because the smaller piece will not vibrate as much as the larger piece does.

The combination of materials is critical too. Using two pieces of 1/4" glass in an IG unit may very well provide an STC Rating similar to an IG unit with one 1/4" and one 3/16" piece of glass because the two thickness' do not create a harmonic - they don't vibrate at the same frequency as will two 1/4" pieces. And by using the 3/16" piece, the air space is increased further enhancing the STC Rating.

Determining STC Ratings is an engineering function. Woodstone provides engineering reviews on a project by project basis and we charge for the service. Woodstone is a manufacturer and we fabricate to specifications provided by others. We recommend that clients have their own engineers do the reviews because they are already involved in the project, whereas Woodstone must hire an engineer specializing in the required discipline. We will do it. But we must charge for it.

If a project requires glass of a certain type, Woodstone will provide a cost to fabricate with that glass included. But Woodstone makes no warranties that the glass will perform in any required fashion other than as specified by the manufacturer of that glass. Woodstone warrants that it will use the specified glass in accordance with the specified fabrication methods.

Woodstone has, in the past, manufactured units for testing. We have STC Ratings on a unit we tested for a hotel in CT. It had an overall STC Rating of 36 for the entire unit - glass, sash, jamb and trim. The glass, by itself, almost certainly would provide a higher STC Rating than 36. But the size and thickness of the sash frame and glass, the function (this unit was a double-hung), the weather-strip, and the wood species, all contributed to the performance.

An STC Rating of 40 is very high, especially for a total window fabrication. While glass alone in a standard size might provide an STC Rating of 40, it depends on the size of the glass tested.

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