

RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

TEST REPORT

FOR: Verco Manufacturing Co.
Phoenix, AZ

Sound Absorption Test
RAL™-A04-143

ON: N-24CD AC Verco™ Acoustical Cellular Deck and 1.5 Inch
Nominal Thickness Insulation Batts (1.5 PCF Density)
Alternate Designations: PLN-24CD AC, N-24CD AC
FORMLOK, and PLN-24CD AC FORMLOK

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CONDUCTED: 26 July 2004

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 C423-02a 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 procedure and room qualifications is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as N-24CD AC Verco™ acoustical cellular deck and 1.5 inch nominal thickness insulation batts (1.5 pcf density). The overall dimensions of the specimen as measured were nominally 2.74 m (108 in.) wide by 2.44 m (96 in.) long and 127 mm (5 in.) thick. The specimen consisted of four (4) pieces. Each piece was nominal 610 mm (24 in.) wide by 2.74 m (108 in.) long and 76 mm (3 in.) thick. The acoustical cellular deck was perforated and installed over nominal 2 inch thick rigid fiberglass provided in a total of ten (10) pieces. Eight (8) pieces measured 610 mm (24 in.) wide by 1.22 m (48 in.) long and two (2) pieces measured 305 mm (12 in.) wide by 1.22 m (48 in.) long. The specimen was tested in the laboratory's 292 m³ (10,311 ft³) test chamber.

The manufacturer's description as provided by a drawing was as follows: N-24CD AC Verco™ acoustical cellular deck. A 3" thick acoustical cellular deck with acoustical perforations in the flat bottom plate, perforations are 5/32" (4 mm) diameter holes on 7/16" (11.1 mm) staggered centers, nominal 1.5" fiberglass (1.5 pcf) (5 7/8" wide) in cavities, installed over nominal 2" rigid fiberglass (6 pcf). Nominal width of the perforated bands, which are centered under the top flanges of the fluted top section, are 5.5" (140 mm). A visual inspection verified the manufacturer's description of the specimen.

The weight of the entire specimen as measured was 163.8 kg (361 lbs), an average of 24.5 kg/m² (5 lbs/ft²). The area used in the calculations was 6.7 m² (72 ft²). The room temperature at the time of the test was 19°C (67°F) and 58±1% relative humidity.

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NVLAP

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MOUNTING A

The test specimen was laid directly against the concrete test surface. The perimeter was sealed using wood and metal framing.

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NVLAQ

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TEST RESULTS

1/3 Octave Center Frequency (Hz)	Absorption Coefficient	Total Absorption In Sabins
100	0.72	51.62
** 125	0.84	60.29
160	0.70	50.55
200	0.77	55.24
** 250	0.79	56.54
315	1.08	77.44
400	1.16	83.61
** 500	1.16	83.22
630	1.13	81.06
800	1.06	76.06
** 1000	0.98	70.78
1250	0.94	67.84
1600	0.86	61.60
** 2000	0.82	59.14
2500	0.75	54.01
3150	0.66	47.23
** 4000	0.60	43.51
5000	0.52	37.43

SAA = 0.96

NRC = 0.95

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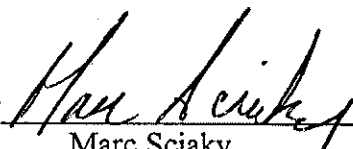
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TEST RESULTS (Continued)

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.

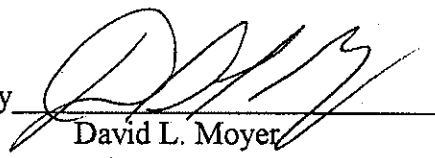
The noise reduction coefficient (NRC) is defined from previous versions of this same test method as the average of the coefficients at 250, 500, 1000, and 2000 Hz, expressed to the nearest integral multiple of 0.05.

Tested by



Marc Sciaky
Senior Technician

Approved by



David L. Moyer
Laboratory Manager

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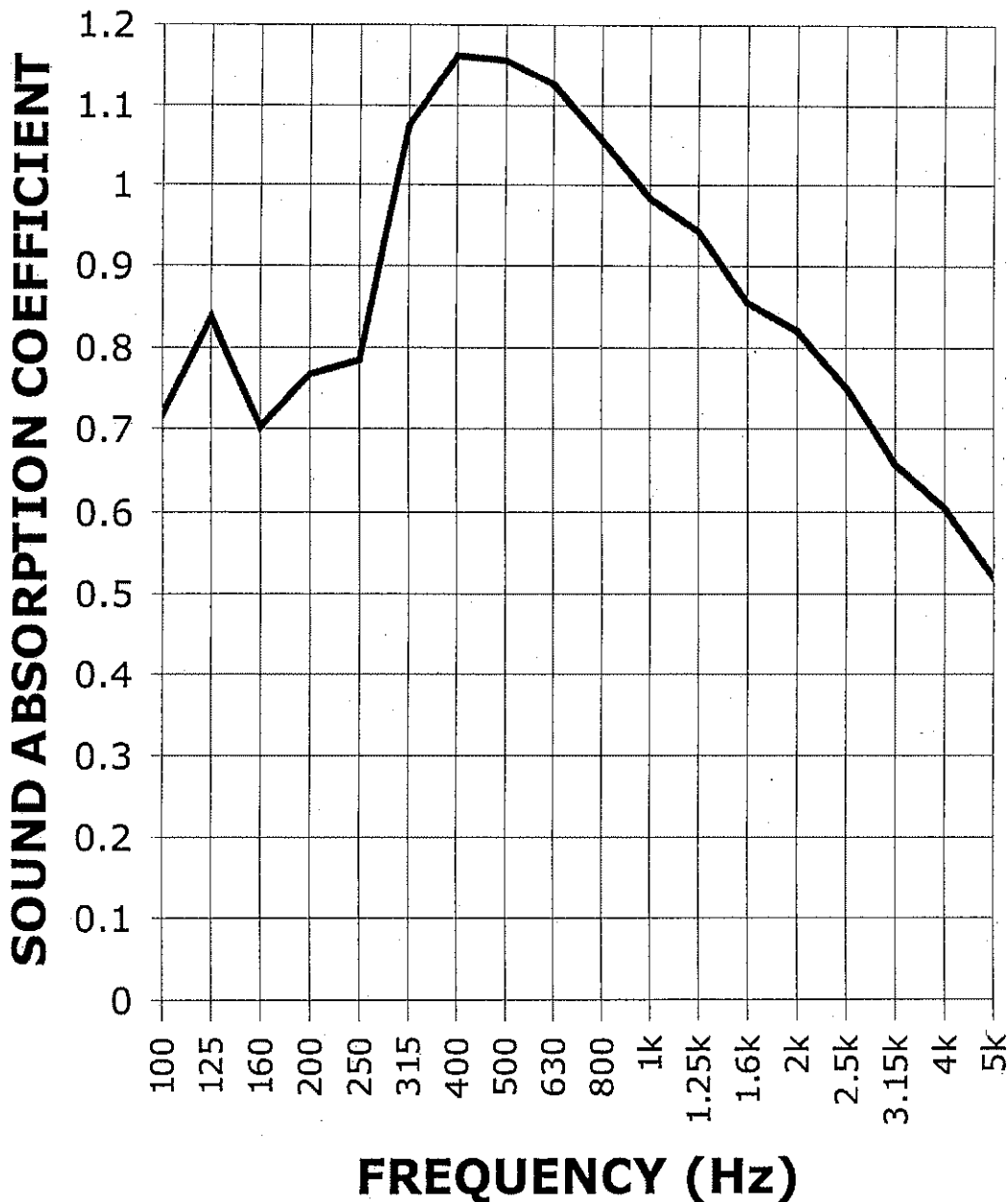
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SAA = 0.96
NRC = 0.95

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