



REPORT

Intertek ETL SEMKO

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Date: May 15, 2007

Order No. 3115054

REPORT NO. 3115054CRT-001

SOUND INSERTION LOSS TESTING OF DUCT LAGGING SYSTEMS

RENDERED TO

**KINETICS NOISE CONTROL
6300 IRELANE PLACE
DUBLIN, OH 43017**

INTRODUCTION

This report gives the results of Sound Insertion Loss Testing of Duct Lagging Systems. The lagging materials were selected and supplied by the client and received at the laboratories on February 19, 2007. The samples appeared to be in a new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500016195.

TEST METHOD

The tests were performed in general accordance with the American Society for Testing and Materials designation ASTM E1222-90 (Reapproved 2002), "Standard Test Method for Laboratory Measurement of the Insertion Loss of Pipe Lagging Systems".

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TEST EQUIPMENT / SET- UP

Noise was produced by a loudspeaker and a horn enclosed within a duct which was connected to one end of a 12 inch wide by 24 inch high 20 gauge duct. This duct extended into the Intertek 16,640 cu. ft. (470 cubic meter) reverberation room to provide a 25 foot long test sample. Average sound pressure levels were measured within the reverberation room for two conditions, one with the sound radiating from the bare duct and the other with the duct covered with the lagging system. The insertion loss of the installed lagging system is the difference of the sound pressure levels measured with the sound radiating from the bare and lagged duct, with an adjustment for changes for room absorption due to the presence of the duct lagging system. Test results were obtained in a series of one-third octave bands from 50 to 5,000 Hz.

| Description | Serial Number | Calibration Date | Calibration Due Date |
|---|---------------|------------------|----------------------|
| Bruel & Kjaer Type 2131 Digital Frequency Analyzer | 945136 | 03/21/2007 | 03/21/2008 |
| Bruel & Kjaer Type 4166 Condenser Microphone | 1734083 | 05/18/2006 | 05/18/2007 |
| Bruel & Kjaer Type 4204 Reference Sound Source | 2036621 | 07/24/2006 | 07/24/2009 |

DESCRIPTION OF TEST SPECIMENS

Sample #1 – The duct lagging over the 20 gauge duct system consisted of 2 inch thick, 5 pound per cubic foot, fiberglass covered by KNM100 ALQ Pipe and Duct Wrap.

Sample #2 – The duct lagging over the 20 gauge duct system consisted of KNM100 ALQ Pipe and Duct Wrap.

RESULTS OF TESTS**Insertion Loss in dB****1/3 Octave Band
Center Frequency****Hertz****Sample #1****Sample #2**

| | | |
|------|----|----|
| 50 | -1 | 1 |
| 63 | 2 | 3 |
| 80 | 5 | 4 |
| 100 | 8 | 5 |
| 125 | 10 | 6 |
| 160 | 11 | 4 |
| 200 | 14 | 5 |
| 250 | 16 | 7 |
| 315 | 20 | 11 |
| 400 | 24 | 14 |
| 500 | 27 | 18 |
| 630 | 29 | 19 |
| 800 | 32 | 22 |
| 1000 | 35 | 24 |
| 1250 | 34 | 24 |
| 1600 | 34 | 25 |
| 2000 | 34 | 27 |
| 2500 | 34 | 28 |
| 3150 | 33 | 28 |
| 4000 | 33 | 28 |
| 5000 | 34 | 25 |

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.

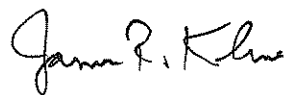
Date of Tests: May 11, 2007

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Attachments: None