



# CONSTRUCTION MATERIALS

## TECHNOLOGIES

### LABORATORY TEST RESULTS

**Report for:** Isonem  
ITOB OSB 10001 SK.NO:20  
Tekeli Menderes  
Izmir  
Turkey

**Attention:** Behiye Baser

<b>Product ID(s):</b> Thermal Paint	<b>Manufacturer:</b> Isonem
<b>Date Received:</b> Apr. 23, 2015	<b>Source:</b> Isonem
<b>PRI-CMT Project No.:</b> ISNM-002-02-01	<b>Test Date(s):</b> Jun. 2, 2015 – Jun. 8, 2015

**Purpose:** Determine the thermal resistance in accordance with **ASTM C 518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.**

Product is a liquid-applied coating. Product was applied to a high-density polyisocyanurate foam insulation (i.e. ASTM C1289 Type II Class IV) substrate to facilitate testing; heat transfer calculations were performed to isolate and determine thermal resistance of product.

**Test Methods:** Testing was completed as outlined in ASTM C 518: *Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus*. Thermal resistance specimens were evaluated as received.

A Holometrics (Netzch-Gerätebau GmbH) Model Lambda 2300 was used for the ASTM C 518 testing. This instrument was calibrated on May 24, 2015 using 1450c NIST traceable primary standards. The calibration used multiple temperature points. The instrument has two heat flux transducers. The instrument is verified weekly using the 1450c NIST traceable primary standards. The measurement uncertainty of this instrument, taking into account the standard only, is estimated at 2.6 percent with 95 percent confidence as estimated in NIST Special Publication 260-130. The instrument uncertainty is estimated at a maximum of 1.0 percent with 95 percent confidence based upon repetitive determinations of the 1450c standard and instrument specifications.

**Product Sampling:** Specimens were received by PRI.

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**Results of Testing:**

ASTM C 518 (inch-pound units)

Sample	Weight (lb)	Length (in)	Width (in)	Thickness (in)	Density (pcf)	Mean Temperature (°F)	Temperature Differential (°F)	Temperature Gradient (°F/in)	Thermal Conductivity k (Btu-in / ft <sup>2</sup> ·°F·h)	Thermal Resistance R (°F·h-ft <sup>2</sup> / Btu)
Substrate ONLY	0.366	12.0	12.0	0.469	9.36	78.7	43.4	92.8	0.2043	2.29
Substrate + Thermal Paint	0.986	12.0	12.0	0.602	19.65	77.2	43.3	71.6	0.2443	2.47
<b>Thermal Paint<sup>1</sup></b>	<b>0.620</b>	<b>12.0</b>	<b>12.0</b>	<b>0.133</b>	<b>55.94</b>				<b>0.7389</b>	<b>0.18</b>

Note(s): 1- Calculated values shown; unit conversion and heat transfer principles applied.

ASTM C518 (SI units)

Sample	Weight (kg)	Length (cm)	Width (cm)	Thickness (cm)	Density (kg/m <sup>3</sup> )	Mean Temperature (°C)	Temperature Differential (°C)	Temperature Gradient (K/m)	Thermal Conductivity k (W / m · K)	Thermal Resistance R (m <sup>2</sup> · K / W)
Substrate ONLY	0.166	30.5	30.5	1.19	149.9	25.9	24.1	2030.7	0.0294	0.404
Substrate + Thermal Paint	0.447	30.5	30.5	1.53	314.8	25.1	24.0	1567.1	0.0352	0.436
<b>Thermal Paint<sup>1</sup></b>	<b>0.281</b>	<b>30.5</b>	<b>30.5</b>	<b>0.34</b>	<b>896.1</b>				<b>0.1066</b>	<b>0.032</b>

Note(s): 1- Calculated values shown; unit conversion and heat transfer principles applied.

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**Statement of Attestation:** The thermal resistance of these materials was determined in accordance with **ASTM C 518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.** Thermal resistance of the component of interest, Product ID: Thermal Paint, was calculated using heat transfer principles. The laboratory test results presented in this report are representative of the material supplied.

Signed:   
Brad Grzybowski  
Managing Director

Date: 07/07/2015

**Report Issue History:**

Issue #	Date	Pages	Revision Description (if applicable)
Original	07/07/2015	3	NA

**END OF REPORT**

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