

RIVERBANK ACOUSTICAL LABORATORIES

GENEVA, ILLINOIS

FOUNDED 1918 BY WALLACE CLEMENT SABINE

REPORT

FOR: Panelfold Doors, Inc.
ON: PANELFOLD Scale/8 Acoustical
Partition

Sound Transmission Loss
Test TL 69-1

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CONDUCTED: 3 September 1968

INTRODUCTION

The method and facilities used for this measurement conform explicitly to the specifications of ASTM E90-66T. Additional description of the technique and of other standards followed is available upon request.

DESCRIPTION OF THE SPECIMEN

The PANELFOLD Scale/8, single panel, 8 inch module, partition was 68-3/4 inches wide by 83-3/4 inches high, and was installed in a frame made of 2 by 24 inch lumber. The specimen was made of a lamination of wood particle core, faced with wood veneer, and hinged with dual-wall vinyl extrusions. Panels were serpentine or single panel in a configuration with a single overhead supporting track and single lead post. Continuous sweeps were installed at the top and bottom of the partition to provide a perimeter seal. A track seal was installed full length on the overhead track. The lead post was equipped with a draw type positive latch. The operable partition weighed 120 pounds and an average of 3.0 pounds per square foot. The specimen contained four (4) volutes and had a stack depth of 11 inches. The transmission area, S, used in the computations was 40.0 sq ft. A drawing of the construction was not provided by the client.

RESULTS OF MEASUREMENTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. An explanation of the sound transmission class rating, a graphic presentation of the data, and additional information appear on the following pages.

FREQUENCY, Hertz (cps)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
TRANSMISSION LOSS, dB	14	15	20	19	18	18	20	22	24	25	26	26	26	26	27	28	28	31
DEFICIENCIES						3	4	3	2	2	2	3	3	3	2	1	1	
SOUND TRANSMISSION CLASS	<u>25</u>																	

Approved William Siekman
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The airborne sound transmission loss (TL) of a specimen is the ratio, expressed in decibels, (dB) of the sound power incident upon the partition to the sound power transmitted through and radiated by the partition when the sound fields on both sides are diffuse.

These measurements were made using a one-third octave band of pink noise, swept in thirteen minutes from 100 to 5000 Hertz (cycles per second). Runs were made before and after a system interchange, during which the ratio of sound pressure levels in the two rooms was directly recorded graphically. The final results were obtained by averaging the runs, with a resultant precision within a 90% confidence limits of ± 1 dB.

The Sound Transmission Class (STC) is computed in accordance with ASTM E90-66T and RMI4-2. This number is intended to be used as a preliminary estimate of the acoustical properties of the specimen. Final decisions should be based upon the entire TL curve or the values at all the test frequencies.

When a filler wall is used in mounting the specimen the sound power transmitted through this wall is calculated, and, if necessary, appropriate change made in the measured results.

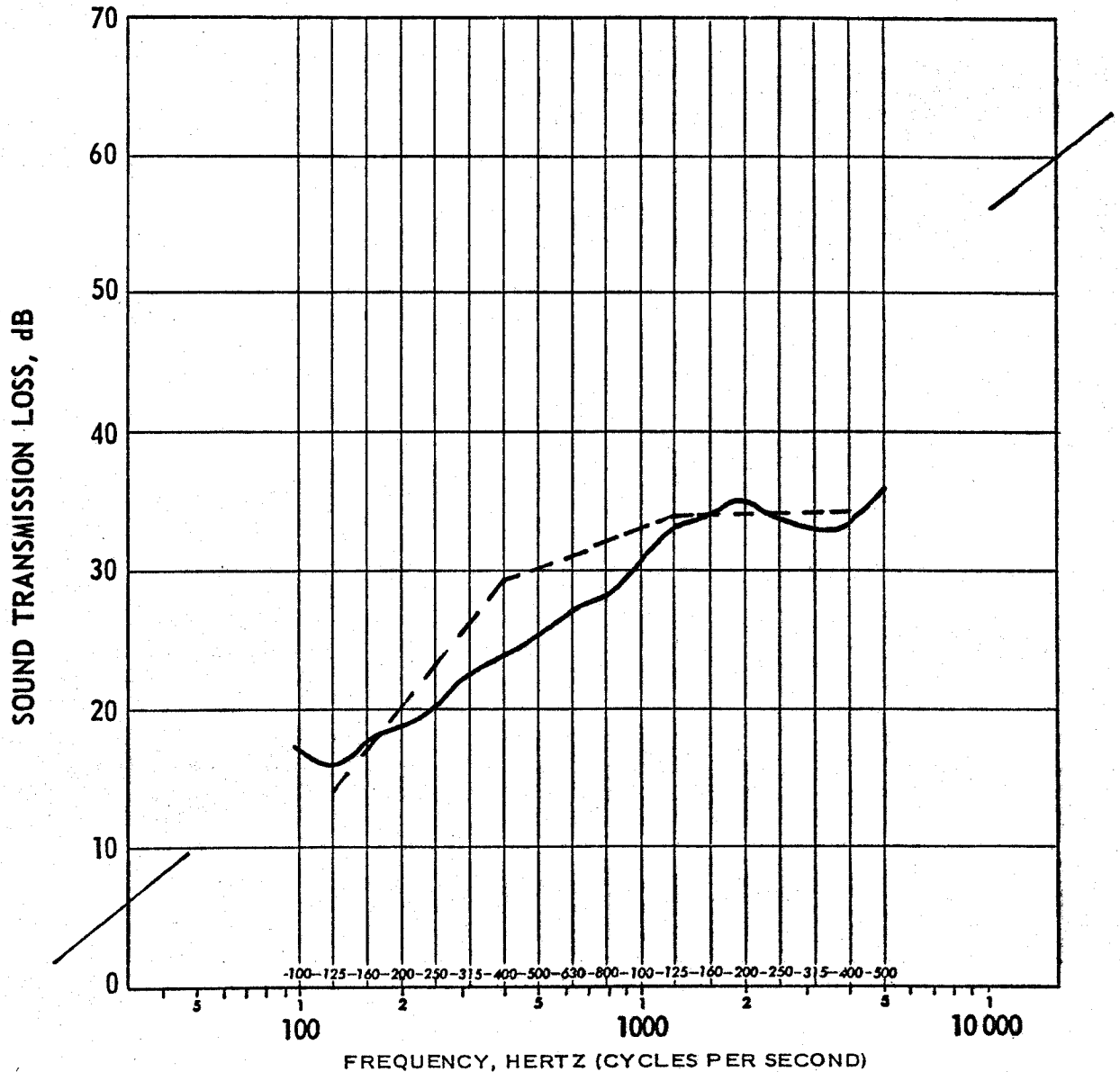
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THE SOUND TRANSMISSION LOSS OF THE TESTED SPECIMEN IS SHOWN BY THE CURVED LINE IN THE ABOVE GRAPH. THE BROKEN LINE IS THE LIMITING SOUND TRANSMISSION CLASS CONTOUR. THE GRAPH WAS PREPARED ON CODEX PAPER NO. 31, 462.

THE THEORETICAL TRANSMISSION LOSS OF THAT LIMP MASS HAVING THE SAME WEIGHT PER SQUARE FOOT AS THE SPECIMEN CAN BE LOCATED BY DRAWING A STRAIGHT LINE BETWEEN THE TWO SLASH MARKS ON THE EDGES OF THE GRID. THIS WAS DERIVED FROM THE EQUATION: $TL = 20 \log W + 20 \log F - 33$, WHERE W IS WEIGHT IN POUNDS PER SQUARE FOOT, AND F IS FREQUENCY IN HERTZ (CYCLES PER SECOND).

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.