

**HEAT FLOW METER THERMAL TRANSMISSION
TEST REPORT**

Rendered to:

ODE YALITIM A.S.

SERIES / MODEL: D24, D32, and D48 Insulation Samples

Report No.: A7010.03-116-25
Report Date: 01/28/11
Expiration Date: 01/26/15

**THERMAL PERFORMANCE
TEST REPORT**

Rendered to:

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Istanbul, Turkey

Report No.: A7010.03-116-25
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Project Summary: Architectural Testing, Inc., (ATI) was contracted to conduct thermal conductance/conductivity testing. The test specimens were provided by the client. The specimens were tested in accordance with ASTM C 518-04, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus. Test specimen description, data and results are reported herein.

Test Method: The test specimen was evaluated in accordance with the general requirements of ASTM C 518, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus, with the exception that results are reported in English units. The test method covers the measurement of steady state thermal transmission through flat specimens using a heat flow meter apparatus. This is a comparative method of measurement and must be calibrated to a specimen traceable to a recognized national standards laboratory. The apparatus was calibrated with Standard Reference Material 1450c dated March 5, 1997 supplied by the National Institute of Standards

Specimen/Project Description:

Series/Model: D24, D32, and D48 Insulation Samples

Testing Conditions: Cold plate temperature 50°F nominal
Warm plate temperature 100°F nominal
Mean specimen temperature 75°F nominal
Vertical heat flow (Down) – Horizontal specimen
Single specimen configuration
Heat flux transducer on warm side

Testing Conditions: (continued)

Specimen test size 24" x 24", metering size 4" x 4"
Specimen average thickness: *Per Specimen*
Specimen average density: *Per Specimen*

Results:

Test specimen #1: D24 Insulation, 1.0 Inches, Density = 1.35 Ft³

Average thermal conductance (c)	0.266 Btu/hr·ft ² ·°F
Average thermal resistance (R)	3.77 hr·ft ² ·°F/ Btu
Average thermal resistance (Rsi)	0.663 m ² ·K/W
Apparent thermal conductivity (k)	0.266 Btu-in/hr·ft ² ·°F

Test specimen #2: D32 Insulation, 1.75 Inches, Density = 1.03 Ft³

Average thermal conductance (c)	0.171 Btu/hr·ft ² ·°F
Average thermal resistance (R)	5.85 hr·ft ² ·°F/ Btu
Average thermal resistance (Rsi)	1.03 m ² ·K/W
Apparent thermal conductivity (k)	0.299 Btu-in/hr·ft ² ·°F

Test specimen #3: D48 Insulation, 1.0 Inches, Density = 2.85 Ft³

Average thermal conductance (c)	0.236 Btu/hr·ft ² ·°F
Average thermal resistance (R)	4.24 hr·ft ² ·°F/ Btu
Average thermal resistance (Rsi)	0.747 m ² ·K/W
Apparent thermal conductivity (k)	0.236 Btu-in/hr·ft ² ·°F

The duration of the measurement portion of the test was 40 minutes. The test was run until stability over five successive readings, taken 10 minutes apart, was achieved.

ANSI/NCSL Z540-2-1997 type B uncertainty for this test is estimated to be less than 3%.

This report will be retained by ATI for a period of four years. The above results are the exclusive property of the client so named herein and are applicable only to the sample tested. This report does not constitute an opinion or endorsement by this laboratory. This report may not be reproduced except in full without the approval of ATI. For information on precision and bias see ASTM C 518-04 Section 10.

For ARCHITECTURAL TESTING, INC.:

TESTED BY:

REVIEWED BY:

Dale C. White
Technician

Michael J. Thoman
Director - Simulations & Thermal Testing
Simulator-In-Responsible Charge

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix A: None

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.01R0	1/26/2011	All	Original Report Issue

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