



## Test Report

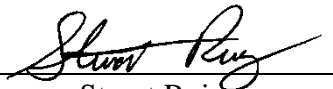
### Selected Measurements on Lewco Hydrophobic Fiberglass Mat Supplied by Lewco Specialty Products, Inc.

Prepared For:

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P.O. Box 2400  
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Report: RD16281

  
Stuart Ruis  
President

May 18, 2016

The test results in this report apply only to the specimens tested. The tests conform to the respective test methods except for the report requirements. The report includes summary data but a full complement of data is available upon request. This report shall not be reproduced, except in full, without written approval of R & D Services, Inc. This report must not be used by the client to claim product endorsement by R & D Services, Inc., IAS or any other organization.

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## Water Retention Characteristics Test Report

Test Number: RD160875WA-II

Date of Test: May 10, 2016

Specimen Number: 1916160505-7,12

Date of Manufacture: Unknown

Description of Test Specimen: Lewco Hydrophobic Fiberglass Mat

Test Method: ASTM C1511-15 "Standard Test Method for Determining the Water Retention (Repellency) Characteristics of Glass Fiber Insulation (Aircraft Type)"

Report Prepared For: Lewco Specialty Products, Inc. / Mr. Peter Zhou

### Description of Test

The amount of water retained due to submersion in water has been determined in accordance with ASTM C1511-15. The insulation is weighed then submerged in distilled water for 15 min; it is drained for 60 seconds and reweighed. The amount of water retained is the difference in specimen weights and is expressed in grams. The average mass gain of three specimens is measured and used to calculate the mass percent of water absorbed.

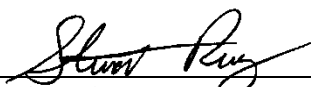
5" below the surface

### Test Results

	<b>Specimen 1</b>	<b>Specimen 2</b>	<b>Specimen 3</b>
<b>Length (in.)</b>	256.0	256.0	255.0
<b>Width (in.)</b>	255.0	255.0	255.0
<b>Thickness (in.)</b>	11.00	11.75	11.00
<b>Initial Mass (g)</b>	147.16	141.47	140.51
<b>Ending Mass (g)</b>	157.75	145.53	147.40
<b>Water Absorption (mass %)</b>	7.20	2.87	4.90

### Result:

**The average observed water absorption for the material tested was 4.99 Mass %.**

  
 Reviewed By: \_\_\_\_\_

5/18/16  
 Date: \_\_\_\_\_



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## Water Vapor Sorption Test Report

Test Number: RD160874WV                      Date of Test: May 10 - 15, 2016

Specimen Number: 1916160505-7,12                      Date of Manufacture: Unknown

Description of Test Specimen: Lewco Hydrophobic Fiberglass Mat

Test Method: ASTM C 1104/C 1104M-13a, "Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation".

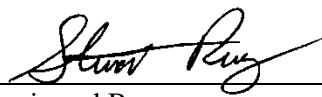
Report Prepared For: Lewco Specialty Products, Inc. / Mr. Peter Zhou

The procedure used to test blanket, board, or pipe insulation products is contained in Section 8 of ASTM C 1104/C 1104M-13a. The procedure is carried out for three specimens of the product. The volume of each test specimen is determined from measurements of the length, width, and thickness. The dry weight of the test specimens is determined after drying to steady state in a 102 to 121 °C environment. The test specimens are brought to a uniform temperature of 60°C before being transferred to an environmental chamber maintained at 49 ± 2 °C and 95 ±3 % relative humidity. The test specimens remain in the environmental chamber for 96 ± 4 hours. At the end of the 96 hour exposure the specimens are sealed in a water impermeable bag and allowed to cool before final weighing. The increase in mass due to the exposure is used to calculate mass % and volume % water sorption relative to the moisture-free material.

### Results:

<b>Specimen:</b>	<b>1</b>	<b>2</b>	<b>3</b>
Volume (cm <sup>3</sup> ):	271.39	267.92	251.36
Moisture-free Mass (g):	47.17	48.31	45.07
Mass after test (g):	47.28	48.53	45.16
Mass % sorbed:	0.23	0.46	0.20
Volume % sorbed:	0.041	0.082	0.036
<b>Average Mass % sorbed:</b>	<b>0.30</b>		
<b>Average Volume % sorbed:</b>	<b>0.053</b>		

The precision of C1104/C1104M-13a has been determined to be 0.02 volume % at the 95 % reproducibility limit for light-density mineral fiber.

  
 Reviewed By:

5/18/16  
 Date: