



# Test Report

---



Intertek Testing Services  
ETL SEMKO



REPORT OF: Temperature Conduction Comparison Test

AT: Coquitlam Laboratory

DATE: Dec. 14, 2001

REVISED DATE: Dec. 18, 2001

PROJECT: 481-2127 / 3015886

REPORTED TO: Meiklejohn Bevanda Meiklejohn Architects Inc.  
233 Bernard Street  
Kelowna, BC V2A 5B4

PAGE: Page 1 of 3

Attention: Mr. Nick Bevanda

## INTRODUCTION

Intertek Testing Services NA Ltd./Warnock Hersey has conducted a Temperature Conduction Comparison Test on a coating submitted to our laboratory by Meiklejohn Bevanda Meiklejohn Architects Inc..

## PRODUCT DESCRIPTION

Thermocote/IC™, an elastomeric acrylic ceramic reflective insulation, manufactured by ProTek-USA.

## TEST SET UP

Two 6" x 6" x 3/8" angle iron pieces were installed through a 2" x 6" wood stud wall, 2' of angle iron protruded from each side of the wall. The wall was insulated with fiberglass R20 insulation and sheeted with 1/2" plywood on each side. The mock wall test assembly was then mounted in the doorway of a cold chamber with 2 of the angle iron pieces into the cold chamber while the other 2 pieces faced into the laboratory. One of the 2 pieces, on the cold side of the test wall, was coated with Thermocote/IC™ to an average thickness of 13 mil. It took 4 coats, applied by brushing, to achieve this thickness. The thickness was determined by an average of readings taken at 3 pre-determined places on the angle iron.

All services undertaken are subject to the following general policy: 1. This report is for the exclusive use of Intertek Testing Services NA Ltd.'s (ITS's) client and is provided pursuant to the agreement between ITS and its client. ITS's responsibility and liability are limited to the terms and conditions of the agreement. ITS assume no liability to any party, other than to the client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. 2. Only the client is authorized to copy or distribute this report and then only in its entirety. Any use of the ITS name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by ITS. 3. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product or service is or has ever been under an ITS certification program.



**TEST RESULTS**

The following equipment was utilized for testing:

- Cold Chamber I.D.# 04583
- Fluke Data Bucket s/n 6729309
- Hand held temperature readout s/n V2310101
- Hand held probe s/n V2920010

Readings, from the 10 thermocouples, were taken every 12 minutes.

The cold chamber was set to 25°C and operated for 6 hours, condensation, on both the coated and uncoated angle iron, was noted approximately 2 hours into the test, the test was continued for an additional 4 hours at which time small beads of water formed on both the coated and uncoated pieces of angle iron. Temperature on warm side was 16 °C with a RH reading of 44%.

The temperature in the cold chamber was then raised to -15°C for a period of 16-1/2 hours at which time a very small amount of condensation was noted on both the coated and uncoated pieces of angle iron. Temperature on warm side was 18° C with an RH reading of 45%.

A total of 10 thermocouples (5 on each) were placed on the angle iron. The thermocouples were placed as follows:

Uncoated Angle	Coated Angle	Thermocouple Placement
TC # 1	TC # 6	on angle 1" from end of angle on cold side
TC # 2	TC # 7	on angle 1" from plywood sheeting on cold side
TC # 3	TC # 8	on angle in middle of stud wall
TC # 4	TC # 9	on angle 1" from plywood sheeting on warm side
TC # 5	TC # 10	on angle 1" from end of angle on warm side

**Test Temp. -15 C**

T.C. #	Average Test Temperature
1	-15.1 C
6 coated angle	-15.1 C
2	-9.4 C
7 coated angle	-10.1 C
3	-2.0 C
8 coated angle	-2.3 C
4	5.4 C
9 coated angle	14.5 C
5	15.5 C
10 coated angle	15.3 C

**Test Temp. -25 C**

T.C. #	Average Test Temperature
1	-23.9 C
6 coated angle	-23.8 C
2	-16.4 C
7 coated angle	-17.2 C
3	-7.0 C
8 coated angle	-7.3 C
4	2.0 C
9 coated angle	16.4 C
5	13.9 C
10 coated angle	13.8 C

See Appendix A for graphs of the different thermocouples at the 2 test temperatures and Appendix B for test set up.

TEST RESULTS - *continued*

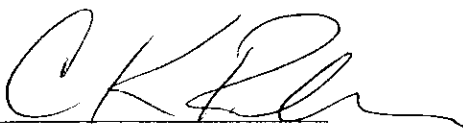
Warm Side Temperature	Relative Humidity	Dew Point Temperatures
21 °C	25 %	0 °C
21 °C	30 %	3 °C
21 °C	35 %	5 °C
21 °C	40 %	6.5 °C
23 °C	25 %	2 °C
23 °C	30 %	4 °C
23 °C	35 %	7 °C
23 °C	40 %	8.5 °C

**DEFINITION OF DEW POINT TEMPERATURE**

This is the temperature below which moisture will condense out of air. Air that is holding as much water vapour as possible is saturated or at its dew point. Water will condense on a surface that is below the dew point temperature of the air.

**INTERTEK TESTING SERVICES NA LTD.**  
Warnock Hersey

Reported by:   
Dave Rowlandson  
Technician, Building Materials

Reviewed by:   
Cam Robinson, P. Eng.  
Manager, Construction Products

DR/lrh