

ITS Intertek Testing Services

ITS REPORT NO. J99020051-231

**PRODUCT EVALUATION
OF
FIRE TEST OF ROOF COVERING ASSEMBLY
CONDUCTED ON AN
ALUMINUM ALLOY PANEL SYSTEM: CLASS C
FOR
AMERIMAX BUILDING PRODUCTS, INC.
ELKHART, INDIANA
REPORT DATE: SEPTEMBER 2, 1999**



Warnock Hersey



Intertek Testing Services NA Inc.

8431 Murphy Drive, Middleton, WI 53562

Telephone 608-836-4400 Fax 608-831-9279 Home Page www.worldlab.com

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8431 MURPHY DRIVE
MIDDLETON, WISCONSIN 53562
PHONE: 608 · 836 · 4400

TEST DATE: AUGUST 26 TO 27, 1999

REPORT DATE: SEPTEMBER 2, 1999

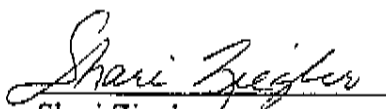
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FIRE TEST OF ROOF COVERING ASSEMBLY
CONDUCTED ON
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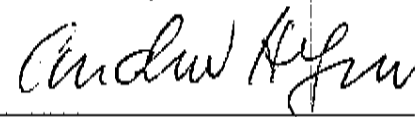
FOR:

AMERIMAX BUILDING PRODUCTS INC.
1140 ALL PRO DRIVE
ELKHART, IN 46514
PHONE: 219 · 262 · 2468

Reported by,


Shari Ziegler
Engineering Secretary

Reviewed by,


Andrew Hyun, Ph. D.
Project Manager

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INTRODUCTION

This report lists the results and evaluation of the external fire resistant characteristics of a aluminum alloy panel roof covering system. The tests were conducted by Intertek Testing Services, NA (ITS) located in Middleton, Wisconsin. The test results described in this report are limited to the submitted items.

This tests were conducted in accordance with UBC Standard 15-2 "Test Standard for Determining the Fire Retardancy of Roof-Covering Materials" and ASTM E108-91a "Standard Test Methods for Fire Tests of Roof Coverings". At the client's request, a 5:12 slope was tested. The test results described in this report are limited to the submitted items.

DESCRIPTION OF MATERIAL AND ROOF COVERING SYSTEM

Test sponsor supplied the test assembly.

Frame: 2" X 4" wood frame (non-combustible material was used at aluminum panel contacting area in leading edge).

Panels: 0.018" thick, 6" Structural aluminum alloy panel (see Figure 1).

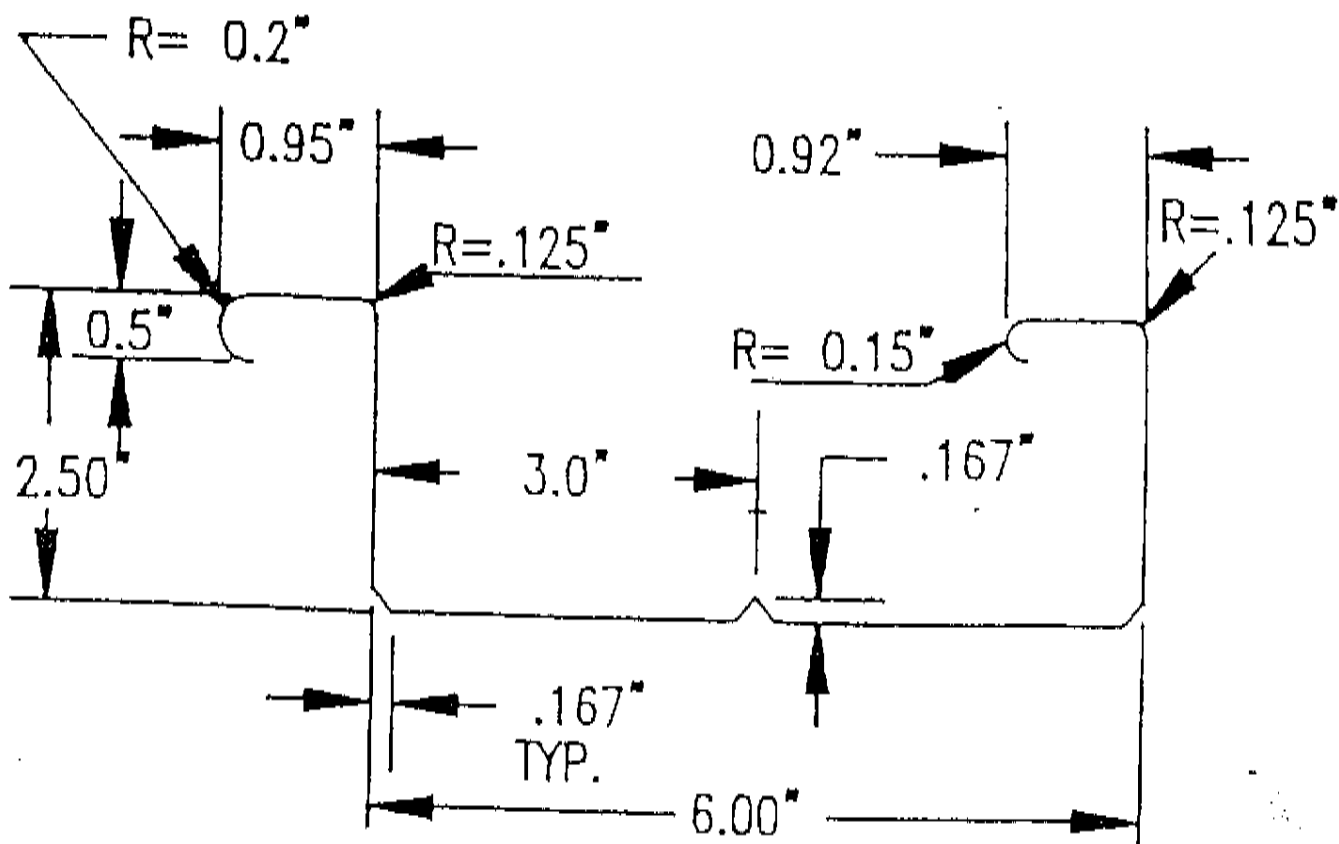
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FIGURE 1. TEST ASSEMBLY



6" FLAT PAN

(A) 6" STRUCTURAL PANEL
(3006-H391 ALUM. ALLOY)

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SPREAD OF FLAME TEST RESULTS**Roofing System Description**

Aluminum alloy panel system

Test Conditions

Test Date: 8/26/1999

Ambient Air Temperature: 72°F

Flame Temperature: 1300 +/- 50°F

Flame Duration: 4 minutes

Air Velocity: 1056 +/- 44 fpm

Test Results

	<u>Deck #1</u>	<u>Deck #2</u>
Slope of test deck:	5:12	5:12
Maximum Flame Spread:	0'0"	0'0"
Excessive Lateral Flame Spread:	None	None
Acceptance level:	Class "C"	Class "C"

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SPREAD OF FLAME TEST OBSERVATIONSSample #1

<u>TIME</u> (min:sec)	<u>DISTANCE</u> (feet-inches)	<u>OBSERVATION</u>
0:00	N/A	Gas on.
2:34	N/A	Distortion on surface (no flames).
4:00	N/A	Test end.

Post test observation: Maximum flame spread = 0' 0".

Sample #2

<u>TIME</u> (min:sec)	<u>DISTANCE</u> (feet-inches)	<u>OBSERVATION</u>
0:00	N/A	Gas on.
1:07	N/A	Distortion on surface (no flames).
4:00	N/A	Test end.

Post test observation: Maximum flame spread = 0' 0".

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INTERMITTENT FLAME TEST RESULTSRoofing Systems Description

Aluminum alloy panel system

Test Conditions

Test Date: 8/26/1999
Ambient Air Temperature: 72°F
Flame Temperature: 1300 +/- 50°F
Flame Duration: 1 minutes on / 2 minutes off
Number of Cycles: 3
Air Velocity: 1056 +/- 44 fpm

Test Results

	<u>Deck #1</u>	<u>Deck #2</u>
Slope of test deck:	5:12	5:12
Sustained flaming on underside of deck:	No	No
Acceptance level:	Class "C"	Class "C"

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INTERMITTENT FLAME TEST OBSERVATIONSSample #1:

<u>Cycle</u>	<u>Time: Ignition</u>	<u>Flame Out</u>	<u>Observation</u>
	(min:sec)	(min:sec)	
1	None	None	No change.
2	None	None	Distortion
3	None	None	No change.

Sample #2

<u>Cycle</u>	<u>Time: Ignition</u>	<u>Flame Out</u>	<u>Observation</u>
	(min:sec)	(min:sec)	
1	None	None	No change.
2	None	None	Distortion.
3	None	None	No change.

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BURNING BRAND TESTS RESULTS**Roofing System Description**

Aluminum alloy panel

Test Conditions

Test Date: 5/27/1999
Ambient Air Temperature: 72°F
Air Velocity: 1056 +/-44 fpm
Type of Brands: Class "C"

Test Results

	<u>Deck #1</u>	<u>Deck #2</u>
Slope of Test Decks:	5:12	5:12
Evidence of smoke From bottom of deck:	No	No
Evidence of smoke from the system	No	No
Sustained Flaming on Underside of deck:	No	No
Deck Exposure:	No	No

Test Observations:

The tests were continued until all visible evidence of smoke and glowing had disappeared

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CONCLUSION

The aluminum alloy roof covering panel system, as described herein, met the acceptance criteria for an external fire resistance rating of "Class C" for roof covering application at inclines not to exceed 5 inch rise per horizontal foot, in accordance with the test method of UBC Standard No. 15-2 and ASTM E108-91A.

**This report does not automatically imply product certification.
Products must bear the Warnock Hersey registered certification
mark to demonstrate compliance.**

Intertek Testing Services - Middleton Wisconsin

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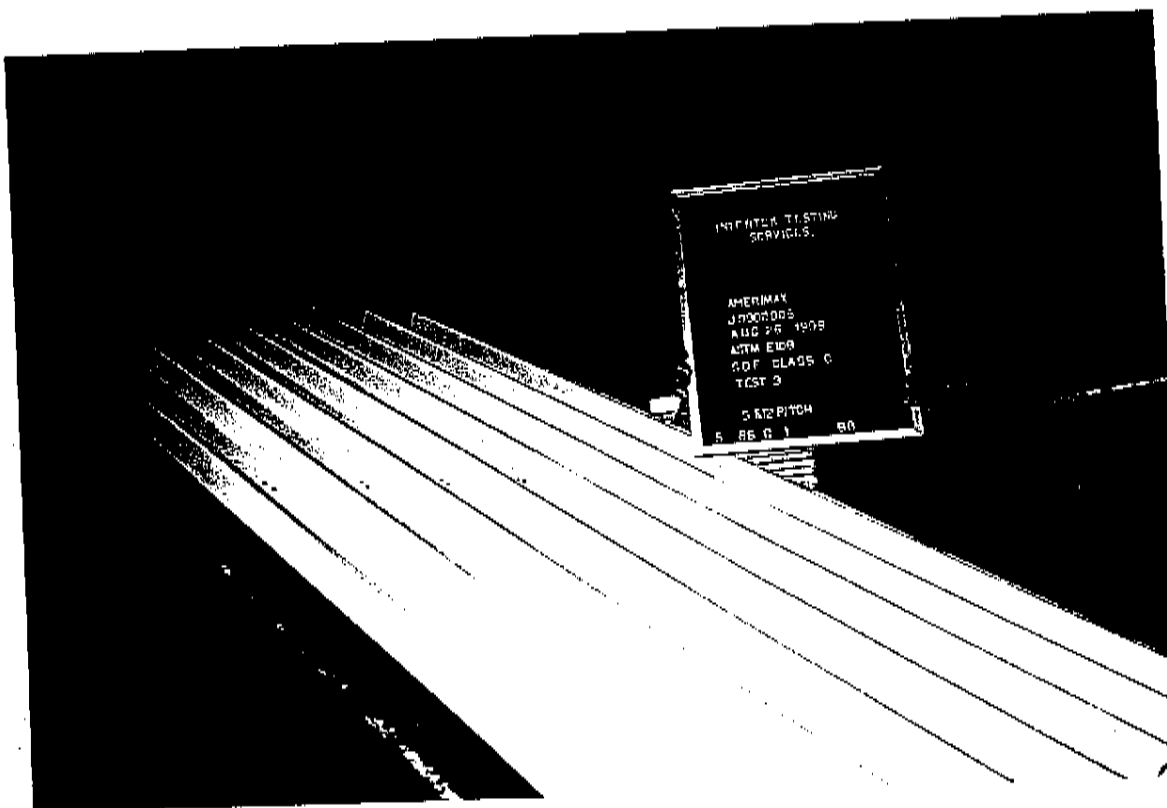
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PHOTOGRAPHS

Typical Spread of Flame Assembly



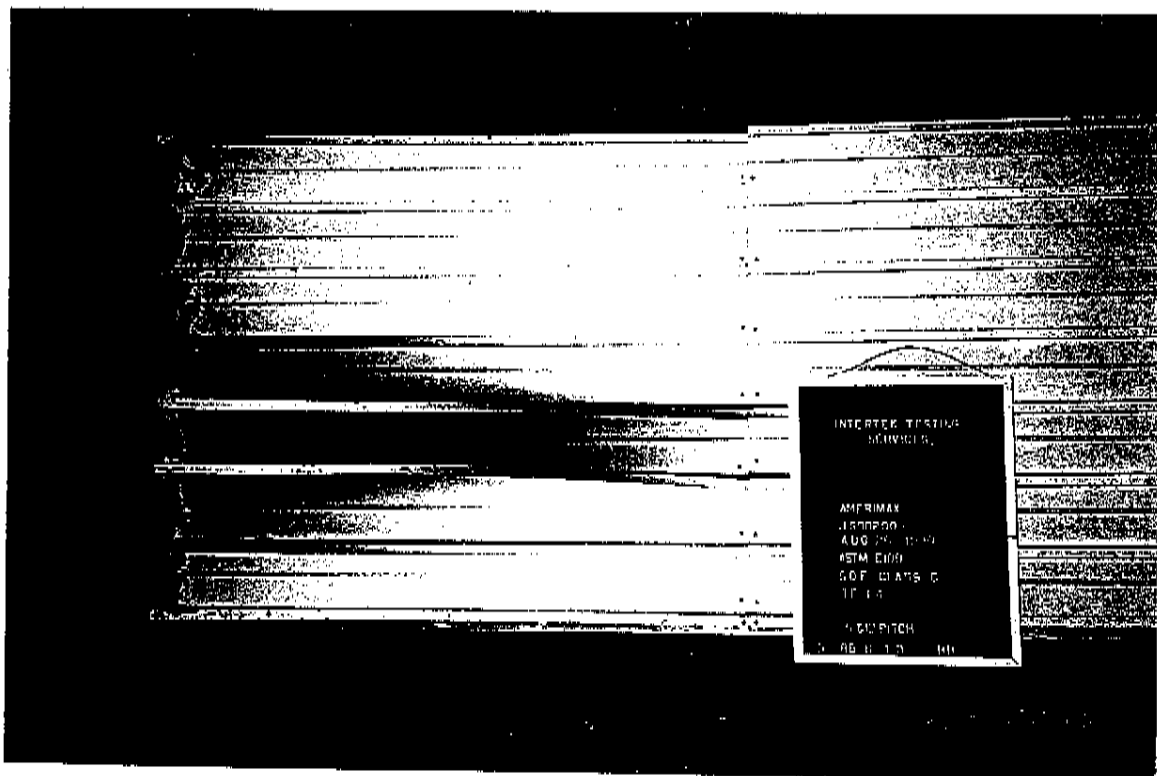
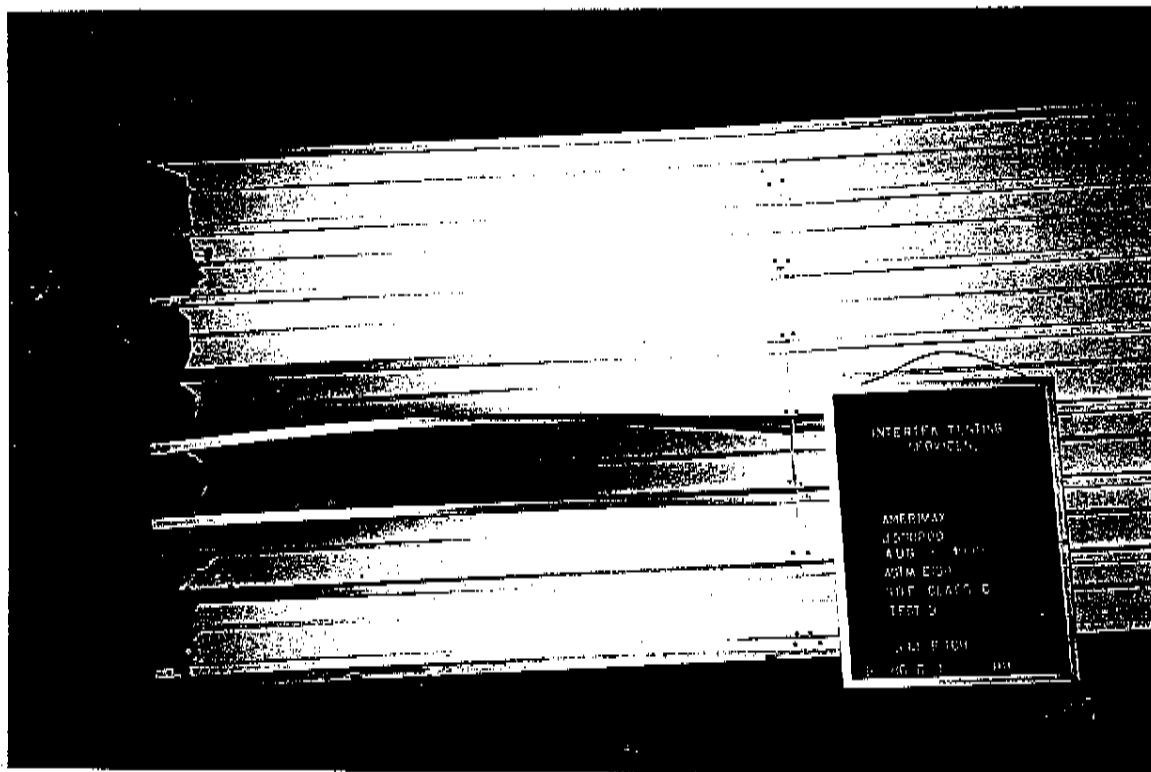
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Post Test of Spread of Flame



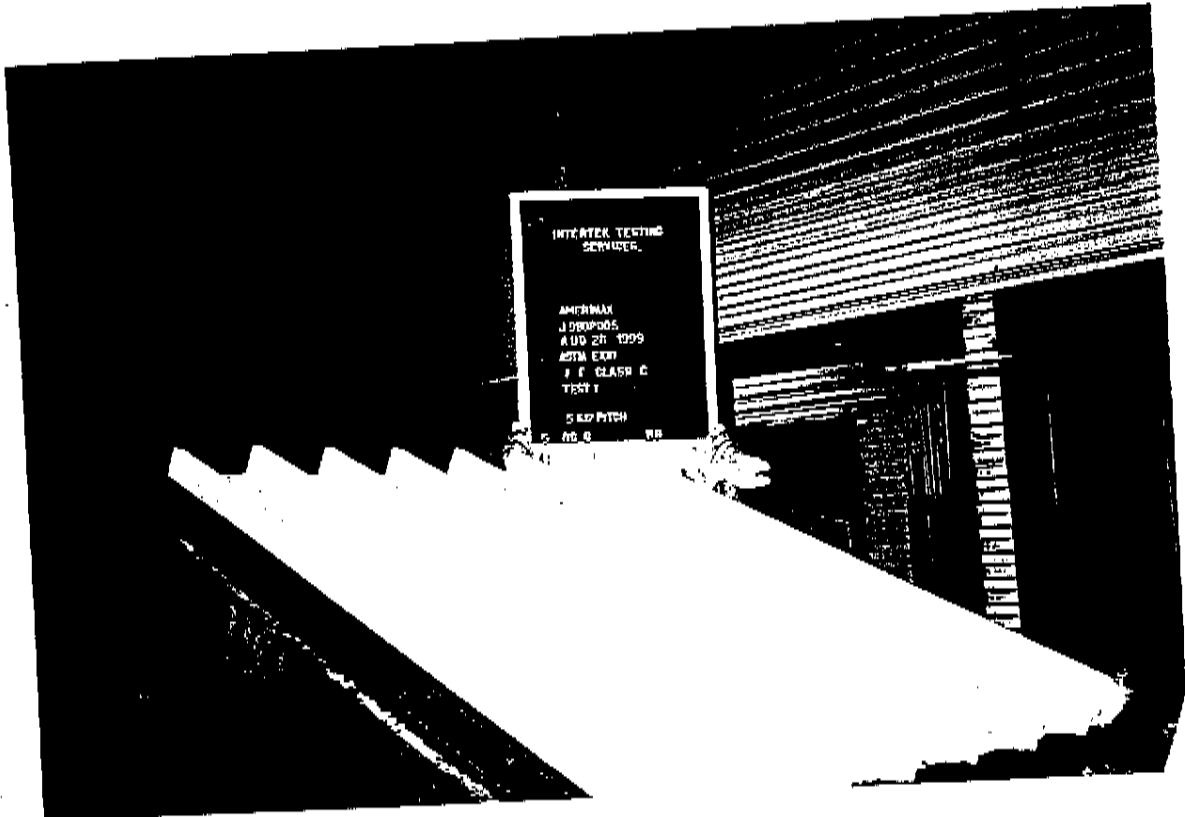
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Typical Intermittent Flame Test Assembly



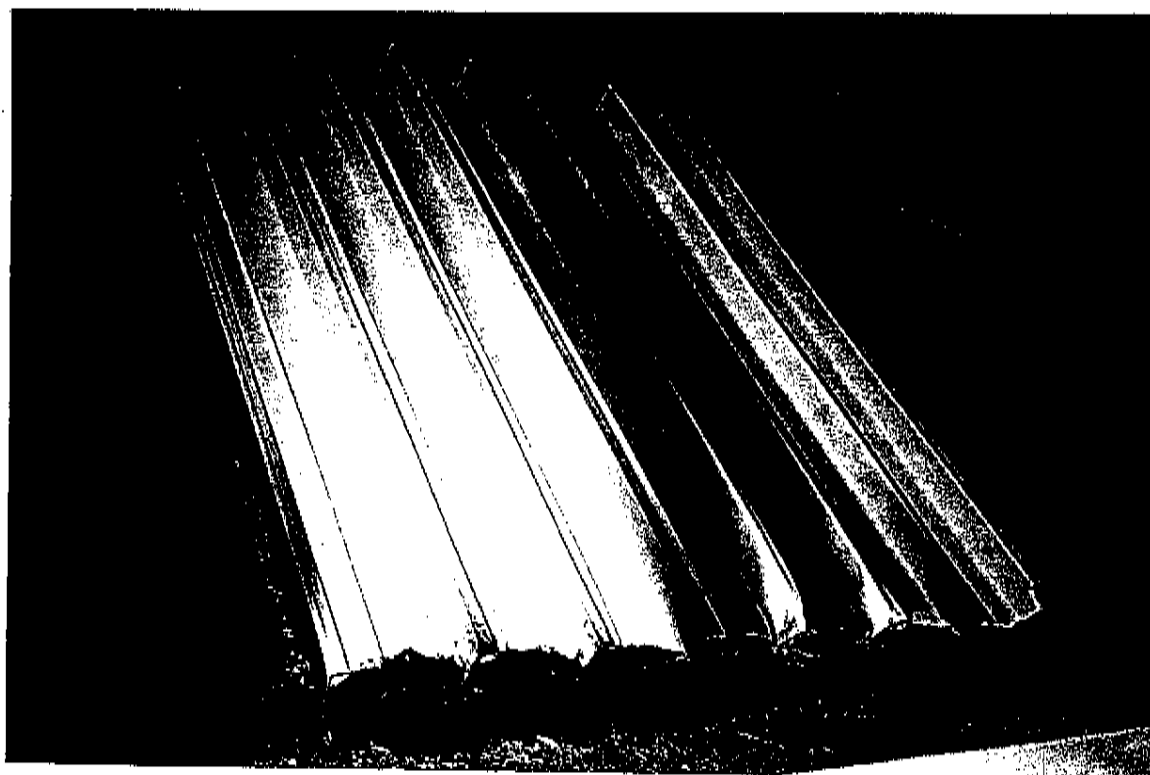
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Post Test Intermittent Flame



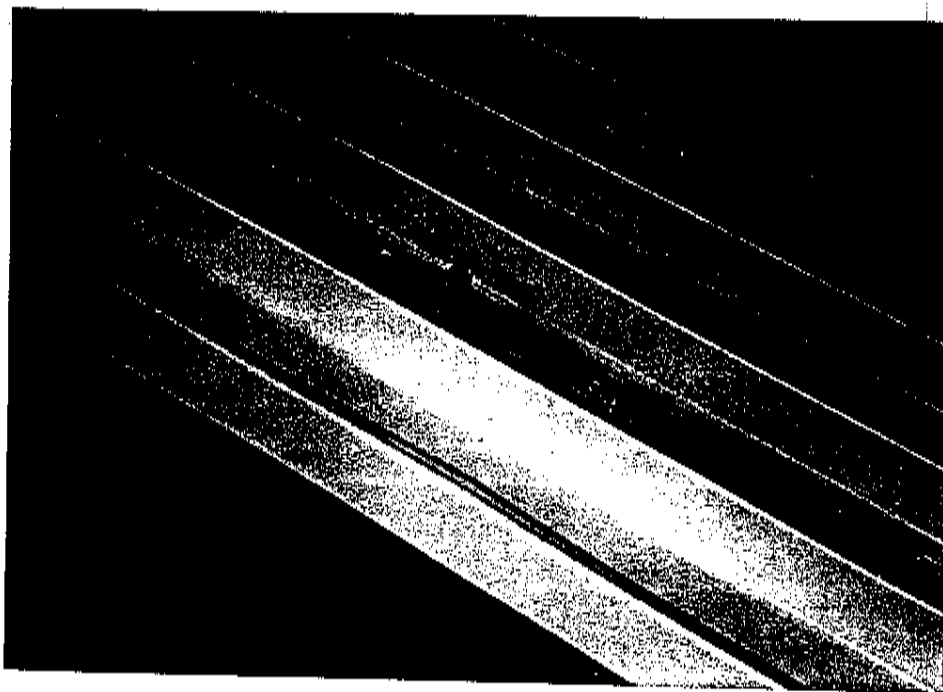
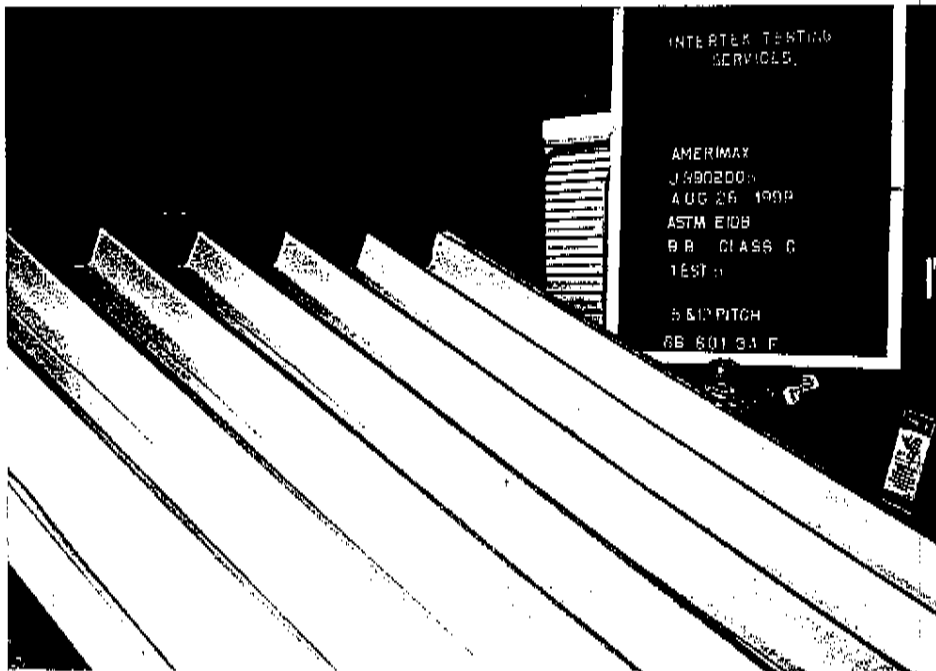
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Typical Burning Brand Test Assembly



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Post Test Burning Brand

