

INTERTEK TESTING SERVICES NA INC.

8431 MURPHY DRIVE
MIDDLETON, WISCONSIN 53562
PHONE: (608) 836-4400

TEST DATE: NOVEMBER 7, 2001
REPORT DATE: NOVEMBER 9, 2001

REPORT NO. 3012742

**FIRE RETARDANCY TEST
OF A SIMULATED THATCHED ROOFING
AS A ROOF COVERING MATERIAL**

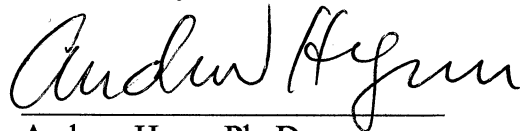
**FOR
COUNTRY COTTAGE ROOF
RT. 10
LAKE CITY, FL 32025**

PHONE: 904-752-4502
FAX: 904-755-3233

Reported by,


Edwin Rabuck
Testing Engineer

Reviewed by,


Andrew Hyun, Ph. D.
Project Manager

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INTRODUCTION

Intertek Testing Services NA (ITS) Fire Testing Laboratory in Middleton, Wisconsin conducted an investigation of the external fire resistance characteristics of a roof covering system.

This test was conducted in accordance with the criteria in UBC Standard 15-2 (1997) "Test Standard for Determining the Fire Retardancy of Roof-Covering Materials" and ASTM E108 - 00 "Standard Test Methods for Fire Tests of Roof Coverings". The test results described in this report are limited to the submitted items.

DESCRIPTION OF MATERIAL AND ROOF COVERING SYSTEM

The product covered by this report is a simulated thatched roof system, manufactured by Country Cottage Roof Inc.

Spread of Flames (Deck #1)

Deck: 5/8" thick Fire Retardant CDX grade plywood deck measuring 40" by 96".

Underlayment: Granulated Colphene FR GR SBS modified bitumen membrane manufactured by Soprema.

Surface: ENDUREED thatch shingles, Type I

Intermittent Flame (Deck #2)

Deck: 5/8" thick Fire Retardant CDX grade plywood deck measuring 40" by 52".

Note: All joints were taped with aluminum foil tape (181A-P/181B-FX-FASSON-0800-4-01).

Underpayment: Granulated Colphene FR GR SBS modified bitumen membrane manufactured by Soprema.

Surface: ENDUREED thatch shingles, Type I

TEST ASSEMBLY CONSTRUCTION

1. The plywood decks were made by ITS personnel according to specifications of the standards.

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2. The test material was submitted by the client.
3. The test assemblies were assembled per installation instructions.
 - The underlayment was heated with a torch and thus adhering it to the plywood with 4" of overlap at seams.
 - The ENDUREED thatch shingle was fastened with 1-1/2" ring shank nails though each provided hole with 5" of exposure and a minimum 4" of stagger.

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DATA

SPREAD OF FLAME TEST RESULTS

(Class "A" Exposure)

Roofing System Description

Type I Thatch/Colphene FR GR

Test Conditions

Test Date:	11/7/2001
Ambient Air Temperature:	65°F
Flame Temperature:	1400 +/-50°F
Flame Duration:	10 minutes (Class A)
Air Velocity:	1056 +/-44 fpm

Test Results

Slope of Test Deck:	5:12
Maximum Flame Spread	1-Foot/0-Inches
Excessive Lateral Flame Spread:	None

<u>Acceptance Level</u> Class	"A"
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SPREAD OF FLAME TEST OBSERVATIONS

<u>TIME</u> <u>MIN:SEC</u>	<u>DISTANCE</u> <u>FEET-INCH</u>	<u>OBSERVATION</u>
0:00	N/A	Gas on.
2:00	N/A	Triangular shaped charring front.
3:00	N/A	Moderate smoke on top of deck.
9:03	1'0"	Attached flame on thatch shingles.
10:00	N/A	Gas off, flame out, Test over.

Maximum flame spread =1'-0".

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INTERMITTENT FLAME TEST RESULTS (Class "A" Exposure)

Roofing System Description

Type I thatch / colphene FR GR

Test Conditions

Test Date: 11/7/2001
Ambient Air Temperature: 65°F
Air Velocity: 1056 +/-44 fpm
Flame Temperature: 1400 +/-50°F or 1300 +/-50°F
Flame Duration: 2 Minute on / 2 Minute off
Number of Cycles: 16

Test Results

Slope of Test Deck: 5:12

Sustained Flaming on
underside of Deck: No

Deck Exposure: No

Test Observations:

The test was continued until all evidence of smoke had stopped or failure occurred

Acceptance Level: Passed Class "A".

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INTERMITTENT FLAME TEST OBSERVATION

CYCLE NO.	TIME MIN:SEC		OBSERVATION
	<u>IGNITION</u>	<u>FLAME OUT</u>	
1			Some melting of shingle.
2			Charring on top deck.
3			No change.
4			No change.
5			No change.
6			No change.
7			Nothing to report on the bottom deck.
8			No change.
9			No change.
10			No change.
11	41:27	42:03	No change.
12			No change.
13			No change.
14			The top deck has a triangular charred pattern with lite smoke.
15	57:05	58:10	End of test.

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CONCLUSION

The Type I thatch, as described herein, tested in accordance with the test method of ASTM E108 at inclines not to exceed 5 inch rise per horizontal foot yielded the following results.

Tests	Type I thatch
Spread of Flame	Passed "A"(1' - 0")
Intermittent Flame	Passed "A"

Note: The above results are for R&D information. Two (2) Spread of Flames decks and two (2) Intermittent Flame decks and four (4) Burning Brand decks must be tested for certification.

This report does not automatically imply product certification.

Products must bear the Warnock Hersey registered certification

mark to demonstrate compliance.

Intrtek Testing Services - Middleton Wisconsin

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Report No.3008502 (09/15/01 to 10/10/01)

BURNING BRAND TESTS RESULTS

Roofing System Description

Type I thatch

Test Conditions

Test Date: 10/10/01
Ambient Air Temperature: 64°F
Air Velocity: 1056 +/-44 fpm
Type of Brands: Class "A"

Test Results

Slope of Test Decks: 5:12

Evidence of smoke
From bottom of deck: No

Evidence of smoke
from the system No

Sustained Flaming on
Underside of deck: No

Deck Exposure: No

BURNING BRAND TEST OBSERVATIONS

<u>Time</u> <u>(min:sec)</u>	<u>Observation</u>
0:00	Flaming brand placed on deck
3:17	Surface ignition.
20:00	Light smoke underside of deck at joint.

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Report No.3008502 (09/15/01 to 10/10/01)

23:40	Light seepage on underside of deck.
24:45	Moderate smoke underside of deck at joint.
25:30	Heavy smoke, moderate seepage on underside of deck.
27:30	Light charring underside of deck at joint.
29:00	Brand flame out, moderate charring underside of deck.
61:00	Brand stopped glowing.
66:00	Brand stopped smoking.
71:00	Glow out underside of deck, test over.

Note: The tests were continued until all visible evidence of smoke and glowing had disappeared or failure occurred.