

# TEST REPORT



**REPORT NUMBER: 100539045COQ-001**  
ORIGINAL ISSUE DATE: December 20, 2011

**EVALUATION CENTER**  
Intertek Testing Services NA Ltd.  
1500 Brigantine Drive  
Coquitlam, B.C. V3K 7C1

## RENDERED TO

**Contego International Inc.**  
**334 Greyhound Pass West**  
**Carmel, IN**  
**46032-7007**

PRODUCT EVALUATED: 2x4 wood stud and OSB wall coated with  
Contego Intumescent Coating  
EVALUATION PROPERTY: Fire Resistance

**Report of testing 2x4 wood stud and OSB wall coated with  
Contego Intumescent Coating for compliance with the applicable  
requirements of the following criteria: 15 minute burn through  
under CAN/ULC S101-07 furnace conditions.**

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## 2 Introduction

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Intertek Testing Services NA Ltd. (Intertek) has conducted testing for Contego International Inc. to evaluate their 2X4 wood stud and OSB wall assembly coated with Contego Intumescent Coating. This test was to evaluate the assemblies' ability to resist burn through when exposed to the furnace conditions of CAN/ULC S101-07, *Standard Test Methods for Fire Tests of Building Construction and Materials*, for a 15 minute time period. As specified by the client, the conditions of acceptance were to observe for through openings and flaming on the unexposed side only.

## 3 Test Samples

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### 3.1. SAMPLE SELECTION

Sample components were submitted to Intertek directly from the client, and were received at the Evaluation Center on December 9, 2011. Intertek did not select the specimens and has not verified the composition, manufacturing techniques or quality assurance procedures.

### 3.2. SAMPLE AND ASSEMBLY DESCRIPTION

Frame:	4 ft. by 6 ft. 2x4 wood stud framed 16 in. oc
Substrate:	3/8 in. thick Jager Alien OSB wallboard substrate
Joints:	There were no joints in the OSB panel
Intumescent Paint:	"Contego Passive Fire Barrier" latex intumescent Coating
Paint Thickness:	16 mil wet

The test specimen identification is as provided by the Client and Intertek accepts no responsibility for any inaccuracies herein.

## **4 Testing and Evaluation Methods**

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### **4.1. TEST WALL CONSTRUCTION**

The test sample consisted of a 6 ft. wide by 4 ft. high wall constructed using nominal 2 in. by 4 in. wood studs, located 16 in. on centre with a single bottom and top plate. 3/8 in. thick OSB was fastened to one side of the framing. The coating, identified by the Client as "Contego Passive Fire Barrier" Latex Intumescent Coating, was applied to a thickness of 16 mil wet on the OSB side of the wall. The assembly was built and the coating was applied by the client.

### **4.2. THE FIRE TEST**

The test wall assembly was mounted in the pilot-scale vertical furnace mounting frame. Additional concrete block was placed below the wall assembly, and the assembly was clamped to the front of the test furnace. See Appendix A – Photographs. The moveable frame containing the test wall assembly was secured to the furnace. The pilot burners were ignited and burned until the temperature inside the furnace reached  $20 \pm 2^\circ\text{C}$  ( $70 \pm 3^\circ\text{F}$ ). All burners were fired and timing was begun immediately upon achieving maximum high fire.

The temperatures inside the furnace are monitored by six equally spaced thermocouples. These readings were recorded by a Yokogawa data acquisition system (ID no. WH D3593/WH D3595) recorded every 30 seconds and displayed every 15 seconds. See Appendix B – Temperature Data. The wall assembly was subjected to the standard time/temperature curve of CAN/ULC S101-04 and the unexposed surface was observed.

### **4.3. CONDITION OF ACCEPTANCE**

As specified by the Client, the conditions of acceptance were to observe for through openings and flaming on the unexposed side only. The term "through opening" was defined as the ability for an opening to form where it is possible to see through the wall to the exposed side when looking perpendicular to the plane of the assembly at the location of the suspected opening. Flaming on the unexposed side of the wall assembly can not occur.

### **4.4. DEVIATION FROM THE TEST STANDARD**

This test was performed under the direction of the Client. The furnace was controlled as described in CAN/ULC S101-07 but the following requirements of the test standard were not met:

1. The test sample was smaller than 100 sq. ft.
2. The temperature rise on the unexposed surface was not monitored. Only burn through and flaming criteria were recorded.

## 5 Testing and Evaluation Results

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### 5.1. FIRE TEST OBSERVATIONS

Time (min.)	Exposed Side	Unexposed Side
1:14	Surface discolouration	
2:50	Light flaming on the surface	
4:10	Screw heads are exposed	
8:16	Minimal flaming on the surface	
9:16	Flaming increasing near the bottom of the panel	
10:15		Surface venting
11:40		Surface venting is increasing
12:00		Dark patches are appearing
15:00		Wall remains intact
17:30	Cracks are appearing on the surface	
23:00		More dark patches are appearing, studs are discolouring
25:25		Glowing at the bottom of the wall
25:35	Test discontinued	Flaming

## 6 Conclusion

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The Contego International Inc. pilot-scale wall assembly prevented burn through to the unexposed side of the entire area of the wall for 25 minutes 35 seconds when exposed to the furnace conditions of CAN/ULC S101-07, *Standard Test Methods for Fire Tests of Building Construction and Materials*. Consequently, the assembly met the requirements of preventing through openings and flaming on the unexposed side of the wall as specified by the Client.

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

### INTERTEK TESTING SERVICES NA LTD.

Tested and  
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## APPENDIX A

Photographs



Unexposed Side Prior to the Fire Test



Exposed Side Prior to the Fire Test





Unexposed Side During the Fire Test at 15 Minutes



Unexposed Side After the Failure of the Fire Test

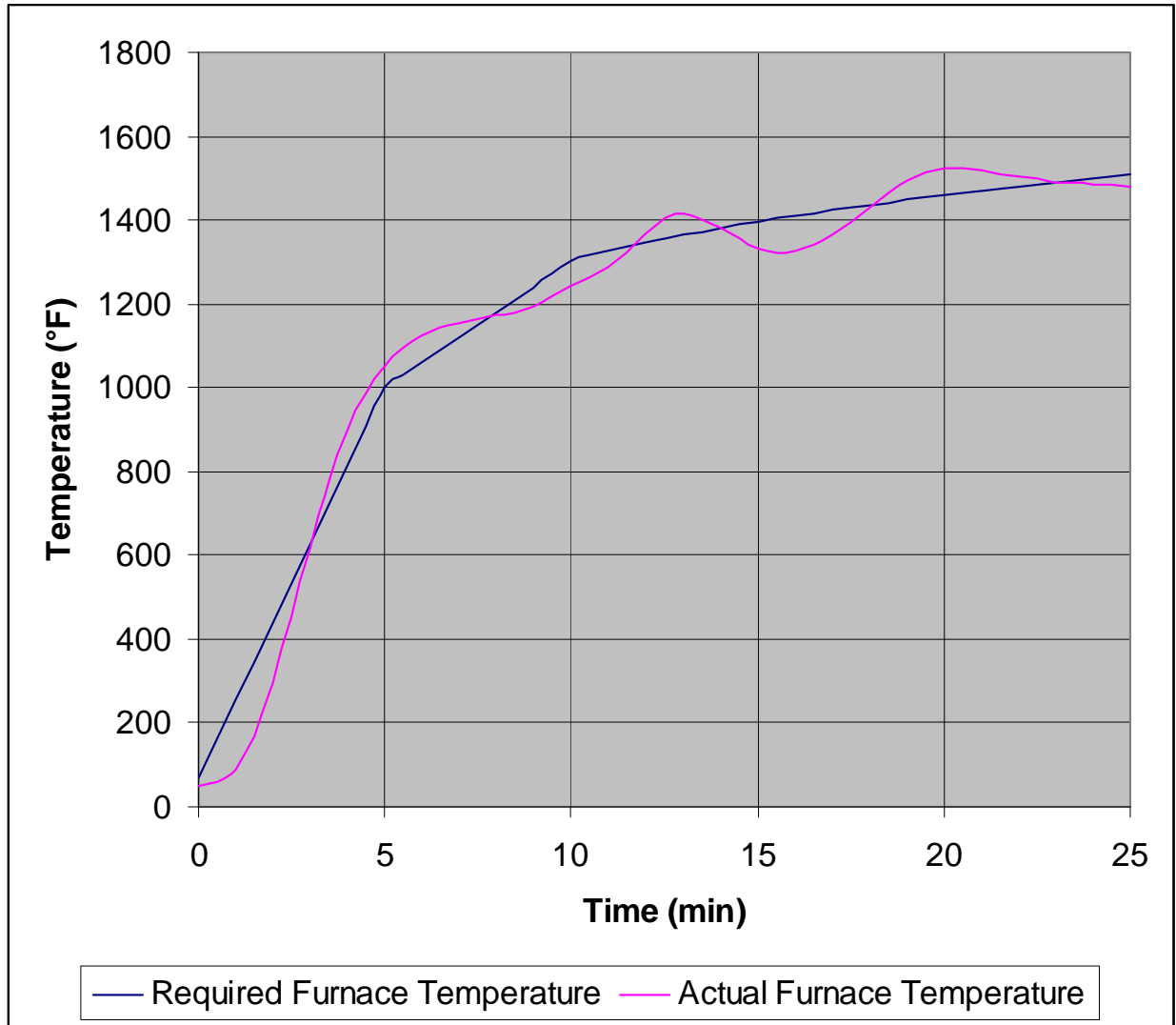


Exposed Side After the Fire Test

## APPENDIX B

### Temperature Data

### TIME TEMPERATURE CURVE AVERAGE TEMPERATURE OF FURNACE DURING THE FIRE TEST



REVISION SUMMARY

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