



**Western Fire Center, Inc.**

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Testing of Decking in Accordance with CSFM Test  
Procedure 12-7A-4A

**Covered Product:**  
**Tiger Deck™ Tigerwood Decking**

**Report# 11073**

**WFCi Project# 11073**

Rendered to:

**Tiger Deck LLC**  
**Wilsonville, Oregon**

**TESTING COMPLETED: MAY 25, 2011**

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## INTRODUCTION

This report documents the successful fire testing of **Tiger Deck® tigerwood decking** in accordance with the requirements described in the 2010 California Building Code, Chapter 7A [for SFM], “*Materials and Construction Methods for Exterior Wildfire Exposure*”.

## SUMMARY OF THE TEST METHOD

The Conditions of Acceptance of State Fire Marshal standard 12-7A-4a is as follows:

Underflame Test

Peak heat release rate of less than or equal to 25 kW/ft<sup>2</sup> (269 kW/m<sup>2</sup>)

## SAMPLE DESCRIPTION

The hardwood deck boards were received at WFCi on May 23, 2011. Information provided by the client represented that the solid wood boards consisted of tigerwood (astronium) hardwood, and the deck boards are described as follows:

Grooved edge, nominal 1 x 4 (5/8” thick x 3-7/16” wide), reddish brown in color. The back surface of the deck boards was embossed with the name “Tiger Deck LLC”, and carried a WCLIB ink stamp as depicted below (this grade stamp is from a representative product). The measured oven dry density was determined to be 55 lb/cu.ft (as determined by WFCi).



The deck boards were tested at a moisture content of 12%, as measured by the ASTM D4442 ‘oven dry’ method. The specimen was not subjected to accelerated weathering.

Care was taken to maintain an edge to edge spacing of the deck planks at 3/16”. The resulting top deck surface area was **4.2 sq.ft.**

The deck planks were supported by two 2x6 Douglas fir joists (10% m.c.), 28 inches long with 16 inch center to center spacing. The boards were attached to the joists with standard deck screws.

## TEST RESULTS

Observations from individual tests, heat release curves and summaries of test results are presented in Table 1. Testing was performed on January 20, 2011. Heat release plots are presented in Figures 1-3. Photographs from a representative test are provided in Appendix A.

Table 1. Part A – Under-Flame Test Results

<b>Test Parameters</b>	<b>Test Criteria</b>	<b>Test 1</b>	<b>Test 2</b>	<b>Test 3</b>
Peak Heat Release Rate (HRR) (kW)	--	132	133	138
Net Peak Heat Release Rate (Peak HRR – 80kW)/4.2 s.f	25 (max)	12	13	14
Sustained Flaming or Glowing	No	No- all signs of combustion absent at test termination (39 minutes)	No- all signs of combustion absent at test termination (37 minutes)	No- all signs of combustion absent at test termination (38 minutes)
Flaming Drops	No	No	No	No
Structural Failure	No	No	No	No
<b>Results</b>		<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

**Post test observations:** tested decks were in good structural condition, with signs of charring on the top surface limited to the edge-to-edge gaps.

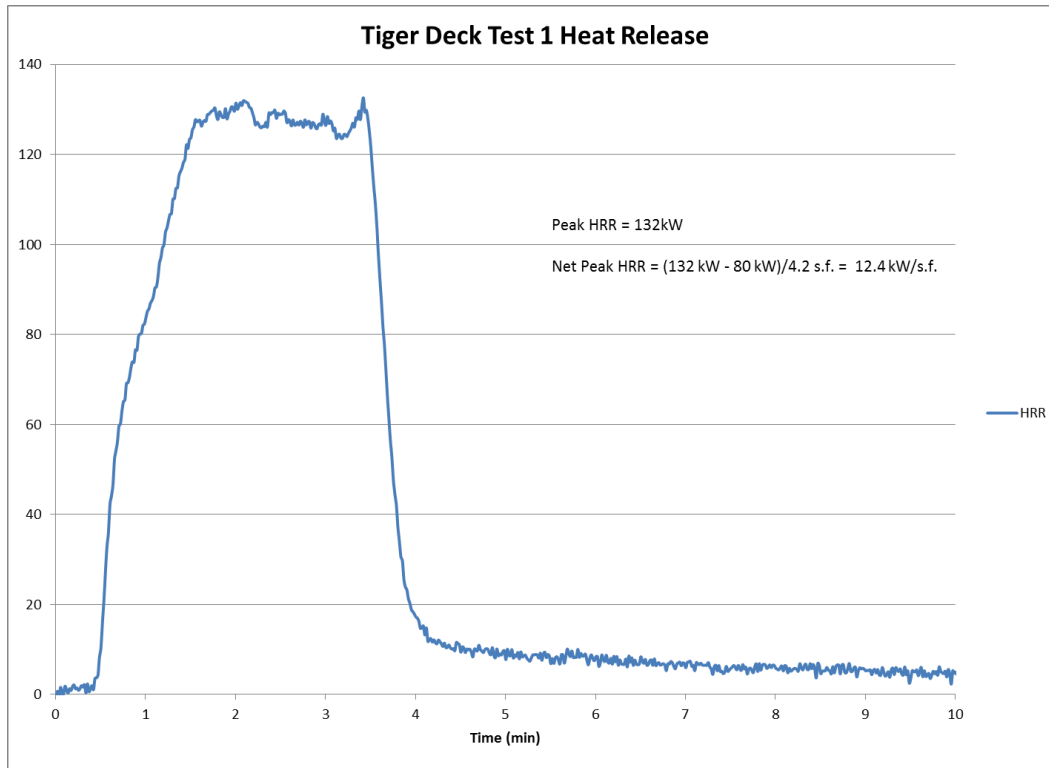


Figure 1. Heat Release Rate Plot – Test 1

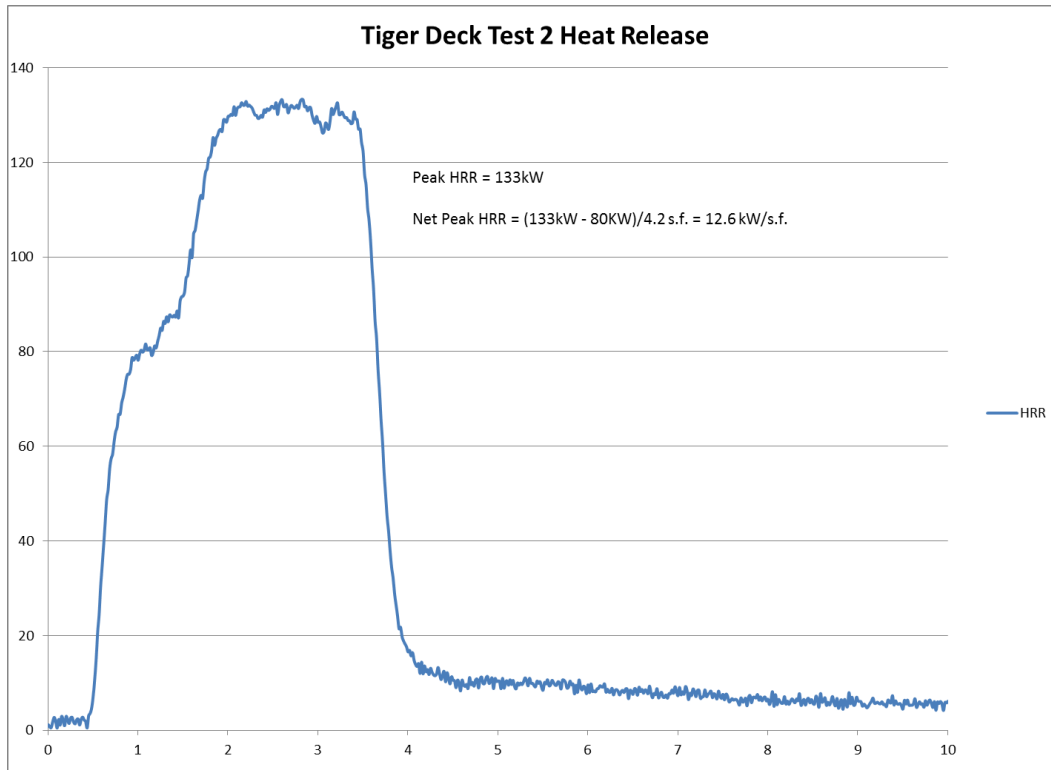


Figure 2. Heat Release Rate Plot – Test 2

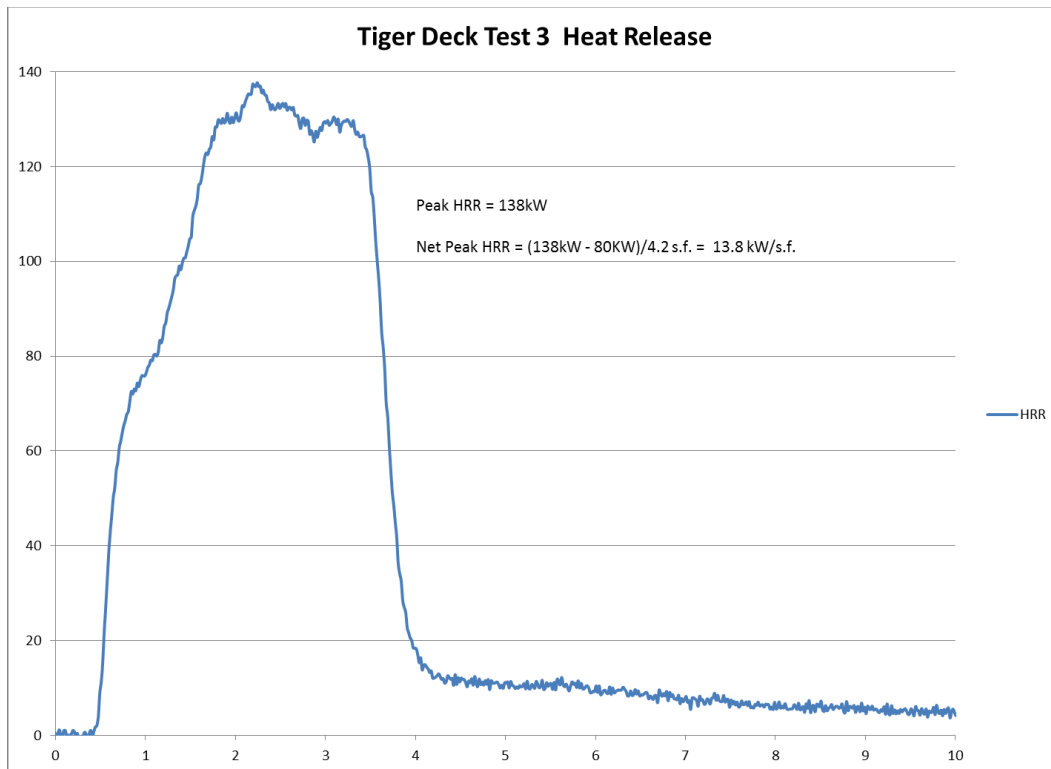


Figure 3. Test 3 Heat Release Rate Plot

## **CONCLUSION**

The Tiger Deck tigerwood deck product described in this report is deemed to meet the requirements of the 2010 California Building Code, Chapter 7A [for SFM], “*Materials and Construction Methods for Exterior Wildfire Exposure*”. The test results as reported herein are deemed to apply to deck planks of thicker and wider dimensions than those tested. Tiger Deck is produced in nominal sizes of 1 x 4, 5/4 x 4, 1 x 6 and 5/4 x 6. The testing of the narrowest and thinnest product, as was conducted in this test, is deemed to be the ‘worst case’ condition. In addition, the tested item included edge grooves to facilitate the use of hidden fasteners. The ‘edge groove’ condition represents the more onerous condition, and is deemed to represent the ‘square edge’ condition.

## **SIGNATURE PAGE**

Prepared and Approved by,

A handwritten signature in black ink, appearing to read "Howard Stacy". The signature is fluid and cursive, with the first name "Howard" and last name "Stacy" clearly distinguishable.

Howard Stacy  
Director, Testing Services

**WESTERN FIRE CENTER AUTHORIZES THE CLIENT NAMED HEREIN TO REPRODUCE  
THIS REPORT ONLY IF REPRODUCED IN ITS ENTIRETY**

The test specimen identification is as provided by the client and WFCi accepts no responsibilities for any inaccuracies therein. WFCi did not select the specimen from inventory, it has not verified the composition, manufacturing techniques or quality assurance procedures.



## Appendix A – Test Photographs



Prior to test



Start of test



Immediately post fire exposure



Test time = 13 minutes



Deck surface post test



Deck underside post test