

Sound Absorption Test
Intertek

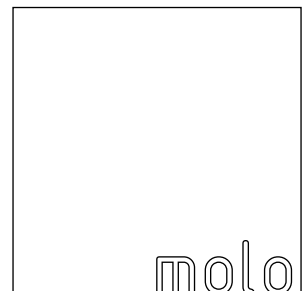
kraft paper
softwall + softblock
modular system

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kraft softwall + softblock modular system Sound Absorption Test

The attached report gives the results of Intertek's Sound Absorption Test and the determination of the Noise Reduction Coefficient on molo's kraft softwall + softblock modular system.

The Noise Reduction Coefficient (NRC) represents the percentage of sound-waves, encompassing the typical frequencies of human speech, that are absorbed by the softwall and NOT reflected back into the room or space.

Products with high NRC ratings improve the acoustics in a room, increase speech clarity and reduce room sound reflections. The softwall's unique honeycomb structure creates numerous "pleats", increasing the wall's surface area and improving its sound absorption qualities. The pleated surface of the softwall (and its general flexible form) breaks up a typical room's parallel walls and flat surfaces, reducing reflection and standing waves. Furthermore the honeycomb cells function as columns of air stacked against one another absorbing sound waves at each pass contributing to a higher NRC rating.



REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 3196516

Date: December 3, 2009

REPORT NO. 3196516CRT-002

SOUND ABSORPTION TESTS ON KRAFT PAPER SOFTWALL + SOFTBLOCK MODULAR SYSTEM

RENDERED TO

**MOLO DESIGN, LTD.
1470 VENABLES STREET
VANCOUVER, V5L 2G7, CANADA**

INTRODUCTION

This report gives the results of Sound Absorption tests and the determination of the Noise Reduction Coefficient on the molo design Kraft paper softwall + softblock modular system. The test specimen was selected and supplied by the client and received at the laboratories on November 11, 2009. The sample appeared to be in a new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500189885.

TEST METHOD

The specimen was tested in accordance with the American Society for Testing and Materials designation ASTM C423-08, "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method".

GENERAL

This test method describes the measurement of sound absorption by analyzing the decay rate of sound in a reverberation room. The difference of the decay with and without the specimen in the room is utilized to determine the sound absorption of the specimen under test. Intertek Testing Services Acoustical Facilities utilizes a 16,640 cu. ft. (470 cubic meter) reverberation room.

GENERAL - Cont'd

The sound absorption coefficient is ideally defined as the fraction of the randomly incident sound power absorbed by the material. The greater the coefficient, the greater the sound absorption.

The Noise Reduction Coefficient (NRC) is a single number rating obtained by taking the arithmetic average of the absorption coefficients at 250, 500, 1000, and 2000 Hz rounded to the nearest multiple of 0.05.

The Sound Absorption Average (SAA) is a single number rating obtained by taking the arithmetic average of the one-third octave bands from 200 through 2500 Hz rounded to the nearest 0.01.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of a section of the molo design Kraft paper softwall + softblock modular system. The wall was stretched out to a distance of 9 feet and measured 12 inches thick and 6 feet high. The area used for testing measured 108 square feet. The wall was tested in the straight position.



RESULTS OF TEST

KRAFT PAPER SOFTWALL +SOFTBLOCK MODULAR SYSTEM

<u>One Third Octave Band Center Frequency, Hz</u>	<u>Absorption Coefficients Sabins/ft²</u>	<u>Percent Uncertainty</u>
100	0.44	4
125	0.55	4
160	0.21	4
200	0.39	4
250	0.25	2
315	0.31	2
400	0.25	2
500	0.29	2
630	0.36	2
800	0.47	2
1000	0.70	2
1250	0.68	2
1600	0.63	2
2000	0.59	2
2500	0.58	2
3150	0.51	2
4000	0.64	2
5000	0.67	2
<u>Sound Absorption Average (SAA)</u>	0.45	

<u>IDENTIFICATION</u>	<u>Absorption Coefficients – Sabins/ft.² One-Third Octave Band Center Frequency, Hz</u>						
	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	<u>NRC</u>
	0.55	0.25	0.29	0.70	0.59	0.64	0.45
Precision ±	0.05	0.02	0.02	0.01	0.01	0.02	

MOUNTING: Type “K” per ASTM Designation E795-05, “Standard Practices for Mounting Test Specimens During Sound Absorption Tests”.



REMARKS

1. Aging Period: None
2. Ambient Temperature: 70°F
3. Relative Humidity: 40%

CONCLUSION

The test method employed for this test has no pass-fail criteria, therefore, the evaluation of the test results is left to the discretion of the client.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Tests: November 16, 2009

Report Approved by:

Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:

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Acoustical Testing

Attachments: None