

SOUND AND SMOKE TRANSMISSION RESISTANCE

In the 15 years of supplying to construction projects across North America, we have had numerous calls from acoustical engineers to use our doors because of their superior sound transmission resistance. The engineers' assessment was based on two observations in the design of our panels: Firstly, the gasket in the frame prevents almost all air-flow and thereby limits the transmission of sound. Secondly, the mass of the gypsum board inlay supplied with our access panels is identical to the mass of the surrounding ceiling/wall and thereby ensures that the acoustic properties are the same.

We frequently modify access panels in consultation with customers and consultants to further decrease sound transmission properties. Our standard procedure on those cases is to substitute the regular gypsum board inlay with an acoustically enhanced gypsum board (such as Quietrock or SilentFX). We have also applied a second layer of gypsum wallboard or even a layer of barium-rubber matting attached to the back of the door (e.g. Fallsview Casino in Niagara Falls and the LDS Temple in Vancouver, BC).

TESTING

In March 2010, to more formally support the benefits implied by acoustical engineers, we asked the acoustical engineers at Wakefield Acoustics of Victoria, BC, to conduct an Apparent Sound Transmission Class Test on our access panel. Compared to a wall with our access panel, the wall with our 24" x 24" BAUCO® plus II door (single layer of 5/8" gypsum) performed just as well, achieving an ASTC value of 35 (consultant's report available upon request).

We further have independent testing carried out in Germany, which tests for air/smoke penetration in building envelopes under pressure. The test is commonly used to assess exterior windows. The results show that the access panel achieves a rating of "Class 4", the highest possible rating for an exterior window. The access panel is therefore deemed to be "air-tight". (Independent testing authority's report available upon request.)

Options for modification of BAUCO® plus II access panels (see also data table below):

- Second layer of gypsum wallboard laminated to the back of the door to increase mass
- Barymat 5 barium loaded rubber matt attached to either 1/2" or 5/8" gypsum board inlay
- Acoustically enhanced gypsum board, 1/2" or 5/8", in regular BAUCO® plus II frame.

MATERIAL COMPARISON DATA

Comparison Material	Material Weight lbs/sq ft	Comparative STC*
Sheetrock 1/2"	1.8	30
Sheetrock 5/8"	2.3	34
Barymat 5 1/8" (0.07")	1.0	24
Acoustically enhanced gypsum board 1/2"	2.2	49 - 68
Acoustically enhanced gypsum board 5/8"	2.7	51 - 72

* Relative values from various sources. Most based on the use of the material in a wood stud wall. Barymat 5 value for material only.

Sources: German test report, Wakefield Acoustics report, Quietrock data-sheet, Sheetrock data-sheet, Barymat 5 data-sheet.