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Order No. J99031102-003 December 10, 1999

REPORT NO. J99031102-003

SOUND TRANSMISSION LOSS TEST AND CLASSIFICATION OF
A SAMPLE OF FORMICA LAMINATE ™FLOORING
WITH QUIET FLOOR™ UNDERLAYMENT

RENDERED BY MANUFACTURER AND RELEASED TO:

ACOUSTICAL SURFACES INC.
123 COLUMBIA COURT NORTH • SUITE 201
CHASKA, MN 55318

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 Quiet Floor 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.

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”.

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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	Flooring Underlayment
Formica Laminate Flooring	Quiet Floor™ (1/8 inch thick)

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RESULTS OF TEST

Formica Laminate/Quiet Floor™ Underlay/1.5 Gypcrete/Floor/Ceiling

1/3 Octave Band Center Frequency Hz	Sound Transmission Loss in dB
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

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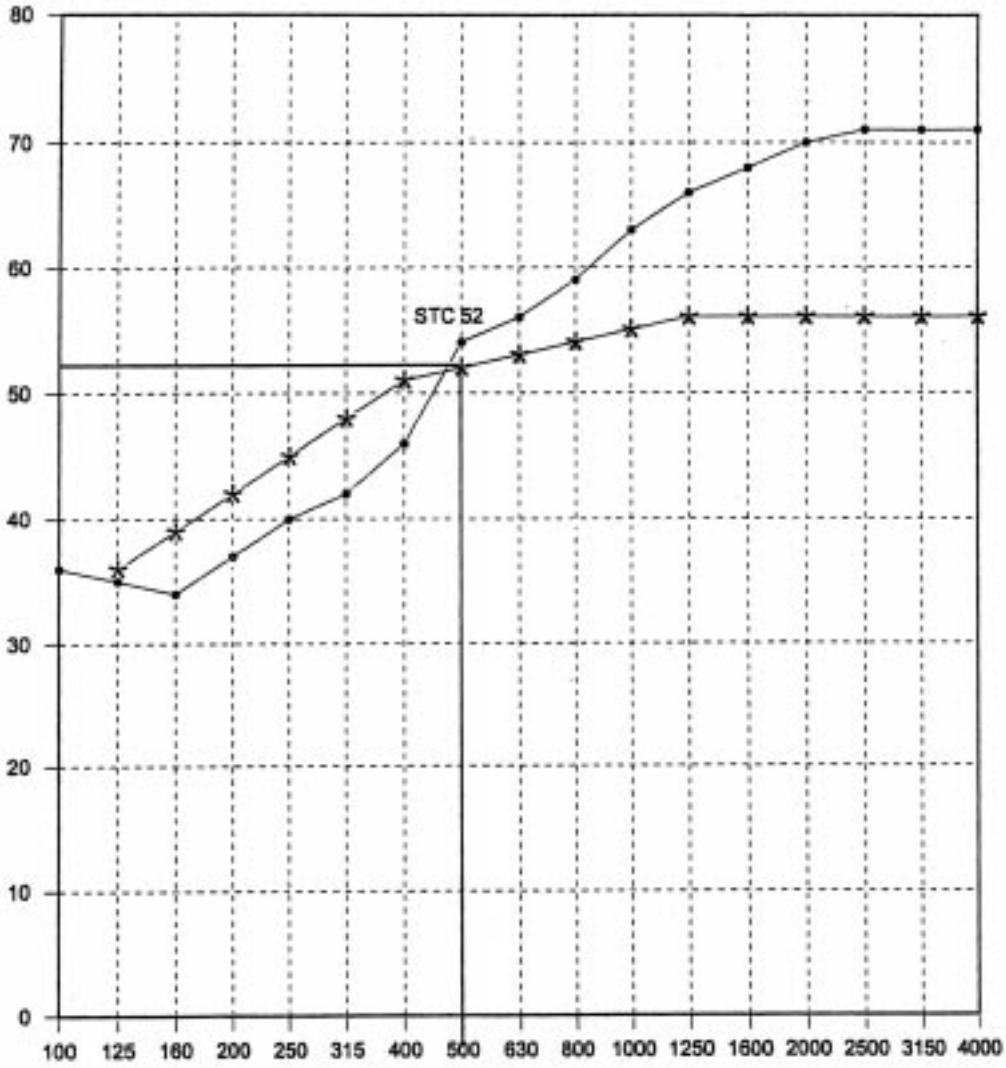
Sound Transmission Loss
Formica Laminate/Quiet Floor™ Underlay/1/5 Inch Gycrete/Floor/Ceiling

SOUND TRANSMISSION LOSS - dB



FREQUENCY IN HERTZ

• Sound Transmission Loss ⁎STC Contour

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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