

TOUCHSTONE

Systems ■ Services, Inc.

TEST REPORT

PAGE 1 OF 14
TEST NO. T12058

Testing Performed Per

TECHNICAL BULLETIN 133

Flammability Test Procedure
For Seating Furniture for Use
In Public Occupancies

Report No. T12058

December 20, 2017

Report Presented To:

Zoeffig

Unit 11, Kings Hill Industrial Estate

Bude, Cornwall

EX23 8QN

United Kingdom

Passed CAL133 Criteria A and Criteria B

Infinite Closed Stitched upholstery with Crib 5 covering

Testing Performed by and Report/DVD Prepared by

Touchstone Systems & Services Inc.

1817 Porter St SW

Wyoming MI 49519

The test specimen identification is as provided by the client and TouchStone Systems & Services accepts no responsibility for any inaccuracies therein. The results apply specifically to the specimen tested, in the manner tested, and not to the entire production of these or similar materials, nor to the performance when used in combination with other materials

TEST SPECIFICATION:

This report describes the results of the California Bureau of Home Furnishings Technical Bulletin 133 Flammability Test on a Furniture Specimen.

DESCRIPTION OF TEST SPECIMEN:

See product description on the cover page of this report which was submitted by the client for this particular specimen tested. Test results for Criteria A & B are on pages 5 and 6. Pre/post test photos are on pages 13 and 14.

TEST EQUIPMENT USED: CALIFORNIA 133 BURN ROOM
Equipment Verified Prior to Burn

TEST PROCEDURE:

After all calibration efforts have been done on all monitoring equipment, the chair is then placed on the digital scale, weighed and photographed.

The positioning block was placed on the chair. The propane burner was placed in contact with the block. the seat block was slid out.

Verification was made that all data acquisition equipment was functioning properly.

The video recorder was started, if required, and the burner was set for 13 lpm propane flow, and lit. The burner was allowed to burn for 80 seconds and then removed. All systems were constantly monitored. The following events were recorded if, or, as they occurred:

- ignition of specimen
- general description of burning behavior
- occurrence of pool fire under specimen
- any other unusual occurrence.

TEST RESULTS:

Passed Criteria A and Criteria B of CAL133

CRITERIA FOR FAILURE:

- 1) If temperature increase of 111°C (200°F) or greater at ceiling than allowed.
- 2) If temperature increase of 28°C (50°F) or greater at four foot than allowed.
- 3) If greater smoke opacity at the four foot level than 75%.
- 4) If carbon monoxide concentrations in room at 1000ppm or greater for 5 minutes.
- 5) If weight loss due to combustion during the first 10 minutes is 3lbs or greater.
- 6) Maximum rate of heat release (kW) <80 kW
- 7) Total heat release (MJ) in first 10 minutes <25 MJ

OBSERVATIONS:

MIN/SEC

00:06 Ignition of fabric

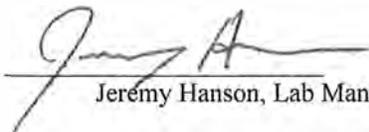
00:13 Heavy smoke

01:25 Chair self-extinguishes, test complete

DISPOSITION:

The test item will be disposed of per instructions.

Test Engineers:
John Smith
Luke Thomas



Jeremy Hanson, Lab Manager

TouchStone Systems

Test Results

Test per Technical Bulletin No. 133, Section VII.A for Criteria A

Test No. T12058-Zoeflig

Date 12/20/2017 10:02 AM

Client zoeflig

The following tests were produced under the conditions of a test room.

Peak ceiling temperature given in Celsius and time.	68.67 at 00:01:19
Peak 4' temperature given in Celsius and time.	25.48 at 00:01:22
Peak 4' smoke opacity given in percentage and time	34.5657 at 00:01:26
Peak carbon monoxide concentrations given in ppm and time	284.0 at 00:01:34
Weight loss due to combustion during first 10 minutes of test	0.00 at 00:00:00

Seating furniture fails to meet the following requirements of this test procedure if any of the following criteria are exceeded.

Temperature increase of 111°C or greater at ceiling.	Not Exceeded
Temperature increase of 28°C or greater at four foot.	Not Exceeded
Smoke opacity at the four foot level greater than 75%	Not Exceeded
Carbon monoxide concentration in room at 1000 ppm or greater for 5 minutes	Not Exceeded
Weight loss due to combustion in first 10 minutes 3 pounds or greater.	Not Exceeded

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Test Results

Test per Technical Bulletin No. 133, Section VII.B for Criteria B

Test No. T12058-Zoeftig

Date 12/20/2017 10:02 AM

Client zoeftig

The following tests were produced under the conditions of a test room.

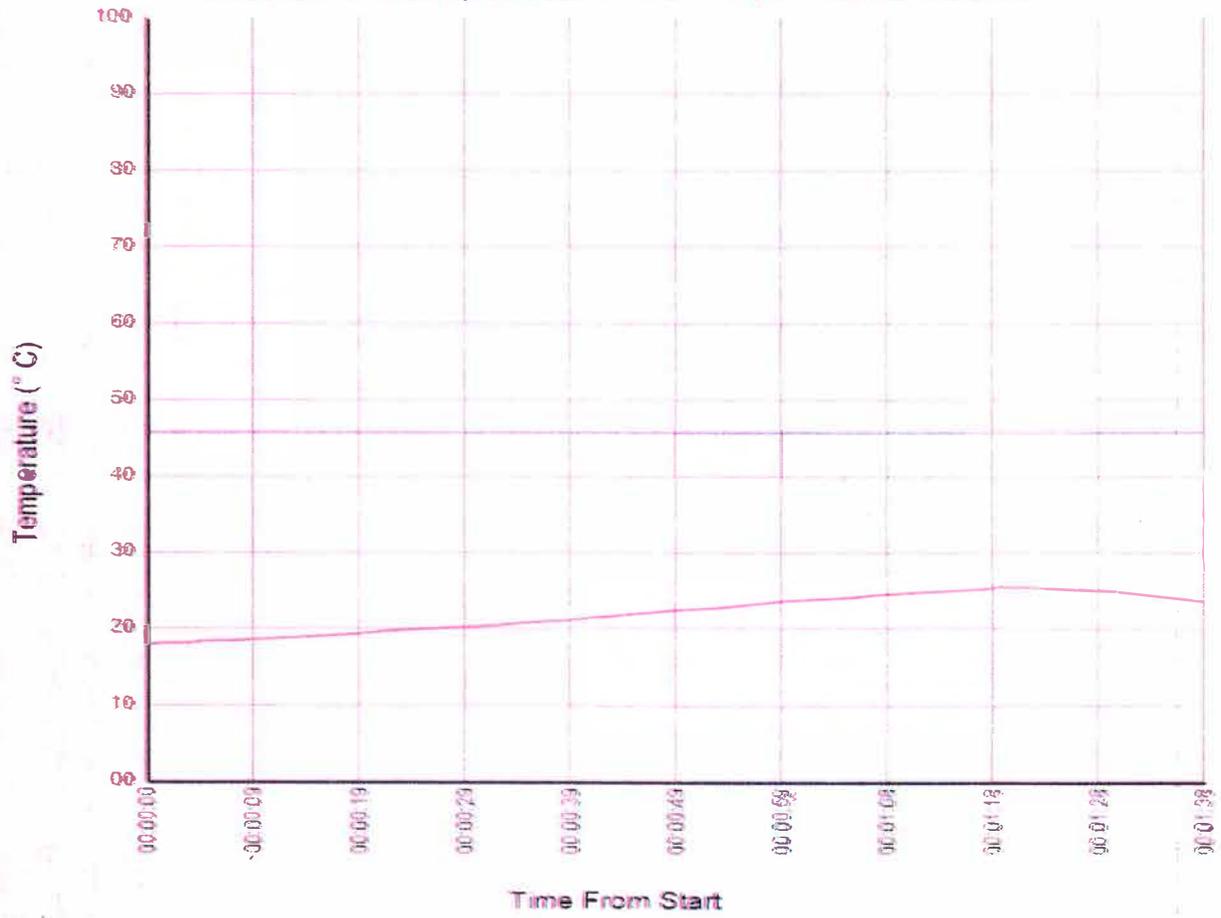
Peak 4' smoke opacity given in percentage and time	34.5657 at 00:01:26
Peak carbon monoxide concentrations given in ppm and time	284.0 at 00:01:34
Peak rate of heat release given in kilowatt and time	4.4 at 00:01:36
Total heat release in MJ in the first 10 minutes of the test	0.0

Seating furniture fails to meet the following requirements of this test procedure if any of the following criteria are exceeded.

Maximum rate of heat release of 80 kW	Not Exceeded
Total heat release in first 10 minutes greater than 25 MJ	Not Exceeded
Smoke opacity at the four foot level greater than 75%	Not Exceeded
Carbon monoxide concentration in room at 1000 ppm or greater for 5 minutes	Not Exceeded

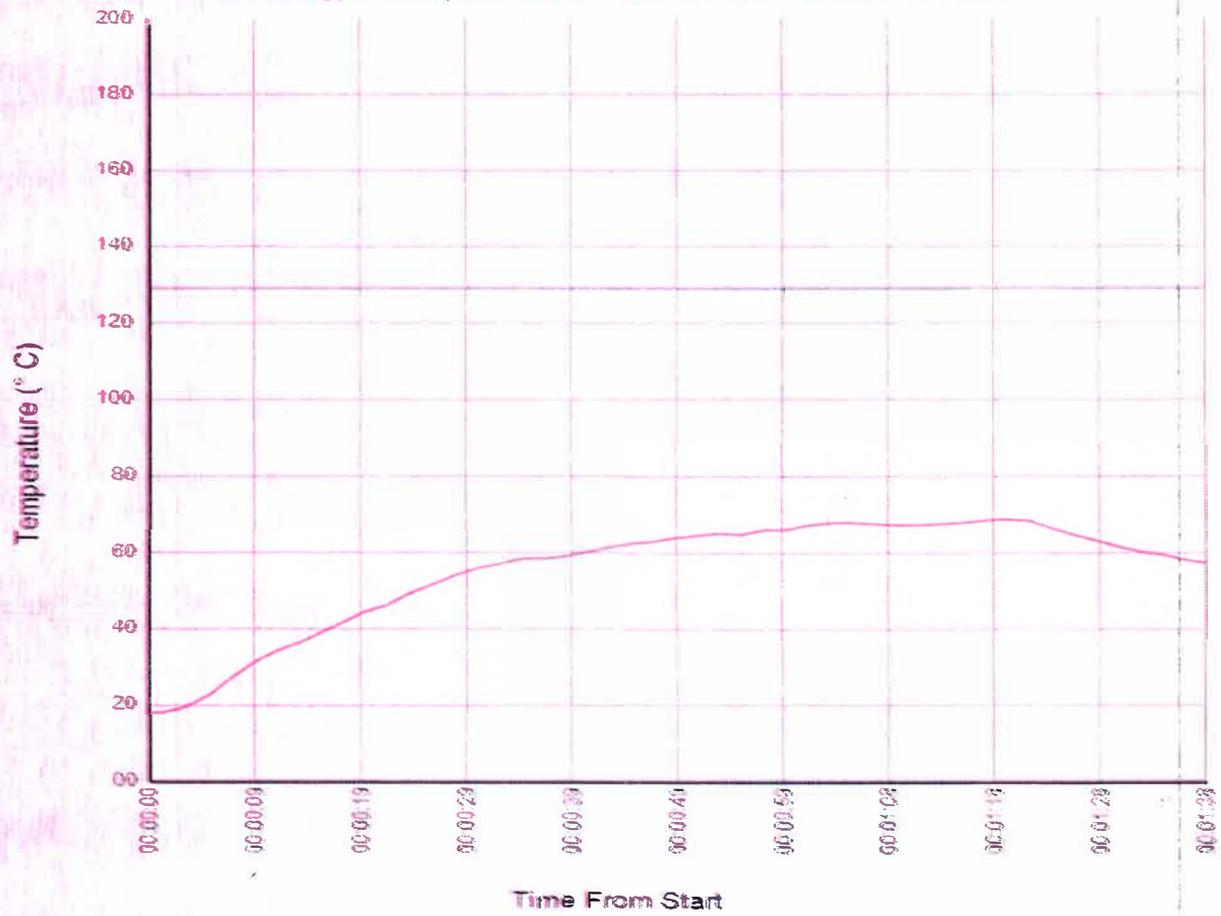
Test No. T12058

Plot of 4' Temperature vs. Time - CAL 133 A



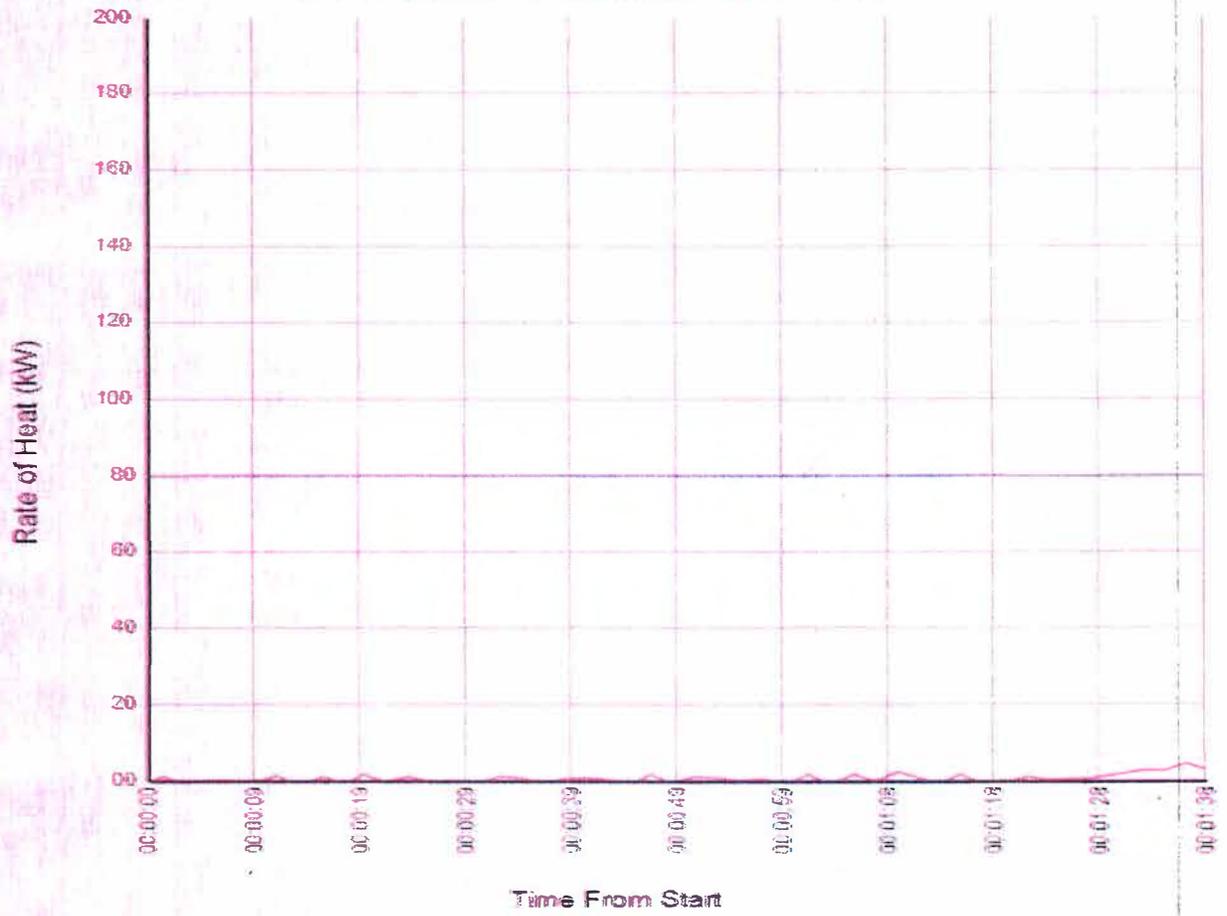
Test No. T12058

Ceiling Temperature vs. Time - CAL 133 A



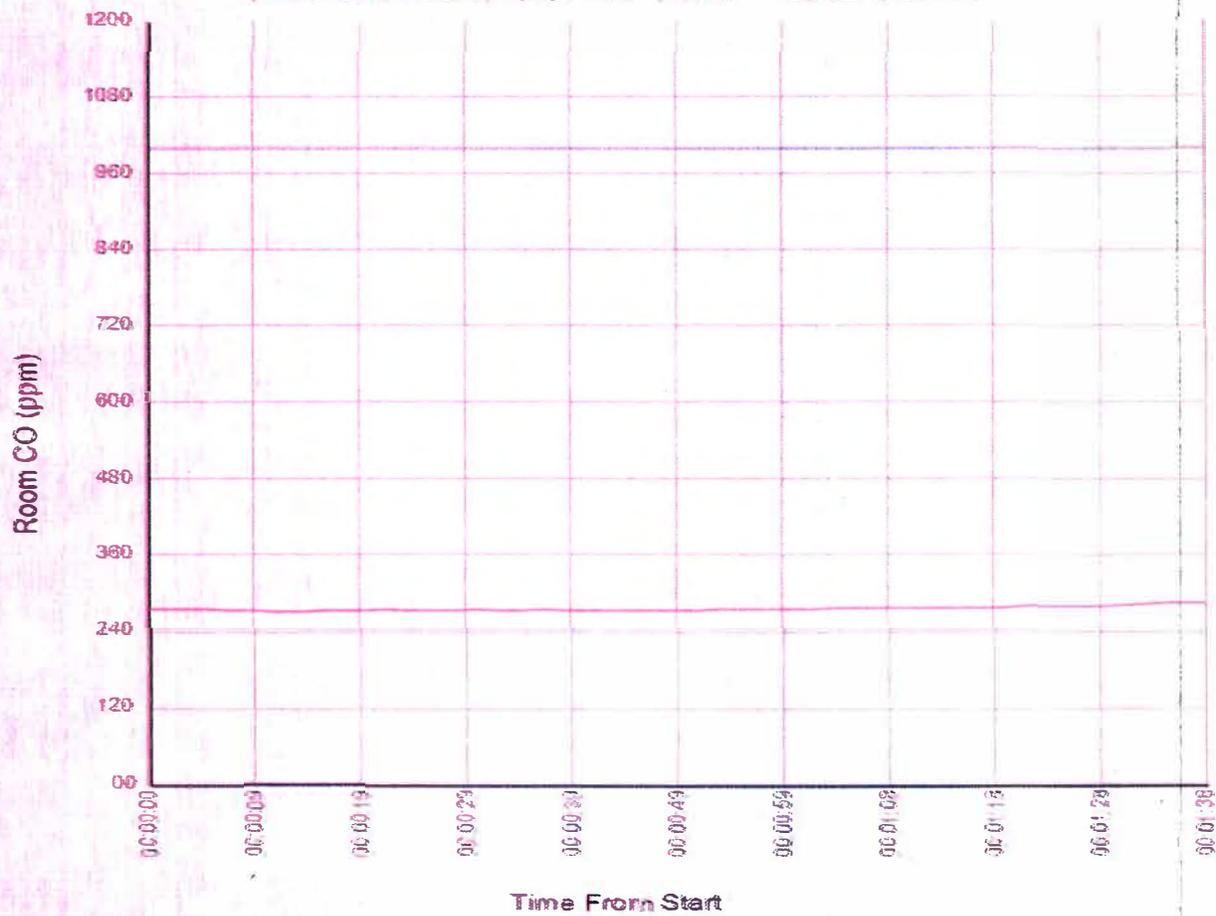
Test No. T12058

Plot of Heat Release - CAL 133 A



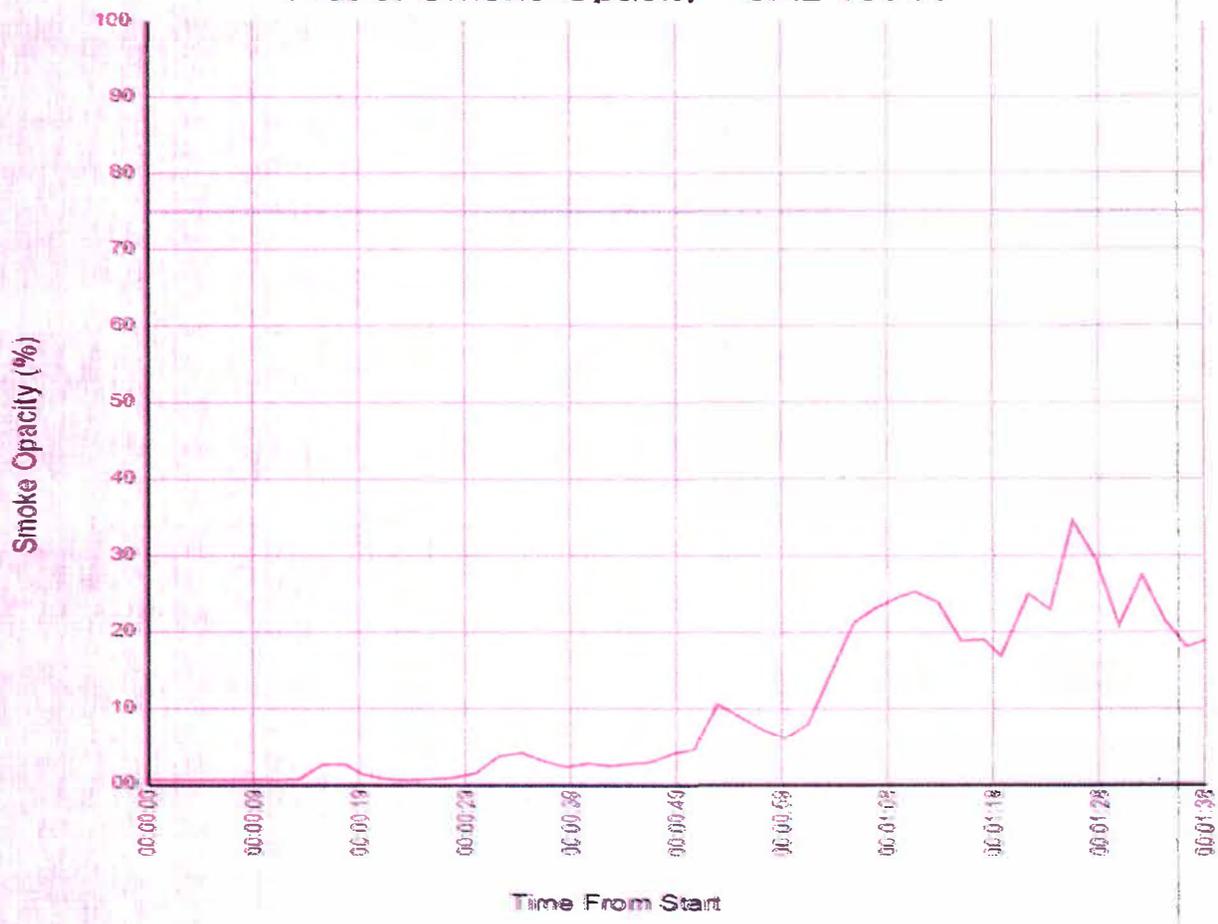
Test No. T12058

Plot of Room CO vs. Time - CAL 133 A



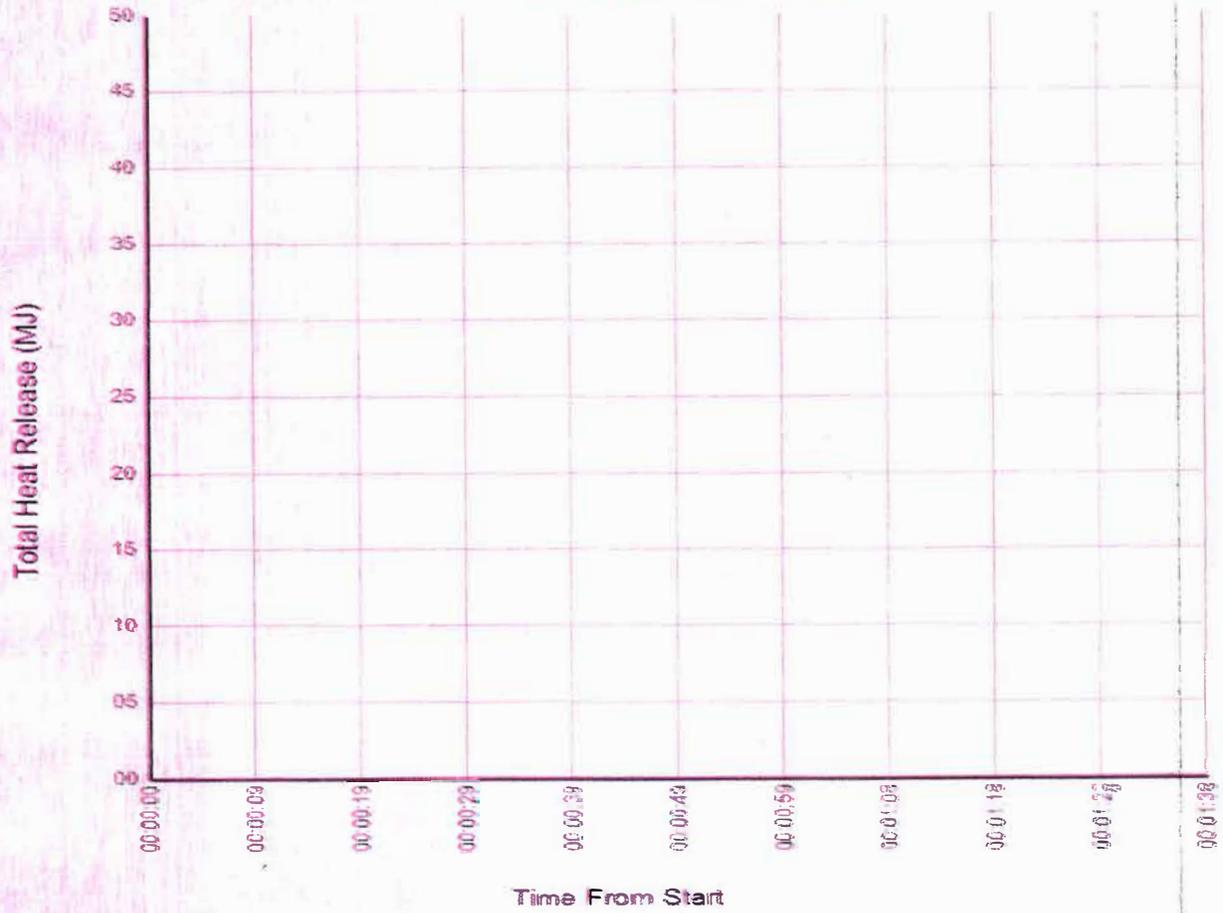
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Plot of Smoke Opacity - CAL 133 A



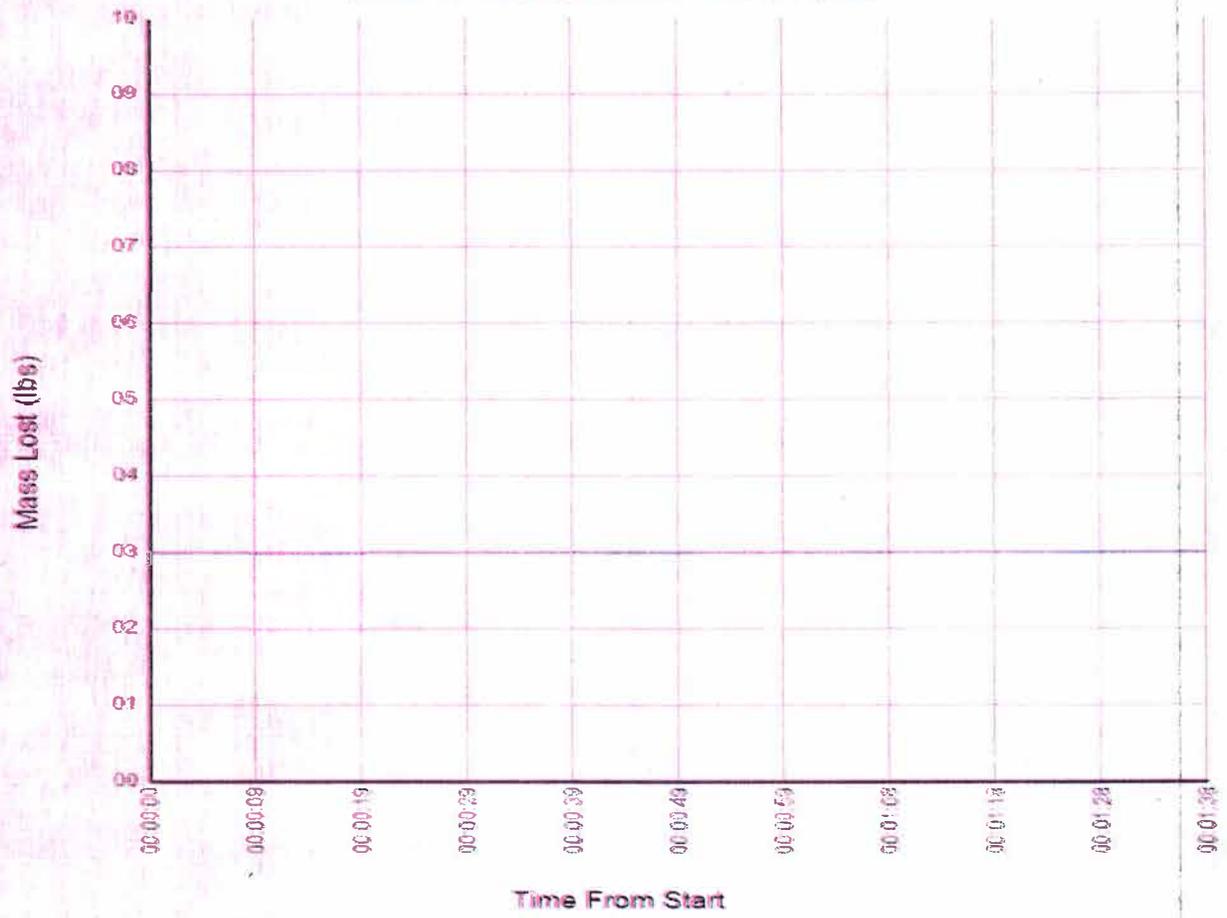
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Plot of Total Heat - CAL 133 A



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Plot of Mass Lost - CAL 133



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CAL 133 Burn



CAL 133 Burn



CAL 133 Burn



CAL 133 Burn



CAL 133 Burn



CAL 133 Burn