

REPORT**3933 US ROUTE 11 CORTLAND, NEW YORK 13045**

Order No. 104633529

Date: April 30, 2021

REPORT NO. 104633529CRT-001a**ACCUMULATION OF MOISTURE
ON DIFFUSER SURFACE TEST
ON TWO DIFFUSERS****RENDERED TO****INVI USA, LLC
67 GUERNSEY STREET
BROOKLYN, NY 11222****INTRODUCTION**

This report gives the results of tests conducted on two diffusers. The test results include accumulation of moisture on the outlet surface of a sample. The samples were selected and supplied by the client and were received at the laboratories on March 8, 2021. The samples appeared to be in new unused condition upon receipt.

AUTHORIZATION

Signed Intertek Quotation Qu-01159847-1

TEST METHOD

The testing employed a non-standard test method. Two samples were tested to observe if moisture condensation formed on the surface of the diffuser when cold air was pushed through the sample. The test chamber was held at a steady high temperature high humidity condition and the sample was supplied with cool dry air. The sample was observed periodically and any moisture that formed is noted in the report.

DESCRIPTION OF TEST SPECIMENS

SLOT DIFFUSER

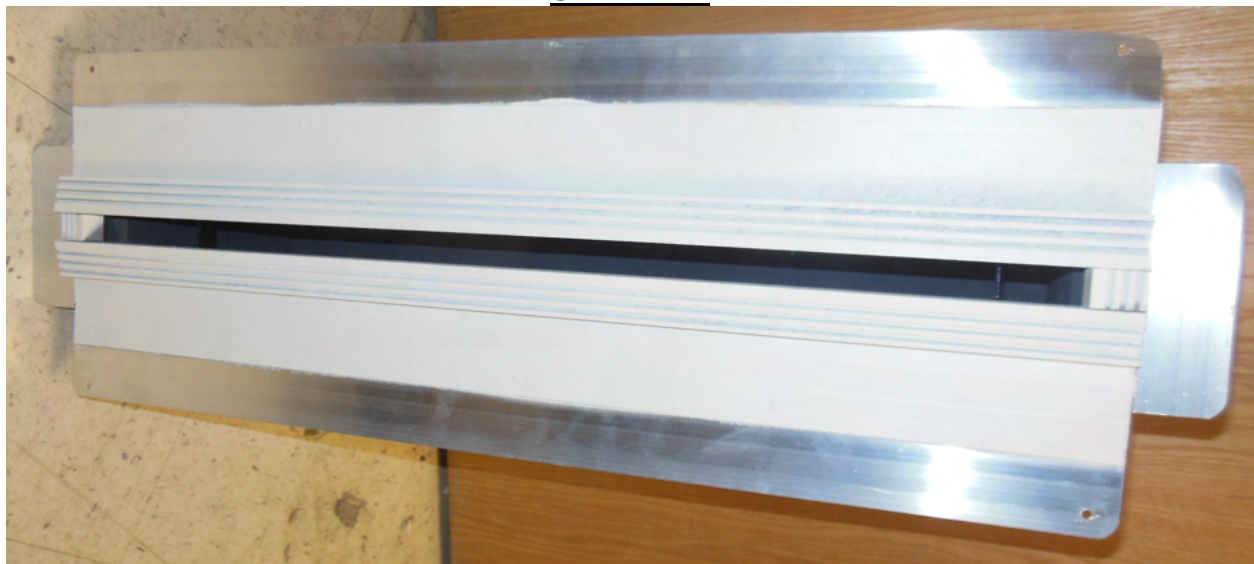
The first sample consisted of a single slot diffuser with a $\frac{3}{4}$ inch by 25 inch slot installed in a 3 inch by 25 inch by 9 inch lined plenum box with a 6 inch diameter inlet. The sample was constructed from aluminum. The second sample consisted of a single slot diffuser with a $\frac{3}{4}$ inch by 25 inch slot installed in a 4 $\frac{1}{2}$ inch by 26 $\frac{1}{2}$ inch by 9 inch lined plenum box with a 6 inch diameter inlet. The sample was constructed from a composite material.

PHOTOGRAPHS OF TEST SAMPLE

SAMPLE 1



SAMPLE 2



EQUIPMENT

Equipment	Calibration Date	Due Date	S/N	Model	Brand	Asset
Thermohygrometer	7/20/2020	7/20/2021	36231027	971	Fluke	E552

RESULTS OF TESTS

SAMPLE 1:

Inlet Air Temperature and Relative Humidity: 56 Degrees Fahrenheit and 35% RH

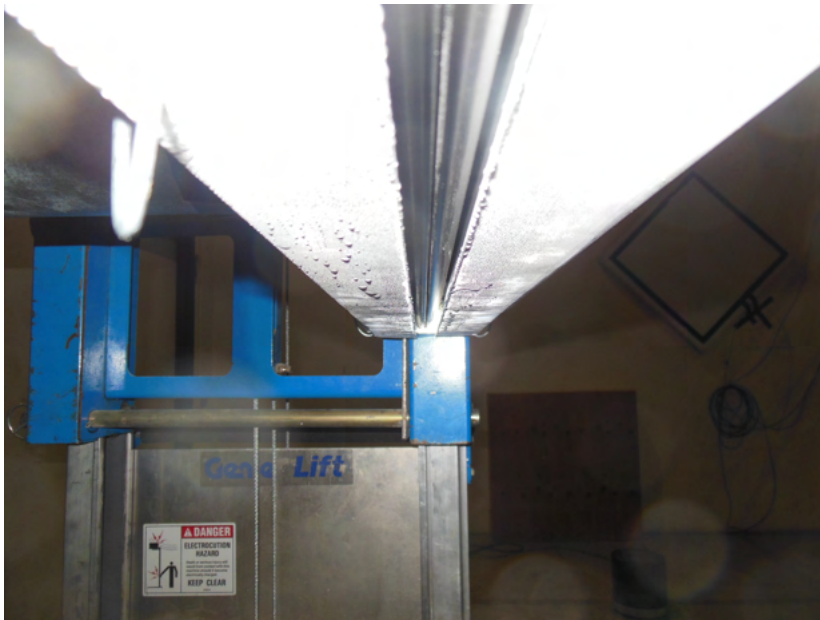
Room Temperature and Relative Humidity: 85 Degrees Fahrenheit and 60% RH

Inlet Airflow: 100 CFM

PHOTO AFTER 2 MINUTES OF AIR BEING SUPPLIED



PHOTO AFTER 20 MINUTES OF AIR BEING SUPPLIED



Note: The sample had noticeable moisture content on the surface after 2 minutes and large water droplets after 20 minutes of operation.

RESULTS OF TESTS

SAMPLE 2:

Inlet Air Temperature and Relative Humidity: 56 Degrees Fahrenheit and 35% RH

Room Temperature and Relative Humidity: 85 Degrees Fahrenheit and 60% RH

Inlet Airflow: 100 CFM

PHOTO AFTER 20 MINUTES OF AIR BEING SUPPLIED



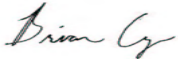
Note: The sample had no visible moisture content on the surface after 2 minutes and no visible moisture content after 20 minutes of operation. No significant changes were observed for 60 minutes.

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.

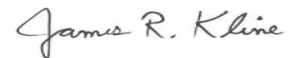
Date of Tests: April 22, 2021

Report Approved by:

A handwritten signature in cursive script that reads "Brian Cyr".

Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:

A handwritten signature in cursive script that reads "James R. Kline".

James R. Kline
Engineer/Quality Supervisor
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Attachments: None