



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

123 Columbia Court North • Suite 201 • Chaska, MN 55318
(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121

Email: sales@acousticalsurfaces.com

Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problem

STORK®

Materials Technology

Stork Twin City Testing Corporation

PROJECT NUMBER: 30160-08-94443
PAGE: 1 of 4
DATE: April 14, 2008

662 Cromwell Avenue Telephone : (651) 645-3601
Saint Paul, MN 55114 Toll Free : (888) 645-TEST
USA Telefax : (651) 659-7348
Website : www.storksmt.com

Investigative Chemistry Geotechnical Construction Materials
Non Destructive Testing Failure Analysis Product Evaluation
Metallurgical Analysis Materials Testing Welder Qualification

SOUND ABSORPTION TESTING CONDUCTED ON THE ULTRA UPHOLSTERY WALL BOARD

Prepared for:
Acoustical Surfaces, Inc
Attn: Mr. Mike Mohs
123 Columbia Court North, Suite 201
Chaska, MN 55318

Client Purchase Order Number: Contract

Prepared By:

Mathew N. Botz
Project Manager
Product Testing Department
(651) 659-7353

Reviewed By:

Kyle T. Hall
Sr. Engineering Technician
Product Testing Department

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



Information and statements in this report are derived from material, information and/or specifications furnished by the client and exclude any expressed or implied warranties as to the fitness of the material tested or analyzed for any particular purpose or use. This report is the confidential property of our client and may not be used for advertising purposes. This report shall not be reproduced except in full, without written approval of this laboratory. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal Statutes including Federal Law Title 18, Chapter 47.

Stork Twin City Testing is an operating unit of Stork Materials Technology B.V., Amsterdam, The Netherlands, which is a member of the Stork group

- Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems
- Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction
- Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices
- OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

123 Columbia Court North • Suite 201 • Chaska, MN 55318

(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121

Email: sales@acousticalsurfaces.com

Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problem

STORK®

Materials Technology

Stork Twin City Testing Corporation

PROJECT NUMBER: 30160-08-94443

PAGE: 2 of 4

DATE: April 14, 2008

Noise Reduction Coefficient (ASTM C423-07)

INTRODUCTION:

This report presents the results of the sound absorption testing conducted on the Ultra Upholstery Wall Board. The test sample was submitted by Mr. Mike Mohs of Acoustical Surfaces, Inc (ASI). This work was completed on April 8, 2008.

This report must not be reproduced except in full with the approval of Stork Twin City Testing Corporation. The data in this report relates only to the items tested.

Stork Twin City Testing Corporation 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 ASTM C423 test procedures. This report may not be used to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.

TEST RESULTS SUMMARY:

| | | | Test Results | | |
|--------|-----------------------------|--------------|--------------|------|----|
| Test # | SAMPLE DESCRIPTION | Weight (psf) | NRC | SAA | -- |
| 1 | Ultra Upholstery Wall Board | 0.8 | 0.55 | 0.54 | -- |

TYPE A NRC TEST

See 'TEST DATA' section for detailed results.

SPECIMEN DESCRIPTION: (Also see "Test Results")

The test specimen was identified by ASI as Ultra Upholstery Wall Board. Each panel had dimensionsof 24-1/2" x 48-1/2". The entire sample had overall dimensions of 97" x 109" x 1" and weighed 59-lbs (0.80-psf).

Information and statements in this report are derived from material, information and/or specifications furnished by the client and exclude any expressed or implied warranties as to the fitness of the material tested or analyzed for any particular purpose or use. This report is the confidential property of our client and may not be used for advertising purposes. This report shall not be reproduced except in full, without written approval of this laboratory. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal Statues including Federal Law Title 18, Chapter 47.

Stork Twin City Testing is an operating unit of Stork Materials Technology B.V., Amsterdam, The Netherlands, which is a member of the Stork group

- Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems
- Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction
- Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices
- OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

123 Columbia Court North • Suite 201 • Chaska, MN 55318

(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121

Email: sales@acousticalsurfaces.com

Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problem

STORK®

Materials Technology

Stork Twin City Testing Corporation

PROJECT NUMBER: 30160-08-94443

PAGE: 3 of 4

DATE: April 14, 2008

TEST PROCEDURE

Sound Absorption Test

ASTM C 423-07, "Sound Absorption and Sound Absorption Coefficient by the Reverberation Room Method", was followed in every respect. The test sample was tested in a Type A Mounting style. The material was placed on the chamber surface (on the floor).

NRC was calculated by rounding the sound absorption coefficients for 250, 500, 1000 and 2000 Hz to the nearest 0.05. SAA was calculated by rounding the sound absorption coefficients for the twelve frequencies from 200 Hz to 2500 Hz to the nearest 0.01.

TEST EQUIPMENT:

| <u>Manufacturer</u> | <u>Model</u> | <u>Description</u> | <u>S/N</u> |
|------------------------|--------------|-------------------------------|------------|
| Norwegian Electronics | NE830 | Real Time Analyzer | 11511 |
| Brüel & Kjær | 3923 | Rotating Microphone Boom | 815424 |
| Norsonic (Source Rm) | 1230 | Pressure Condenser Microphone | 26361 |
| Brüel & Kjær (Term Rm) | 4192 | Pressure Condenser Microphone | 2360314 |

REMARKS:

The test sample will be retained for a period of **15-days** and then discarded unless notified by the client.

F:\Product\MMFILES\MNB\2008 REPORTS MNB\94443-ASI.doc

Information and statements in this report are derived from material, information and/or specifications furnished by the client and exclude any expressed or implied warranties as to the fitness of the material tested or analyzed for any particular purpose or use. This report is the confidential property of our client and may not be used for advertising purposes. This report shall not be reproduced except in full, without written approval of this laboratory. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal Statutes including Federal Law Title 18, Chapter 47.

Stork Twin City Testing is an operating unit of Stork Materials Technology B.V., Amsterdam, The Netherlands, which is a member of the Stork group

- Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems
- Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction
- Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices
- OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

123 Columbia Court North • Suite 201 • Chaska, MN 55318

(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121

Email: sales@acousticalsurfaces.com

Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problem

STORK®

Materials Technology

Stork Twin City Testing Corporation

PROJECT NUMBER: 30160-08-94443

PAGE: 4 of 4

DATE: April 14, 2008

TEST RESULTS:

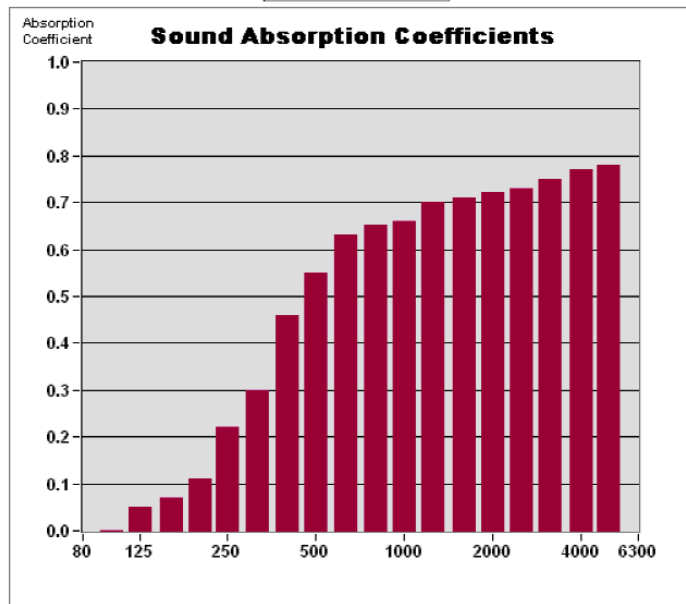
Filename: **ASTM C423 - Sound Absorption**

| Client | Product | Model # | Quantity | Comment |
|------------|------------|------------------|----------|-----------------|
| Acoustical | Wall Board | Ultra Upholstery | 1 | Type A Mounting |

Sample Size - Wt. Sample Description: Acoustical Surfaces: Ultra Upholstery Wall Board : (9) Panels, sample size 97" x 109" x 1"

Time Stamp: Total Sample Area:

| F (Hz) | Absorption Coefficient | Absorption (Sabins)* |
|--------|------------------------|----------------------|
| 100 | 0.00 | 0.00 |
| 125 | 0.05 | 3.91 |
| 160 | 0.07 | 5.00 |
| 200 | 0.11 | 8.14 |
| 250 | 0.22 | 16.11 |
| 315 | 0.30 | 22.05 |
| 400 | 0.46 | 33.96 |
| 500 | 0.55 | 40.16 |
| 630 | 0.63 | 45.94 |
| 800 | 0.65 | 47.54 |
| 1000 | 0.66 | 48.63 |
| 1250 | 0.70 | 51.29 |
| 1600 | 0.71 | 52.00 |
| 2000 | 0.72 | 53.11 |
| 2500 | 0.73 | 53.93 |
| 3150 | 0.75 | 54.75 |
| 4000 | 0.77 | 56.83 |
| 5000 | 0.78 | 57.34 |



Temp (°C) R.H. (%) ATM (mbar)

SAA = 0.54 NRC = 0.55

* total absorption based on 73.4 ft²

Information and statements in this report are derived from material, information and/or specifications furnished by the client and exclude any expressed or implied warranties as to the fitness of the material tested or analyzed for any particular purpose or use. This report is the confidential property of our client and may not be used for advertising purposes. This report shall not be reproduced except in full, without written approval of this laboratory. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal Statutes including Federal Law Title 18, Chapter 47.

Stork Twin City Testing is an operating unit of Stork Materials Technology B.V., Amsterdam, The Netherlands, which is a member of the Stork group

- Soundproofing Products • Sonex™ Ceiling & Wall Panels • Sound Control Curtains • Equipment Enclosures • Acoustical Baffles & Banners • Solid Wood & Veneer Acoustical Ceiling & Wall Systems
- Professional Audio Acoustics • Vibration & Damping Control • Fire Retardant Acoustics • Hearing Protection • Moisture & Impact Resistant Products • Floor Impact Noise Reduction
- Sound Absorbers • Noise Barriers • Fabric Wrapped Wall Panels • Acoustical Foam (Egg Crate) • Acoustical Sealants & Adhesives • Outdoor Noise Control • Assistive Listening Devices
- OSHA, FDA, ADA Compliance • On-Site Acoustical Analysis • Acoustical Design & Consulting • Large Inventory • Fast Shipment • No Project too Large or Small • Major Credit Cards Accepted