

## TEST REPORT

FOR: Radial Engineering Ltd.  
Port Coquitlam, BC, Canada

Sound Absorption Test  
RAL™-A08-033

ON: Primacoustic FullTrap

Page 1 of 4

CONDUCTED: 11 March 2008

### 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 C423-07a and E795-05. 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 (NVLAP Lab Code: 100227-0). A description of the measuring procedure and room qualifications is available separately.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Primacoustic FullTrap. The overall dimensions of the specimen as measured were nominally 2.44 m (96 in.) wide by 2.44 m (96 in.) long and 248 mm (9.75 in.) thick. The specimen consisted of eight (8) pieces. Each piece was 610 mm (24 in.) wide by 1.22 m (48 in.) long and 248 mm (9.75 in.) thick. The specimen was tested in the laboratory's 292 m<sup>3</sup> (10,311 ft<sup>3</sup>) test chamber.

The manufacturer's description of the specimen was as follows: The Primacoustic FullTrap is a broadband absorber and bass trap made from MDF wood composite with a melamine finish. The trap consists of a 3" thick front absorptive panel made from 6 lbs. per cubic foot high-density encapsulated fiberglass. Behind the acoustic panel is a stretched diaphragmatic dense-mass membrane and behind the membrane, an air cavity is created by the wood enclosure. The material specifications were given as follows: Frame Material: Black melamine laminated MDF; Dimensions: 24" (610 mm) x 48" (1,219 mm) x 8" (203 mm); Panel Material: Formed, semi rigid inorganic glass fibers; Density 6.0 lbs. pcf. (96 kg/m<sup>3</sup>); Fabric Facing: Acoustically transparent polyester; Diaphragmatic Membrane: Loaded vinyl, 1 lbs. per cubic foot. A visual inspection verified the manufacturer's description and detailed drawing of the specimen. The manufacturer's drawing is maintained on file.

The weight of the entire specimen as measured was 157.7 kg (347.75 lbs), an average of 26.5 kg/m<sup>2</sup> (5.4 lbs/ft<sup>2</sup>). The area used in the calculations was 5.9 m<sup>2</sup> (64 ft<sup>2</sup>). The room temperature at the time of the test was 21°C (70°F) and 56% relative humidity.

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 Lab Code 100227-0

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

Radial Engineering Ltd.

RAL™-A08-033

11 March 2008

Page 2 of 4

### MOUNTING A

The test specimen was laid directly against the test surface. Perimeter edges were unsealed.

### TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins
100	0.88	56.62
** 125	0.83	53.29
160	0.74	47.33
200	0.79	50.78
** 250	0.80	50.98
315	0.99	63.52
400	1.01	64.91
** 500	1.00	64.08
630	1.01	64.37
800	1.00	64.00
** 1000	1.02	65.11
1250	1.02	65.48
1600	0.99	63.33
** 2000	0.98	63.01
2500	0.99	63.20
3150	0.96	61.48
** 4000	0.94	60.00
5000	0.95	61.00

SAA = 0.97

NRC = 0.95

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 Lab Code 100227-0

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

Radial Engineering Ltd.

RAL™-A08-033

11 March 2008

Page 3 of 4

### TEST RESULTS (Continued)

The sound absorption average (SAA) is defined as a single number rating, the average, rounded to the nearest 0.01, of the sound absorption coefficient of a material for the twelve one-third octave bands from 200 through 2500 Hz, inclusive.

The noise reduction coefficient (NRC) is defined from previous versions of this same test method as the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by Marc Sciaky Approved by David L. Moyer  
Marc Sciaky David L. Moyer  
Experimentalist Laboratory Manager

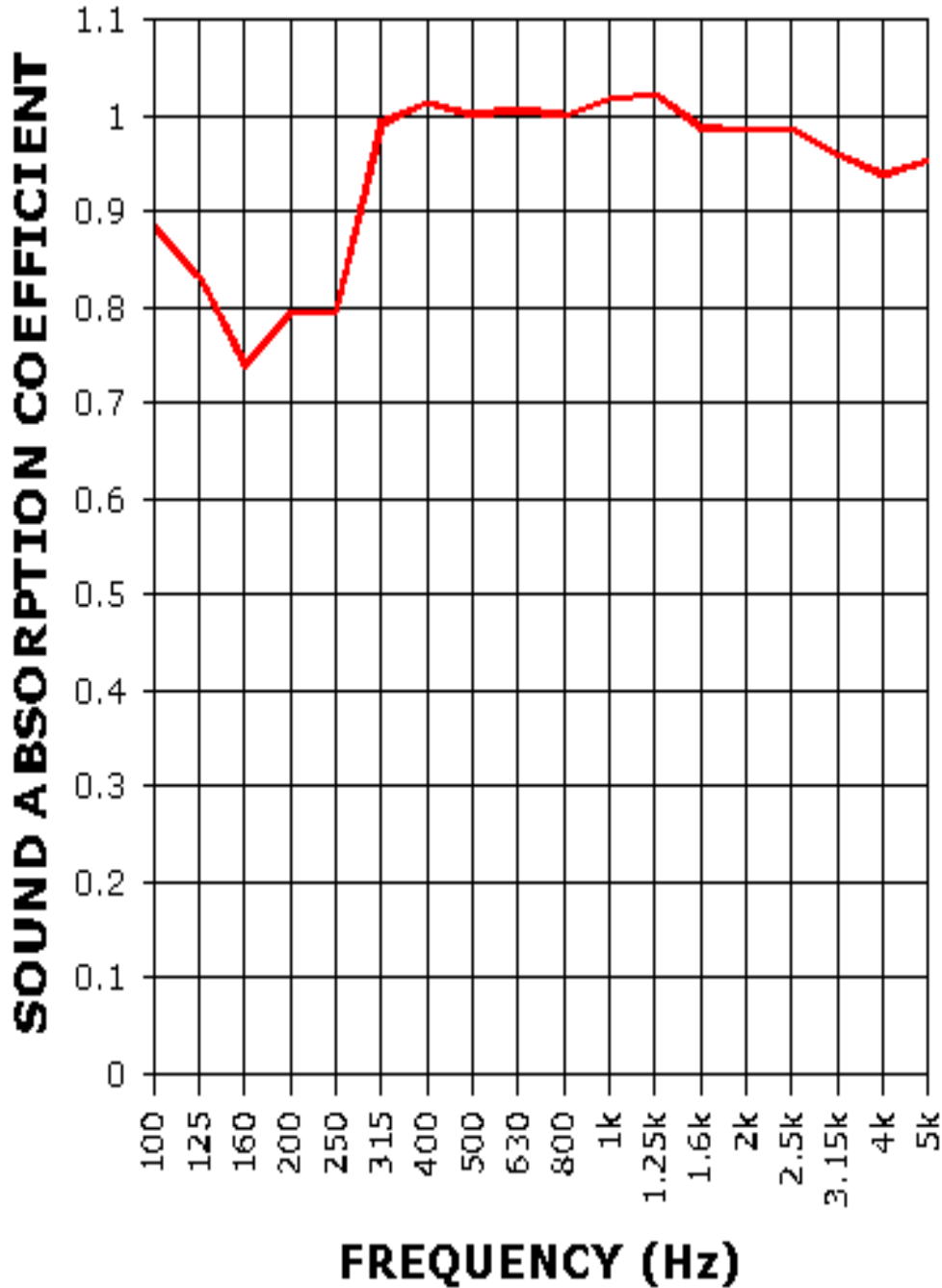
This report shall not be reproduced except in full, without the written approval of RAL.

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



**TEST REPORT**

**SOUND ABSORPTION REPORT  
RAL-A08-033**



**FREQUENCY (Hz)**

**SAA=0.97**

**NRC=0.95**

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 Lab Code 100227-0

**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.**