



# REPORT

## ETL TESTING LABORATORIES, INC.

INDUSTRIAL PARK

CORTLAND, NEW YORK 13045

Order No. 52461-K

Date: October 20, 1989

REPORT NO. 494527F

SOUND TRANSMISSION LOSS TEST  
AND CLASSIFICATION OF A  
SEALED IN PLACE AND OPERABLE DOOR

RENDERED TO

AMERICAN STEEL PRODUCTS CORPORATION

### INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on one sealed in place and operable door utilizing specific weatherstripping seal system. The tests were conducted on October 6, 1989.

### AUTHORIZATION

Purchase Order Number 8214 dated October 5, 1989, from American Steel Products Corporation, signed by Mr. Bill Singer.

### TEST METHOD

The specimen was tested in accordance with the American Society for Testing and Materials designation ASTM E90-87, "Standard Test 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 E413-87, "Classification for Rating Sound Insulation".

### 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 organization testing for safety, performance and certification.

---

All services undertaken subject to the following general policy: Reports are submitted for exclusive use of the clients to whom they are addressed. Their significance is subject to the adequacy and representative character of the samples and to the comprehensiveness of the tests, examinations or surveys made. No quotations from reports or use of ETL's name is permitted except as expressly authorized by ETL in writing.



GENERAL (cont'd)

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 opening between two of our reverberation rooms. When tested as a sealed in place panel, the 384-1/2 lbs. door achieved an STC rating of 55. This test was designated as Test No. 0.

| <u>Test No.</u> | <u>Head &amp; Jamb<br/>Seals</u> | <u>Saddle</u> | <u>Door Bottom<br/>Seal</u> |
|-----------------|----------------------------------|---------------|-----------------------------|
| 0               | Door Sealed in Place             |               |                             |
| 1               | Zero 3708, 119WB                 | Zero 564B     | Zero 367                    |

RESULTS OF TEST

| Band<br>No. | 1/3 Octave Band<br>Center Frequency<br>Hz | Sound Transmission Loss in dB |          |
|-------------|---|-------------------------------|----------|
|             |   | Test Number                   |          |
|             |   | <u>0</u>                      | <u>1</u> |
| (1)         | 125                                       | 40                            | 39       |
| (2)         | 160                                       | 43                            | 43       |
| (3)         | 200                                       | 49                            | 48       |
| (4)         | 250                                       | 47                            | 45       |
| (5)         | 315                                       | 48                            | 46       |
| (6)         | 400                                       | 47                            | 47       |
| (7)         | 500                                       | 49                            | 47       |
| (8)         | 630                                       | 51                            | 48       |
| (9)         | 800                                       | 52                            | 50       |
| (10)        | 1000                                      | 55                            | 52       |
| (11)        | 1250                                      | 58                            | 55       |
| (12)        | 1600                                      | 61                            | 58       |
| (13)        | 2000                                      | 62                            | 59       |
| (14)        | 2500                                      | 64                            | 59       |
| (15)        | 3150                                      | 66                            | 59       |
| (16)        | 4000                                      | 62                            | 57       |
|             | Sound Transmission Class                  | 55                            | 53       |

REMARKS

1. Aging Period None
2. Ambient Temperature 71°F
3. Relative Humidity 46%

Report Approved by:

Norman H. Bay, Manager  
Acoustical Division

ACOTXT/per