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the painting and coating application industries,  
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## **approved product list**

**See the following categories for  
Ceramic InsulCoat™ Coatings:**

Category #40

Category #110 Type 3

Category #113

Category #34

Category #52

Category #99



# Inchcape Testing Services

## Warnock Hersey

211 Schoolhouse Street, Coquitlam, B.C. V3K 4X9 Canada

Telephone (604) 520-3321

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REPORT OF: Product Evaluation

AT: Coquitlam Laboratory

PROJECT: 484-8091

REPORTED TO: Envirocoat Technologies Inc.

DATE: Nov. 8/95

REPORT NO: 1/95

ORDER NO:

Page: 1 of 2

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### INTRODUCTION

Warnock Hersey Professional Services Ltd., at the request of Envirocoat Technologies Inc., has conducted testing on submitted "Ceramic Insulcoat" permanent coating as per proprietary instructions.

Testing was conducted to determine the variation in temperature between two sides of a thermal chamber separated by the coating membrane and R-24 building insulation.

### PRODUCT DESCRIPTION

(3) 15-1/2" x 15-1/2" x 0.006" thick sheets of "Ceramic Insulcoat" coating, white in colour manufactured and submitted to our Coquitlam laboratory by Envirocoat Technologies Inc.

(1) batt of Manville Fibreglass building insulation R-12; doubled up to make R-24

### TEST METHOD #1 - (Tests 1 - 8)

The two different barriers were placed vertically in the thermal chamber to divide it into two compartments. The chamber consisted of an enclosed plywood box 42" in length x 17" in width x 15" in height. In one of the compartments was a 100 W lightbulb for a heat source and a 35°C thermostat, and ice cooled to -10°C in 2-2 litre buckets, was used as a cold source in the thermal chamber with the 100 W lightbulb removed. Two thermocouple wires were placed one inch from either side of the barrier. A Fluke Hydra Data Bucket was used to automatically record temperature measurements at 30 second intervals on each side of the membrane.

### TEST METHOD #1 - (Tests 1 - 6) - *continued*

Six tests were conducted including:

1. Heat source with ceramic insulcoat membrane installed
2. Heat source with membrane removed
3. Cold source with ceramic insulcoat membrane installed
4. Cold source with membrane removed
5. Heat source with R-24 building insulation
6. Cold source with R-24 building insulation

## TEST RESULTS

### 1. Heat Source with Ceramic Insulcoat Membrane Installed

The heated compartment reached a maximum temperature of 36.2°C while the non-heated side maintained a temperature of 20.4°C. The maximum temperature difference between the two compartments was 15.8°C for the duration of the test.

### 2. Heated Source with Ceramic Insulcoat Membrane Removed

As anticipated without any barrier between the two compartments the temperature difference between the two sides was consistently 0.5°C.

### 3. Cold Source with Ceramic Insulcoat Membrane Installed

The cooled compartment reached a lowest temperature of 13.2°C while the non-cooled side maintained a temperature of 19.1°C. The maximum temperature difference between the two compartments was 5.9°C for the duration of the test.

### 4. Cold Source with Ceramic Membrane Removed

As anticipated without any barrier between the two compartments the temperature difference between the two sides was consistently 0.8°C.

### 5. Heat Source with R-24 Batt Insulation

The heated compartment reached a maximum temperature of 39.6°C while the non-heated side maintained a temperature of 20.2°C. The maximum temperature difference between the two sides was 19.4°C for the duration of the test.

### 6. Cold Source with R-24 Batt Insulation

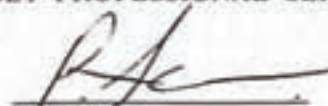
The cooled compartments reached a lowest temperature of 12.9°C while the non-cooled side maintained a temperature of 19.0°C. The maximum temperature difference between the two compartments was 6.1°C.

## CONCLUSION

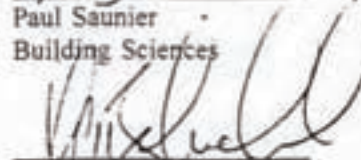
From the testing completed, it is apparent that the "Ceramic Insulcoat" membrane provides a thermal barrier against heat and cold thermal transmission, as tested in comparison with Batt Insulation conforming to CSA Standard A101.

## WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

Reported by:

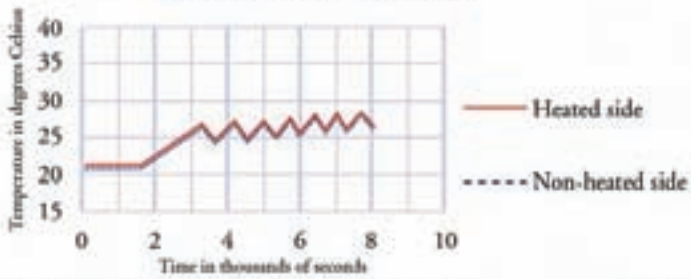
  
Paul Saunier  
Building Sciences

Reviewed by:

  
Ken Zaleschuk, AScT  
Building Sciences

## Entech Coatings

### Temperature vs Time Curve

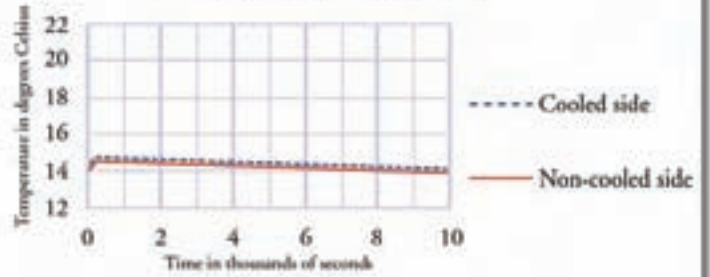


Heated - Ceramic InsulCoat Membrane removed

(Test # 2)

## Entech Coatings

### Temperature vs Time Curve

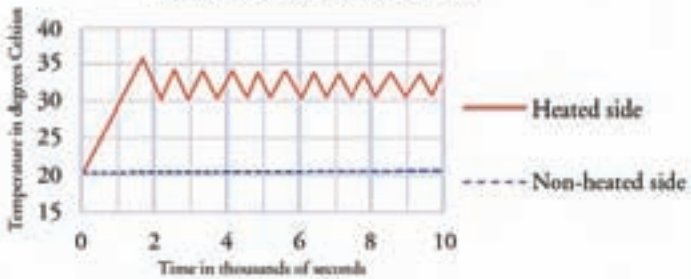


Cooled - Ceramic InsulCoat Membrane removed

(Test # 4)

## Entech Coatings

### Temperature vs Time Curve

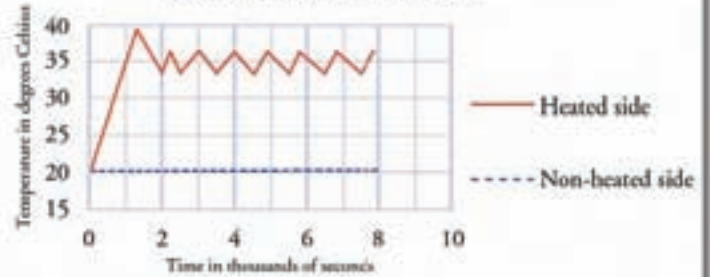


Heated - Ceramic InsulCoat Membrane installed

(Test # 1)

## Entech Coatings

### Temperature vs Time Curve

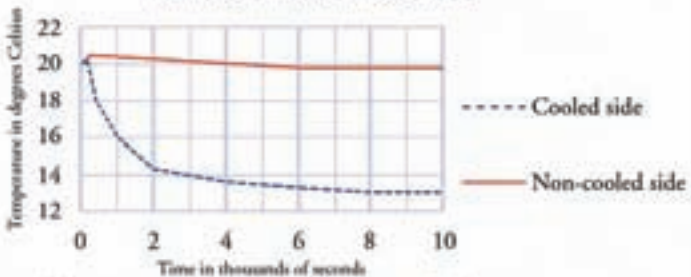


Heated - R:24 Batt Insulation installed

(Test # 5)

## Entech Coatings

### Temperature vs Time Curve

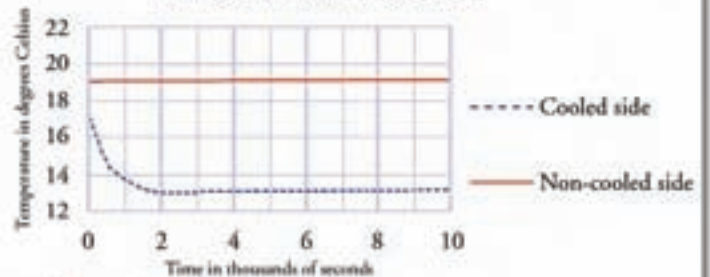


Cooled - Ceramic InsulCoat Membrane installed

(Test # 3)

## Entech Coatings

### Temperature vs Time Curve



Cooled - R:24 Batt Insulation installed

(Test # 6)

### Note to reader:

The attached graphs constitute an integral part of the Inchcape Testing Services - Warnock Hershey product evaluation of Ceramic Insulcoat to determine the variation in temperatures between two sides of a thermal chamber separated by the coating membrane and R:24 building insulation.

# ITS Intertek Testing Services

REPORT OF: Water Permeability Testing

AT: Coquitlam Laboratory

DATE: May 26/97

PROJECT: 488-0427

REPORT NO: 1/97

REPORTED TO: Envirocoat Technologies Inc.

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## INTRODUCTION

At the request of Envirocoat Technologies, Inc., Intertek Testing Services NA Ltd./Warnock Hersey has conducted *Water Permeability* testing on an acrylic cementitious membrane combination, applied on 1 inch thick expanded polystyrene insulation.

## PRODUCT DESCRIPTION

Manufacturer: Envirocoat - Plycap

Product Name: Ceramic Insulcoat applied over Insulcrete

Description: Two part liquid applied membrane Ceramic Insulcoat - Wall, applied over cementitious Insulcrete base

## TEST PROCEDURE

The test set-up was filled with water to a depth of approximately 6 ins. and examined at 96 hours (four days) and again at 168 hours (seven days) for any leakage that may occur. A color changing moisture indicator was used to determine if water had leaked through the system.

At the seven day mark, the system was taken apart and examined to determine if water had penetrated the membrane to the insulation. Thickness measurements were taken over a representative area of the membrane.

Note: Due to the interface of the white waterproofing layer and the cementitious underlayer, the thickness measurements are approximate.



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**Intertek Testing Services NA Ltd.**


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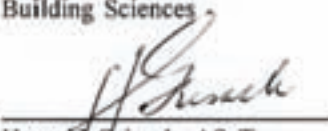
Telephone 604-520-3321 Fax 604-524-9186 Home Page [www.worldlab.com](http://www.worldlab.com)

### TEST RESULTS

- At the end of the seven day period, no water had leaked through the system.
- No water was apparent at the interface of the cementitious layer and the insulation.
- The average thickness of the white waterproofing layer was 0.0126 ins. (12.6 mils)
- The thinnest measurement taken was 0.0085 ins. (8.5 mils)
- The thickest measurement taken was 0.0180 ins. (18.0 mils)

INTERTEK TESTING SERVICES NA LTD.  
Warnock Hersey

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/GN