

Report of Test on
Sound Absorption Test
on
Fabrasorb Acoustical Fabric
for
Chemical Fabrics Corp.

NOISE UNLIMITED, INC.

104 S. Bridge St., Somerville, N.J. 08876

Aug. 8, 1990

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1.0 Introduction

The sound absorption coefficient of a surface in a specified frequency band is, aside from the effects of diffraction, the fraction of randomly incident sound energy absorbed or otherwise not reflected. The unit of measurement is sabin per square foot.

The noise reduction coefficient, NRC, is the average of the sound absorption coefficients at 250, 500, 1000, and 2000 Hz expressed to the nearest integral multiple of 0.05.

2.0 Applicable Standard

Measurements were made according to:

ASTM Designation: C 423-89, "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method."

Standard Mountings are defined in:

ASTM Designation: E 795-83, "Standard Practices for Mounting Test Specimens During Sound Absorption Test."

3.0 Test Specimen

The test specimen consisted of one (1), 96 inch by 108 inch by .014 inch thick piece of fabric, in type E-400 mounting forming a test specimen 96 inches wide and 108 inches long. The specimen was submitted for testing by Chemical Fabrics Corp., and was identified as Fabrasorb Acoustical Fabric. The weight of the

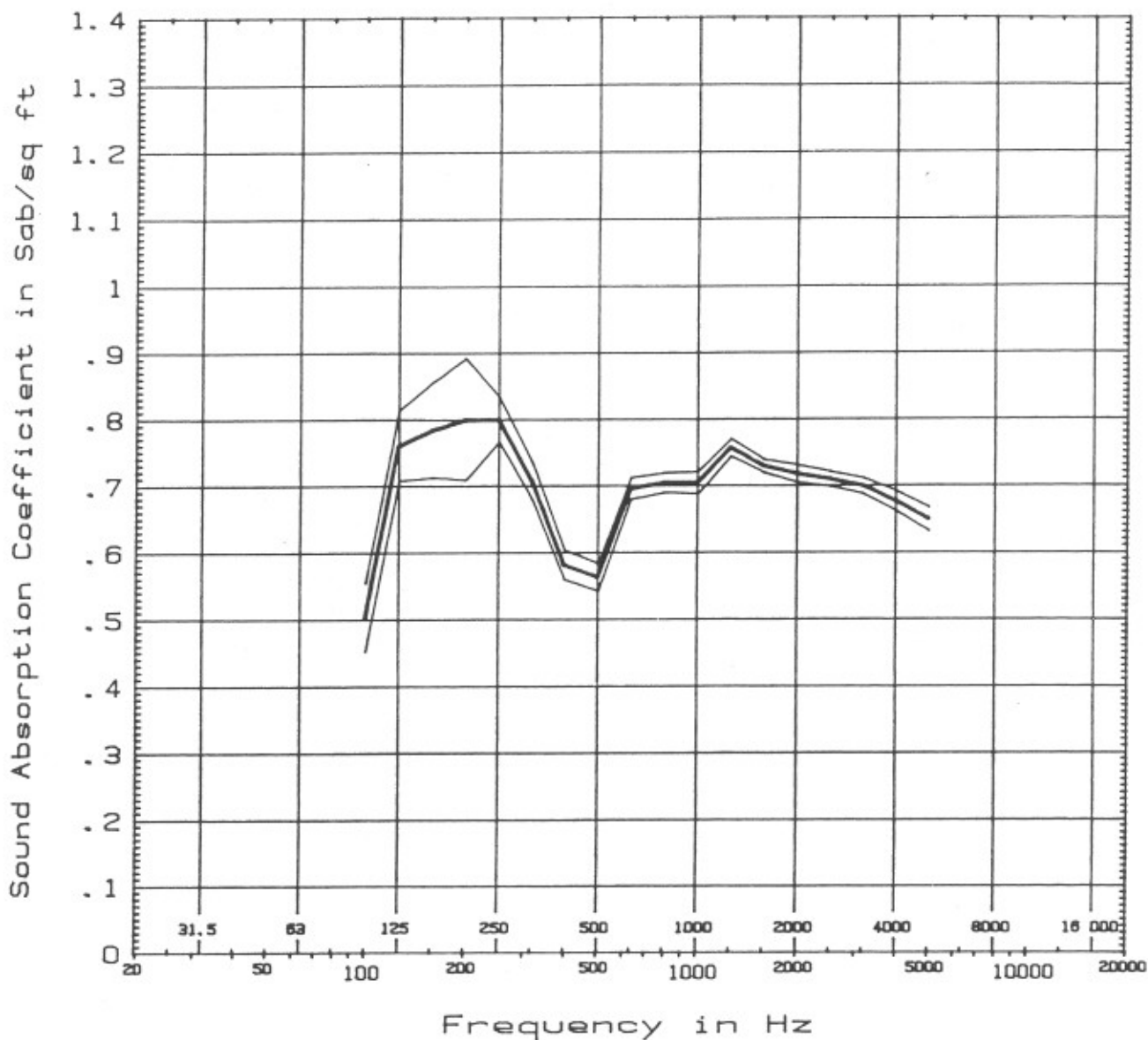
specimen was 7-1/2 lbs. The area used to calculate sound absorption coefficients was 72 sq. ft. the area of the face of the specimen.

4.0 Test Results

The calculated values of the sound absorption of the specimen and sound absorption coefficients together with the calculated measurement uncertainty for each are Tabulated in Table 1 and shown graphically in Figure 1.

Table 1. Sound Absorption and Sound Absorption Coefficient vs. Frequency on Fabrasorb Acoustical Fabric for Chemical Fabrics Corp.

Frequency (Hz)	Absorption (Sabin)	Coefficient (Sabin/ft ²)
100	36.2 ± 3.7	0.50 ± 0.05
125	54.8 ± 3.8	0.76 ± 0.05
160	56.5 ± 5.1	0.78 ± 0.07
200	57.6 ± 6.7	0.80 ± 0.09
250	57.6 ± 2.4	0.80 ± 0.03
315	50.9 ± 2.0	0.71 ± 0.03
400	41.8 ± 1.6	0.58 ± 0.02
500	40.5 ± 1.5	0.56 ± 0.02
630	50.1 ± 1.2	0.70 ± 0.02
800	50.7 ± 1.1	0.70 ± 0.01
1000	50.6 ± 1.2	0.70 ± 0.02
1250	54.5 ± 1.0	0.76 ± 0.01
1600	52.4 ± 0.7	0.73 ± 0.01
2000	51.6 ± 0.9	0.72 ± 0.01
2500	51.0 ± 0.8	0.71 ± 0.01
3150	50.2 ± 0.9	0.70 ± 0.01
4000	48.6 ± 1.1	0.68 ± 0.02
5000	46.7 ± 1.3	0.65 ± 0.02
Noise Reduction Coefficient, NRC 0.70		



Sound Absorption Coefficient (Sab/ft²) vs. Frequency (Hz)
on Fabrasorb Acoustical Fabric

Figure 1