

## TEST REPORT

FOR: KM Fabrics, Inc.

701

Sound Absorption Test  
RAL™-A01-4

ON: Memorable Red FR 100% Cotton Velour Fabric

CONDUCTED: 5 January 2001

MEMORABLE

Page 1 of 4

### TEST METHOD

The test method conformed explicitly with the requirements of the ASTM Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method: ASTM C423-90a and E795-00. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure. A description of the measuring technique is available separately.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Memorable Red FR 100% cotton velour fabric. The overall dimensions of the specimen as measured were 2.74 m (108 in.) wide by 2.44 m (96 in.) high and nominal 127 mm (5 in.) thick. The specimen consisted of four (4) pieces. Each piece was 1.37 m (54 in.) wide by 2.44 m (96 in.) long and 2.3 mm (0.09 in.) thick. Each piece was suspended from the mounting rod with wire spaced 305 mm (12 in.) on center for 100% fullness. The overall width of each piece after folding was 686 mm (27 in.). The pieces were pinned together as necessary to form a continuous specimen. The specimen was tested in the laboratory's 292 m<sup>3</sup> (10,311 ft<sup>3</sup>) test chamber.

The weight of the specimen as measured was 7.8 kg (17.3 lbs), an average of 1.17 kg/m<sup>2</sup> (0.24 lbs/ft<sup>2</sup>). The area used in the calculations was 6.7 m<sup>2</sup> (72 ft<sup>2</sup>). The room temperature at the time of the test was 21°C (69°F) and 60±1% relative humidity.

### MOUNTING G-205

Test specimen hung parallel to the test surface. The number designates the distance in mm from the centerline of the hangers to the test surface.

This report shall not be reproduced except in full, without the written approval of RAL.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY  
ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS.  
THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES  
OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST

## TEST REPORT

KM Fabrics, Inc.

RAL™-A01-4

5 January 2001

Page 2 of 4

### TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins	% Of Uncertainty With 95% Confidence Limit With Specimen
100	0.15	10.83	2.96
** 125	0.20	14.45	2.47
160	0.29	20.89	2.20
200	0.45	32.06	2.03
** 250	0.57	41.09	1.67
315	0.74	53.63	1.28
400	0.85	61.00	1.42
** 500	0.91	65.82	1.00
630	0.92	66.40	1.02
800	0.92	66.31	0.94
** 1000	0.95	68.24	0.81
1250	0.97	69.66	0.69
1600	0.99	71.10	0.68
** 2000	1.02	73.34	0.58
2500	1.02	73.44	0.60
3150	1.05	75.47	0.51
** 4000	1.05	75.68	0.50
5000	1.07	77.29	0.49

NRC= 0.85

This report shall not be reproduced except in full, without the written approval of RAL.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.

NVLAQ

ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY  
ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS.  
THE LABORATORY'S ACCREDITATION OR ANY OF IT'S TEST REPORTS IN NO WAY CONSTITUTES  
OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST

# RIVERBANK ACOUSTICAL LABORATORIES

OF  
IIT RESEARCH INSTITUTE

1512 S. BATAVIA AVENUE  
DEERFIELD, ILLINOIS 60134

630/232-0104  
FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

## TEST REPORT

KM Fabrics, Inc.

RAL™-A01-4

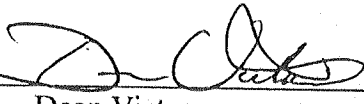
5 January 2001


Page 3 of 4

### TEST RESULTS (Continued)

The percentage of uncertainty for the required 95% confidence limits indicated above must fall within the prescribed limits designated in par. 13.2 of ASTM C423-90a. It states that for the absorption of the reverberation room containing the specimen the testing laboratory shall obtain data with less than 4% uncertainty at 125 (hertz) and 2% uncertainty at 250, 500, 1000, 2000, and 4000 (hertz). The method of calculation is described in ASTM STP 15D and outlined in section 13 of the standard.

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

Tested by   
Dean Victor  
Senior Experimentalist

Approved by   
David L. Moyer  
Laboratory Manager

This report shall not be reproduced except in full, without the written approval of RAL.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.

NVLAP

ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY  
ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS.  
THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES  
OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST.

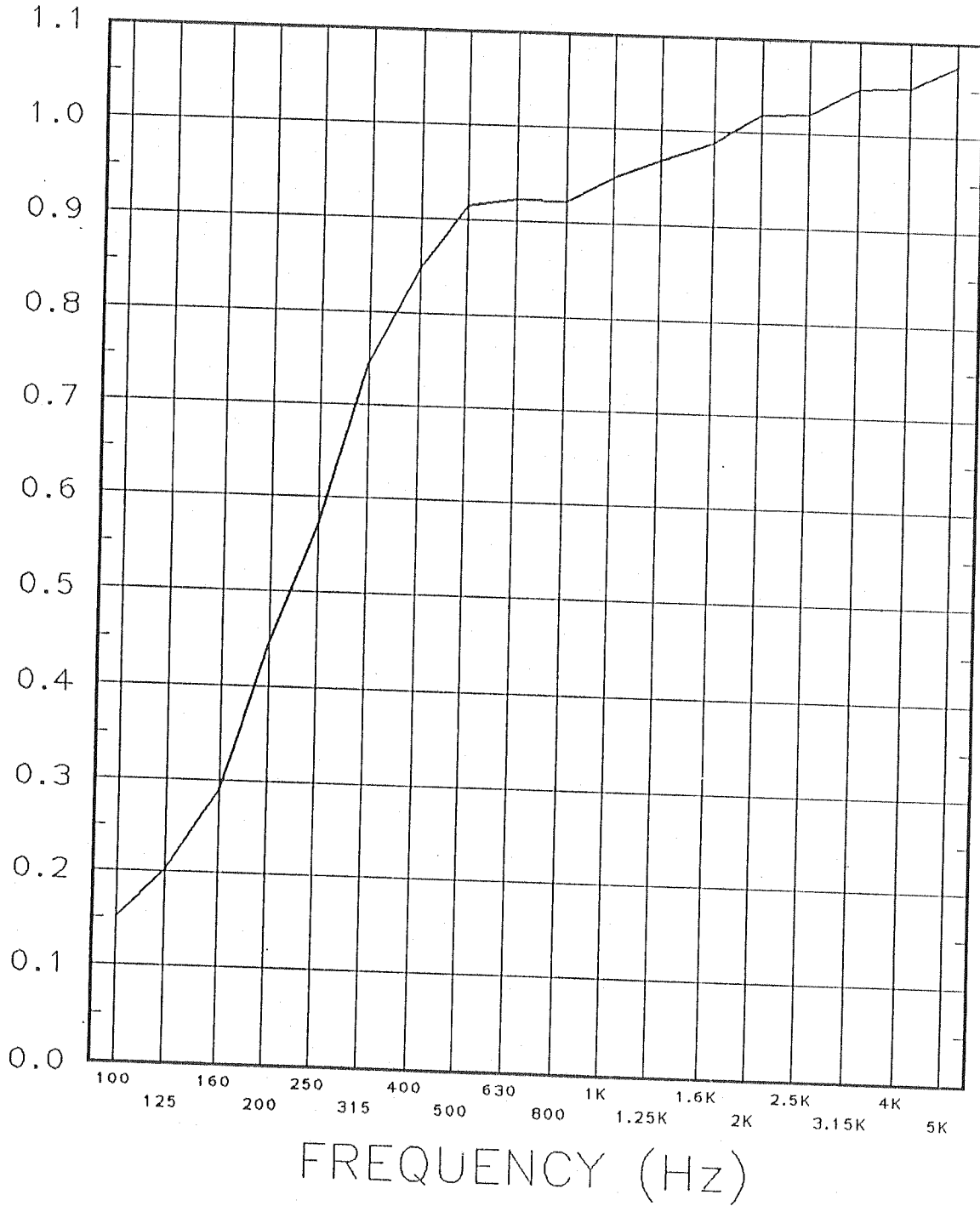
TEST REPORT

SOUND ABSORPTION REPORT

RAL - A01-4

PAGE 4 OF 4

SOUND ABSORPTION COEFFICIENT



NRC = 0.85

This report shall not be reproduced except in full, without the written approval of RAL.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY  
ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS.  
THE LABORATORY'S ACCREDITATION OR ANY OF IT'S TEST REPORTS IN NO WAY CONSTITUTES  
OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST