



REPORT

ETL TESTING LABORATORIES, INC.

INDUSTRIAL PARK

CORTLAND, NEW YORK 13045

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REPORT NO. 467745

SOUND TRANSMISSION LOSS TEST
AND CLASSIFICATION OF
AN OPERABLE DOOR
UTILIZING ZERO WEATHERSTRIPPING
SEAL SYSTEMS

RENDERED TO

ZERO INTERNATIONAL INC.

INTRODUCTION

This report gives the results of Sound Transmission Loss tests and the determination of the Sound Transmission Class on one operable door utilizing Zero weatherstripping seal systems. The tests were conducted on March 12, 13 and 14, 1985.

AUTHORIZATION

Letter dated January 24, 1985 from Mr. Robert D. Thurneau, General Manager.

TEST METHOD

The tests were conducted in accordance with the American Society for Testing and Materials designation ASTM E90-81, "Standard Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions", and classified in accordance with the American Society for Testing and Materials designation ASTM E413-73, "Determination of Sound Transmission Class".

GENERAL

The sound-insulating property of a partition element is expressed in terms of the sound transmission loss. The procedure for determining this quantity is to mount (and perimeter seal) the test specimen as a partition between two reverberation rooms. Sound is introduced in one of the rooms (the source room) and measurements are made of the noise reduction between source room and receiving room. The rooms are so arranged and constructed that the only significant sound transmission between them is through the test specimen.

An independent, employee-owned organization testing for safety and performance.

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GENERAL

The purpose of the Sound Transmission Class (STC) is to provide a single figure rating that can be used for comparing the sound-insulating properties of partition elements used for general building design purposes. The higher the rating (STC) the greater the sound-insulating properties of the partition.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of a nominal 3' wide by 7' high by 1-3/4" thick door mounted in a steel buck opening between two of our reverberation rooms. When tested as a sealed in place panel, the 306 lb. door achieved an STC rating of 52. This test was designated as Test No. 0.

Test No. 1: The head and jamb seals consisted of Zero item no. 772. The saddle was item no. 565 and the automatic door bottom was item no. 361.

Test No. 2: The head and jamb seals consisted of Zero item no. 270. The saddle was item no. 565 and the automatic door bottom was item no. 361.

Test No. 3: The head and jamb seals consisted of Zero item no. 870. The saddle was item no. 565 and the automatic door bottom was item no. 361.

2T

Test No. 4: The head and jamb seals consisted of Zero item no. 328. The saddle was item no. 565 and the automatic door bottom was item no. 361.

5S

Test No. 5: The head and jamb seals consisted of Zero item no. 485. The saddle was item no. 565 and the automatic door bottom was item no. 361.

2U

Test No. 6: The head and jamb seals consisted of Zero item no. 485 and 119WB. The saddle was item no. 565 and the automatic door bottom was item no. 361.

Test No. 7: The head and jamb seals consisted of Zero item no. 312. The saddle was item no. 564 and the automatic door bottom was item no. 351.

5T

Test No. 8: The head and jamb seals consisted of Zero item no. 311. The saddle was item no. 565 and the automatic door bottom was item no. 361.

Test No. 9: The head and jamb seals consisted of Zero item no. 311. The saddle was item no. 655 with item no. 475 applied stop/seal for saddle. The automatic door bottom was item no. 361.

Test No. 10: All seals were removed for this test.



RESULTS OF TEST

Band No.	1/3 Octave Band Center Frequency Hz	Sound Transmission Loss in dB										
		Test Number										
		0	1	2	3	4	5	6	7	8	9	10
(1)	125	33	34	36	35	34	35	38	33	34	33	18
(2)	160	38	38	40	38	37	39	40	38	38	39	24
(3)	200	40	41	40	39	38	39	40	38	37	37	24
(4)	250	45	44	44	43	42	42	44	40	38	38	23
(5)	315	45	42	44	42	42	42	47	42	40	41	23
(6)	400	45	43	44	45	46	45	49	44	42	41	25
(7)	500	45	42	43	44	44	44	49	43	40	42	25
(8)	630	49	42	44	43	43	44	51	44	41	41	24
(9)	800	51	43	42	42	41	43	49	41	37	37	22
(10)	1000	55	41	42	40	39	41	47	39	36	37	22
(11)	1250	57	42	40	41	40	40	47	41	38	39	21
(12)	1600	59	44	41	47	43	45	50	43	42	43	23
(13)	2000	59	45	45	47	45	46	50	43	41	42	21
(14)	2500	60	46	47	48	46	48	51	44	41	41	20
(15)	3150	60	46	48	45	44	48	51	43	42	42	20
(16)	4000	56	44	46	45	40	48	50	42	42	42	22
Sound Transmission Class		52	43	44	44	42	44	49	42	40	40	21

REMARKS

- 1. Aging Period None
- 2. Ambient Temperature 73°F
- 3. Relative Humidity 37%

Report Approved by:

Norman H. Bay
 Norman H. Bay, Manager
 Acoustical Division