QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

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CLIENT: **Moso North America**
PO Box 793
Worcester, PA 19490

Test Report Number :	**RJ9246F-2**	**Date:**	**May 31, 2024**

SAMPLE ID: The client identified the following test material as:
Moso Bamboo Thermo decking board.

SAMPLING DETAIL: The samples were sampled by Fey Han a QAI representative on February 27th, 2024 at the clients facility located at [redacted]

DATE OF RECEIPT: Samples were received at QAI facilities on: May 21, 2024.

TESTING PERIOD: May 31, 2024,

AUTHORIZATION: Testing was authorized by Ryan Adamson for proposal 23JL10041R4 signed October 23, 2023

TEST REQUESTED: Evaluate the client's Decking Board system in accordance to CSFM Title 24 12-7A-4.8- which outlines testing to be conducted using the procedures and methods outlined in 709A.1.4.1. " San Diego County Building Code".

TEST RESULTS:

The submitted deck material ***has met*** the requirements of San Diego County Building Code per condition of acceptance Section 709A.1.4.1.5. Detailed test results are provided on the following page.

Detailed test results are provided on the subsequent pages of this report.

Prepared By

Victor Peinado
Fire Lab Supervisor

Signed for and on behalf of QAI Laboratories, Inc.

Jason Friedrich P.E.
Engineering Manager

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DETAILS OF THE TESTING

TEST SAMPLE DESCRIPTION

1.0 Description of Test Specimens

Table 1 outlines the Moso North America Decking Board system evaluated by QAI.Laboratories

COMPONENT	SUPPLIER	COMMENT
Framing Type / Species	Lowes	Moisture Content: 8-12%
2x6 Douglas Fir No.1		
Deck Type	Moso North America	All test specimens were installed following the application instructions of 709A.1.4.1.3
Moso Bamboo Thermo decking board		

Table No. 1: Details of the Moso North America walking deck system test specimens.

DETAILS OF THE TESTING

2.0 Test Set Up and Procedure:

Storage of Assembled Test Decks

All test deck assemblies were stored indoor at temperatures not lower than 60 ºF (16 ºC) nor higher than 90 ºF (32 ºC) for the period of time necessary to cure the assemblies and prior to testing. The test decks were stored in such a manner to assure that each deck was surrounded by free circulating air.

A photograph of the assembled test deck is provided in Appendix B of this report.

Deck Assembly Construction Details

Lumber: Nominal 2" X 6" Douglas Fir, moisture content between 8-12%.

Deck: Moso Bamboo Thermo decking board.

Test Procedure

The apparatus was calibrated in accordance with section 709A.1.4.1.3 of San Diego County Building Code. A modified ASTM E108 compliant test system was used for the test. The test deck was positioned 60 inches from the front opening of the wind tunnel at a zero horizontal incline. The deck was positioned so that the joists were parallel with the airflow. The deck was supported by 2 transverse metal supports of which the top surface was at the same height as the floor of the wind tunnel. The brand was positioned laterally on the deck with the front edge 2 ½" from the entering air edge of the deck. The brand was placed on the deck following the flame application schedule as described in section 709A.1.4.1.3.

2.1 Test Requirements 709A.1.4.1.5

1) Absence of sustained flaming at the conclusion of the 40- minute observation period.

2) Absence of structure failure of any deck board.

3) Absence of falling particles that are still burning when reaching the floor.

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3.0 Test Results

The following summarizes testing conducted by QAI during testing of the Moso North America Moso Bamboo Thermo decking board Decking Board when tested to 709A.1.4.1.-

Client Name:	Moso North America	Criteria:	CSFM Title 24 12-7A-4.8	Framing Type / Species	2x6 Douglas Fir No.1
Job No.:	RJ9246F-2	Criteria Version:		Sheathing Type / Grade	N/A
Test Method:	709A.1.4.1.			Underlayment 1: Grade / Type:	N/A
Version / Publication of Method:				Underlayment 2: Grade / Type:	
System Type	Decking Board			Joint Compound?	N/A
Test Slope	0:00			Insulation Type / Grade	N/A
Test Degree	0			Roof Covering Material 1 / Grade:	Moso Bamboo Thermo decking board
Burning Brand	Yes			Roof Covering Material 2 / Grade:	
Intermittant Flame	No				
Spread of Flame	No				
Roofing Class	B				

Sample ID: Moso Bamboo Thermo decking board

Test Conditions	Class B Requirement	Average Recorded
Wind Speed (ft/min)	1012 – 1100 ft/min	1056 (ft/min)
Flame Temperature (°F)	1400 ± 50 (°F)	N/A
Burning Brand Weight (grams)	500 ± 50 (grams)	516

Conclusion:

The submitted deck material ***has met*** the requirements of San Diego County Building Code per condition of acceptance Section 709A.1.4.1.5. Detailed test results are provided on the following page.

Class B Burning Brand Test							
Test Date	Test Assembly	Brand Weight (g)	Ignition Time (MM:SS)	Test Termination (MM:SS)	Condition @ Start of Test		Result:
					Temp. (°F)	RH (%)	
5/31/2024	1	517.00	0:01:55	0:40:00	67.0	43	Pass
5/31/2024	2	517.00	0:01:44	0:40:00	67.0	43	Pass
5/31/2024	3	516.00	0:01:40	0:40:00	67.0	43	Pass

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Appendix A: Burning Brand-Test Specimen #1

Client Name:	Moso North America	Criteria:	CSFM Title 24 12-7A-4.8	Framing Type / Species	2x6 Douglas Fir No.1
Job No.:	RJ9246F-2	Criteria Version:	0	Sheathing Type / Grade	N/A
Test Method:	709A.1.4.1.			Underlayment 1: Grade / Type:	N/A
Publication of	0			Underlayment 2: Grade / Type:	
System Type	Decking Board			Joint Compound?	N/A
Test Slope	0:00			Insulation Type / Grade	N/A
Test Degree	0			Roof Covering Material 1 / Grade:	Moso Bamboo Thermo decking board
Burning Brand	Yes			Roof Covering Material 2 / Grade:	
Intermittant Flame	No			Test Temperature (°F)	67
Spread of Flame	No			Test Humidity (%)	43
Roofing Class	B			Test Date	5/31/2024

Sample Id: Moso Bamboo Thermo decking board - Specimen #1

Critical Standard Observations	
Test Duration	0:40:00
Sustained Flaming on Underside of Roof Deck	0:00:00
Production of Flaming Brands of roof covering material	0:00:00
Production of Glowing Brands of roof covering material	0:00:00
Displacement of the Test Sample	0:00:00
Exposure of Portions of the deck	0:00:00
Falling away of portions of the deck	0:00:00
Result	Pass

Brand #	Brand Weight (grams)	Correct?	CC Number
1	517.00	Yes	4
2	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		

General Test Observations

Ignition	0:01:00
Charring at the seam	0:06:20
glowing at the seam	0:10:00
brand stopped flaming	0:16:40
brand stopped glowing	0:28:00
test terminated	0:40:00

Asset Number	Description	Equipment Functional Range	Calibration Date	Calibration Due Date
RP0241	Stop Watch	N/A	11/21/2023	11/21/2024
RF0005	Anemometer	30 FPM to 5000 FPM +14/-	11/21/2023	11/21/2024
TU8124	Digitial Thermometer	-328°F - 2498°F	11/21/2023	11/21/2024
RP0072	Calibrated Tape Measure	0-25 Feet	6/30/2023	6/30/2024
RP0038	Temperature and Humidity Data Logger	-4°F to 158°F +/-0.8°F / 60	11/21/2023	11/21/2024
RE0039	Digital Angle Gauge	0° to 90°	6/30/2023	6/30/2024
RF0031	UL790 Test Chamber	AS PER UL790	5/31/2024	Per USE

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Appendix A: Burning Brand-Test Specimen #2

Client Name:	Moso North America	Criteria:	CSFM Title 24 12-7A-4.8	Framing Type / Species	2x6 Douglas Fir No.1
Job No.:	RJ9246F-2	Criteria Version:	0	Sheathing Type / Grade	N/A
Test Method:	709A.1.4.1.			Underlayment 1: Grade / Type:	N/A
Version / Publication of	0			Underlayment 2: Grade / Type:	
System Type	Decking Board			Joint Compound?	N/A
Test Slope	0:00			Insulation Type / Grade	N/A
Test Degree	0			Roof Covering Material 1 / Grade:	Moso Bamboo Thermo decking board
Burning Brand	Yes			Roof Covering Material 2 / Grade:	
Intermittant Flame	No			Test Temperature (°F)	**67**
Spread of Flame	No			Test Humidity (%)	**43**
Roofing Class	B			Test Date	**5/31/2024**

Sample Id: **Moso Bamboo Thermo decking board- Specimen #2**

Critical Standard Observations	
Test Duration	**0:40:00**
Sustained Flaming on Underside of Roof Deck	**0:00:00**
Production of Flaming Brands of roof covering material	**0:00:00**
Production of Glowing Brands of roof covering material	**0:00:00**
Displacement of the Test Sample	**0:00:00**
Exposure of Portions of the deck	**0:00:00**
Falling away of portions of the deck	**0:00:00**
Result	**Pass**

Brand #	Brand Weight (grams)	Correct?	CC Number
1	517.00	Yes	5
2	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		

General Test Observations

Ignition	**0:01:00**
Charring at the seam	**0:06:20**
glowing at the seam	**0:14:25**
brand stopped flaming	**0:18:22**
brand stopped glowing	**0:23:11**
test terminated	**0:40:00**

Asset Number	Description	Equipment Functional Range	Calibration Date	Calibration Due Date
RP0241	Stop Watch	N/A	11/21/2023	11/21/2024
RF0005	Anemometer	30 FPM to 5000 FPM +14/-	11/21/2023	11/21/2024
TU8124	Digitial Thermometer	328°F - 2498°F	11/21/2023	11/21/2024
RP0072	Calibrated Tape Measure	0-25 Feet	6/30/2023	6/30/2024
RP0038	Temperature and Humidity Data Logger	-4°F to 158°F +/-0.8°F / 60	11/21/2023	11/21/2024
RE0039	Digital Angle Gauge	0° to 90°	6/30/2023	6/30/2024
RF0031	UL790 Test Chamber	AS PER UL790	5/31/2024	Per USE

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Appendix A: Burning Brand-Test Specimen #3

Client Name:	Moso North America	Criteria:	CSFM Title 24 12-7A-4.8	Framing Type / Species	2x6 Douglas Fir No.1
Job No.:	RJ9246F-2	Criteria Version:	0	Sheathing Type / Grade	N/A
Test Method:	709A.1.4.1.			Underlayment 1: Grade / Type:	N/A
Publication of Method:	0			Underlayment 2: Grade / Type:	
System Type	Decking Board			Joint Compound?	N/A
Test Slope	0:00			Insulation Type / Grade	N/A
Test Degree	0			Roof Covering Material 1 / Grade:	Moso Bamboo Thermo decking board
Burning Brand	Yes			Roof Covering Material 2 / Grade:	
Intermittant Flame	No			Test Temperature (°F)	67
Spread of Flame	No			Test Humidity (%)	43
Roofing Class	B			Test Date	5/31/2024

Sample Id: Moso Bamboo Thermo decking board- Specimen #3

Critical Standard Observations	
Test Duration	**0:40:00**
Sustained Flaming on Underside of Roof Deck	**0:00:00**
Production of Flaming Brands of roof covering material	**0:00:00**
Production of Glowing Brands of roof covering material	**0:00:00**
Displacement of the Test Sample	**0:00:00**
Exposure of Portions of the deck	**0:00:00**
Falling away of portions of the deck	**0:00:00**
Result	**Pass**

Brand #	Brand Weight (grams)	Correct?	CC Number
1	516.00	Yes	6
2	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		
	0.00		

General Test Observations

Ignition	**0:01:00**
Charring at the seam	**0:07:20**
glowing at the seam	**0:13:50**
brand stopped flaming	**0:15:17**
brand stopped glowing	**0:29:24**
test terminated	**0:40:00**

Asset Number	Description	Equipment Functional Range	Calibration Date	Calibration Due Date
RP0241	Stop Watch	N/A	11/21/2023	11/21/2024
RF0005	Anemometer	30 FPM to 5000 FPM +14/-	11/21/2023	11/21/2024
TU8124	Digitial Thermometer	-328°F - 2498°F	11/21/2023	11/21/2024
RP0072	Calibrated Tape Measure	0-25 Feet	6/30/2023	6/30/2024
RP0038	Temperature and Humidity Data Logger	-4°F to 158°F +/-0.8°F / 60	11/21/2023	11/21/2024
RE0039	Digital Angle Gauge	0° to 90°	6/30/2023	6/30/2024
RF0031	UL790 Test Chamber	AS PER UL790	5/31/2024	Per USE

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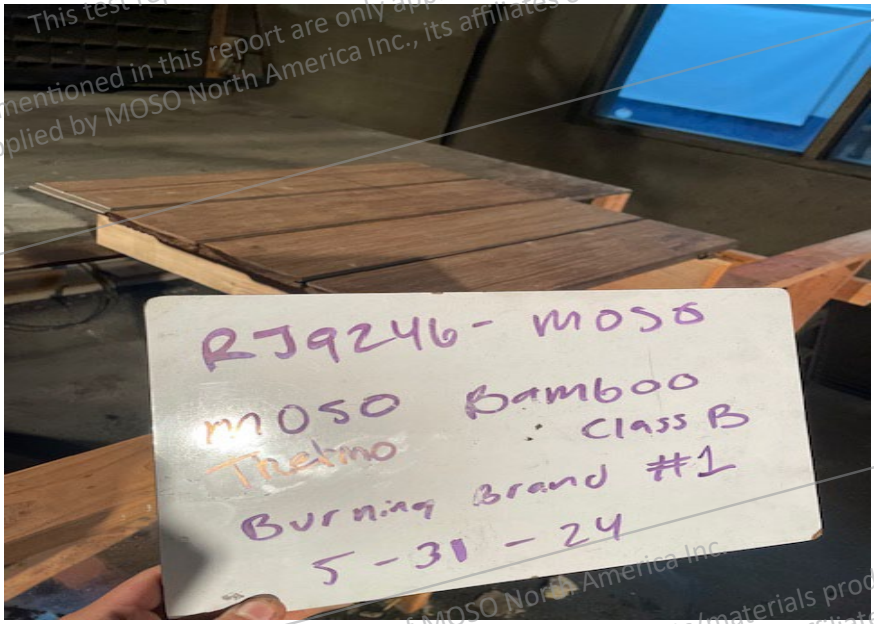
Appendix B: Photographs



Photograph 1: Test #1 Class B Burning Brand.



Photograph 2: Test #1 post test

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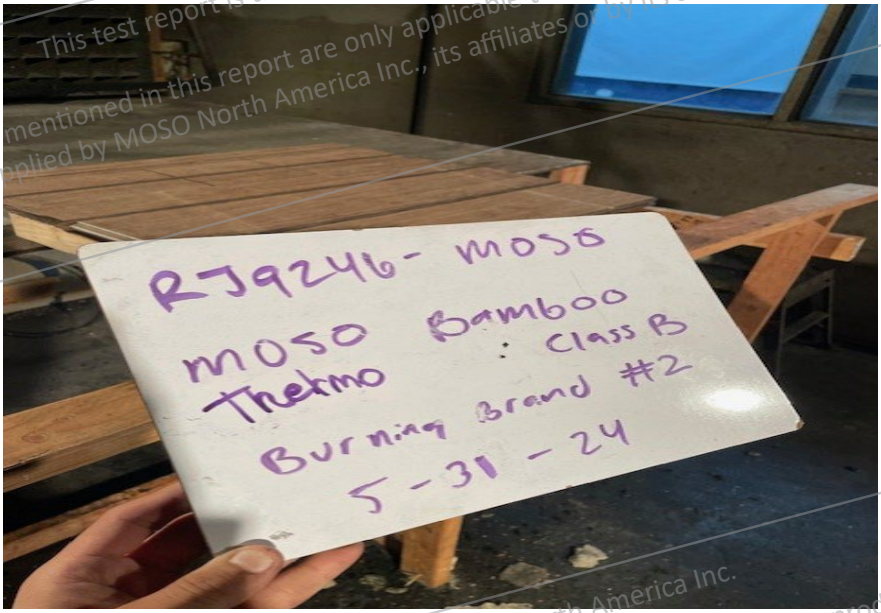
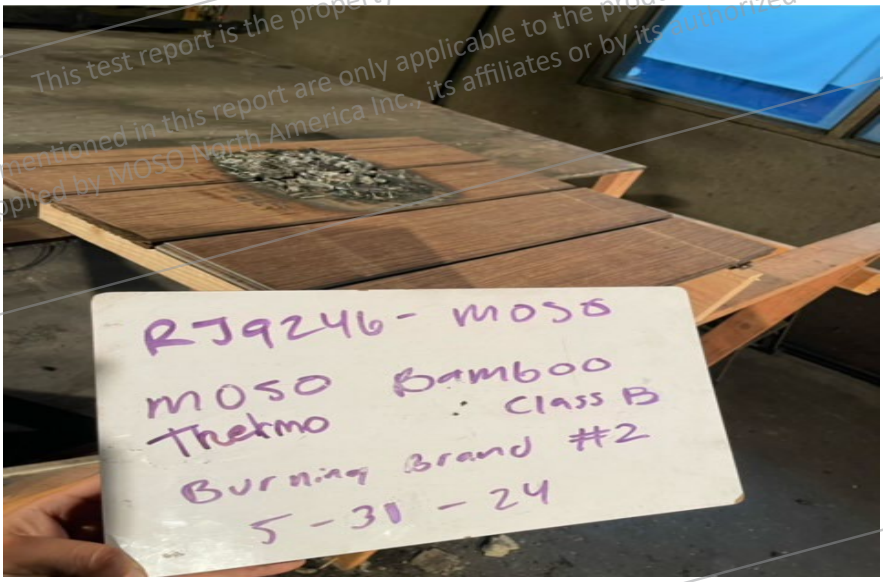


Photograph 3: Test #2 Class B Burning Brand.



Photograph 4: Test #2 post test.

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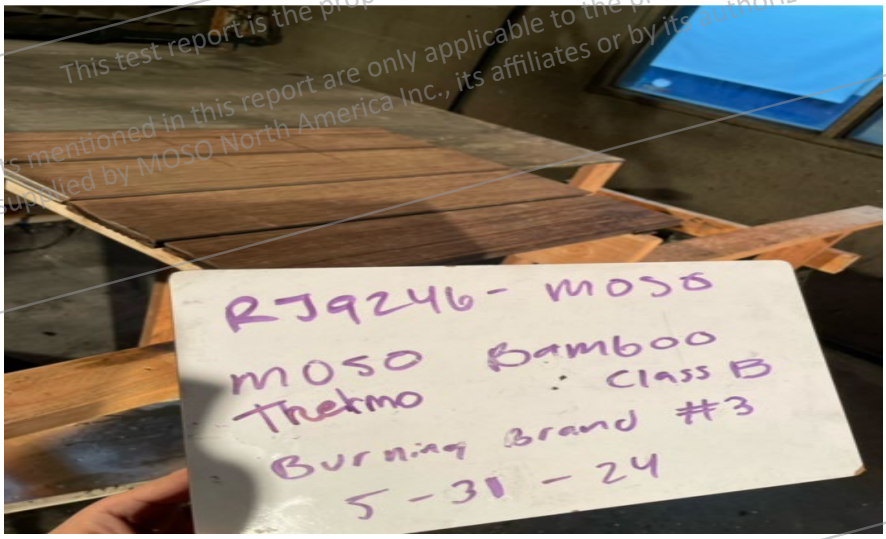
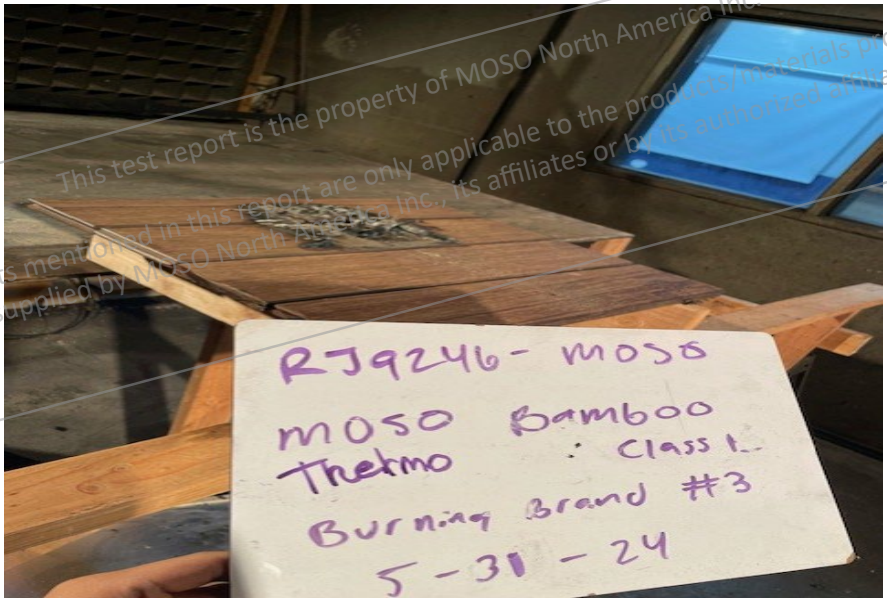


Photograph 5: Test #3 Class B Burning Brand.



Photograph 6: Test #3 post test.

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