



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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We Identify and **S.T.O.P.** Your Noise Problems



PROJECT NUMBER: 3013 71-5070-1

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DATE: Sept. 3, 1997

MAXIM TECHNOLOGIES INC.
662 Cromwell Avenue
St. Paul, Minnesota 55114

NOISE REDUCTION COEFFICIENT (NRC) TEST PERFORMED
ON R-200 U-CHARCOAL-MINI-SONEX
ACOUSTICAL FOAM PANELS

Rendered by Manufacturer and Released to:
ACOUSTICAL SURFACES INC.
123 Columbus Court North, Suite 201
Chaska, MN 55318

Client Purchase Order Number: 13458

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The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

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NOISE REDUCTION COEFFICIENT TEST - ASTM C423-90a

INTRODUCTION:

This report presents the results of Noise Reduction Coefficient (NRC) test conducted on Model R-200 U-charcoal-Mini-Sonex Acoustical Foam Panels manufactured and submitted by Manufacturer on September 2, 1997 and was conducted on September 2, 1997 and released to Acoustical Surfaces Inc.

This report must not be reproduced except in its entirety with the approval Maxim Technologies Inc. The data in this report relates only to the item tested.

Maxim Technologies/Twin city Testing has been accredited by the U.S. Department of Commerce and the National Institute of Standards and Technology (NIST, formerly NBS) under their National Voluntary Laboratory Accreditation Program (NVLAP) for conducting this test procedure. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

SUMMARY OF RESULTS:

The NRC of the specimen described below is 0.65. (See individual frequency values below under TEST RESULTS.

SPECIMEN IDENTIFICATION:

Manufacturer : Rendered by Manufacturer and released to Acoustical Surfaces Inc.

Model# : R-200 U-Charcoal-Mini-Sonex

Dimensions (W x H x D) : 24" x 48" x 1" per specimen

Weight : 1.2 lbs. (0.15 PSF) per specimen

Surface Area : 8 ft²

Total Surface Area Tested : 48 ft² - consisting of 6 specimens.

Mounting Type : Type E mounting. 16" air space

Specimen Description : Acoustical foam panels convoluted on one side. The convoluted side has black, hypolen coating and was tested with the convolutions exposed to the sound.



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TEST METHOD:

ASTM: C423-90A, "Sound Absorption and Sound Absorption Coefficients by one Reverberations Room method" was followed in every respect.

Absorption coefficients are the fraction of diffuse incident sound absorbed by the specimen and are expressed in sabins per square foot. The NRC is the average of the absorption coefficients for 250, 300, 1000, and 2000 hertz and is reported to the nearest integral of 0.05.

The temperature and relative humidity of the chamber during the tests were 72°F and 56%, respectively.

TEST EQUIPMENT:

<u>Manufacturer</u>	<u>Model</u>	<u>Serial #</u>	<u>Description</u>
Norwegian Electronics	NE830	11511	Real Time Spectrum Analyzer
Brüel & Kjær	3923	815424	Rotating Microphone Boom
Larson-Davis	2560	1032	Pressure Condenser

TEST EQUIPMENT:

Acoustical Foam Panels

Freq. (Hz)	Sabins/ Coefficient	Uncertainty, %
125	0.87	4.8
250	0.56	2.8
500	0.52	1.6
1000	0.71	1.1
2000	0.79	0.8
4000	0.76	0.8

Noise Reduction Coefficient (NRC) = 0.65

- Freq. = Octave band center frequency
 Abs Coefficient = Sound absorption coefficient (extended plane applications)
 Sabins per Unit Tested = Reported for samples used as unit absorbers/diffusers
 Uncertainty = % uncertainty of the absorption coefficient for 95% confidence

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