

Order No. J99031102

December 10, 1999

REPORT NO. J99031102-003

**SOUND TRANSMISSION LOSS TEST
AND CLASSIFICATION OF A SAMPLE OF FORMICA LAMINATE
FLOORING WITH QUIETWALK UNDERLAYMENT**

RENDERED TO

**MIDWEST PADDING L.L.C.
2500 OLD HADAR ROAD
NORFOLK, NE 68702**

INTRODUCTION

This report gives the results of a Sound Transmission Loss tests and the determination of the Sound Transmission Class on one sample of Formica laminate flooring with Quietwalk underlayment. The test sample was selected and supplied by the client and received at the laboratories on December 3, 1999. It appeared to be in a new, unused condition.

AUTHORIZATION

Purchase Order No. 141737 from Midwest Padding L.L.C.

TEST METHOD

The specimen was tested in accordance with the American Society for Testing and Materials designation ASTM E90-97, "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions". It was classified in accordance with the American Society for Testing and Materials designation ASTM E413-87 (Re-approved 1994), "Classification for Rating Sound Insulation".

An Independent organization testing for safety, performance, and certification.

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.

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.

The test floor consists of a 100 sq. ft. opening that form the horizontal separation of the two rooms, one directly above the other. The structural members are an Open Joist 2000 system, 16 inches deep installed 24 inches on center. The sub flooring is 5/8 inch thick tongue and groove plywood. The bridging is continuous 2 x 4 nailed to the bottom chord and the sides of the diagonals with 2 inch long nails. Resilient channels, 24 gauge galvanized steel were spaced 16 inches on center and attached to the bottom chord by screws. The insulation is 5 1/2 inches cellulose with a density of 1.6 pcf. The ceiling is gypsum board, 5/8 inches thick, with the long edges located between the joists perpendicular to the resilient channels, by means of 1 1/2 inch screws located 1/2 inch away from the edge and 3 inches from the long edges; screws are spaced 6 inches on center. Joints are taped and finished with two layers of compound.

The topping over the tongue and groove plywood sub-floor was 1 1/2 of Gyp-Crete.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of an 8 X 12 1/2 foot sample of the following combination:

Flooring

Formica Laminate
Flooring

Flooring Underlayment

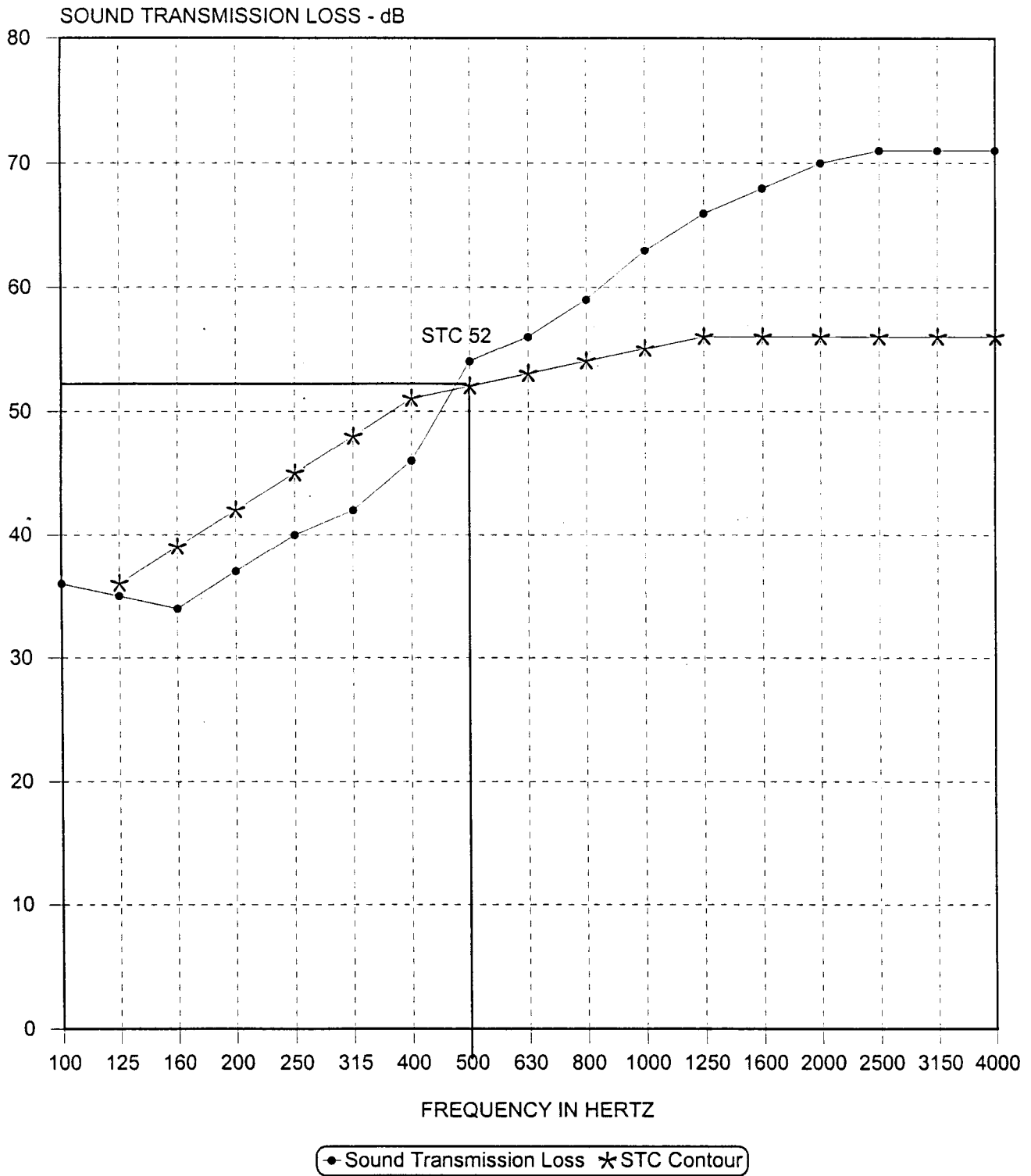
Quietwalk (1/8 inch thick)

RESULTS OF TEST**Formica Laminate/Quietwalk Underlay/1.5 Gypcrete/Floor/Ceiling**

| <u>1/3 Octave Band Center Frequency Hz</u> | <u>Sound Transmission Loss in dB</u> |
|--|--------------------------------------|
| 80 | 34 |
| 100 | 36 |
| 125 | 35 |
| 160 | 34 |
| 200 | 37 |
| 250 | 40 |
| 315 | 42 |
| 400 | 46 |
| 500 | 54 |
| 630 | 56 |
| 800 | 59 |
| 1000 | 63 |
| 1250 | 66 |
| 1600 | 68 |
| 2000 | 70 |
| 2500 | 71 |
| 3150 | 71 |
| 4000 | 71 |
| 5000 | 65 |
| Sound Transmission Class | 52 |

Sound Transmission Loss

Formica Laminate/Quietwalk Underlay/1.5 Inch Gypcrete/Floor/Ceiling



Midwest Padding L.L.C.

REMARKS

1. Aging Period: None
2. Ambient Temperature: 72°F
3. Relative Humidity: 35%

CONCLUSION

The test method employed for this test has no pass-fail criteria; therefore, the evaluation of the test results is left to the discretion of the client.

Date of Test: December 3, 1999

Report Approved By:



Norman H. Bay, Manager
Acoustical Testing

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