

*Testing Performed Per*

## **TECHNICAL BULLETIN 133**

### **Flammability Test Procedure For Seating Furniture for Use In Public Occupancies**

Report No. T8208  
April 11, 2012

*Prepared For:*

Zoeflig Limited  
Kings Hill Industrial Estate  
Bude North Cornwall  
United Kingdom EX 23 8QN  
Purchase Order No.: 20727

The TouchStone® Quality Is The Test.

**PASSED** CAL133, Criteria A and Criteria B

**Infinite Seat Module (Red)**

*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 and B are on page 4. See pre/post photos on pages 12 and 13.

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

**TEST PROCEDURE:**

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

The positioning block was placed on the chair. The propane burner was placed in contact with the block. The back block was then carefully lifted off and then the seat block 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** the requirements of CAL133, Criteria A and B

**CRITERIA FOR FAILURE:**

- 1) If temperature increase greater at ceiling than allowed.
- 2) If temperature increase greater at four foot than allowed.
- 3) If greater smoke opacity at the four foot level than allowed.
- 4) If carbon monoxide concentrations in room greater than allowed.
- 5) If weight loss due to combustion greater than allowed.
- 6) Maximum rate of heat release (kW) to be < 80 kW.
- 7) Total heat release (MJ) in first 10 minutes to be < 25MJ.

**OBSERVATIONS:**

MIN: SEC

00:09 Seat ignited  
00:20 Back ignited  
01:00 Flames growing, thick smoke  
01:40 Flames continue to grow, melting plastic  
02:15 Drips from underside  
03:30 Flames on back flickering, dying down slightly, rear of back visibly deforming  
04:45 Back and seat flames significantly smaller, losing strength  
05:28 Back self-extinguished (SE), small flames on seat remain  
05:39 Seat self-extinguished (SE), light from flames in crevice visible  
07:15 Interior non-visible flame growing, casting more visible light increasingly, thick smoke; foam drips  
09:30 Flames in crevice between seat and back (not visible), extremely thick smoke  
10:45 Flames creeping up lower back, plastic continues to deform  
12:45 Back flame briefly flared up, seat smoking again  
14:50 Flames dying down again, still smoking heavily  
18:30 No visible flames, still smoking heavily  
21:00 Seat and back still smoking/ smoldering, back still deforming  
22:40 Smoke from rear lower back, blistering plastic, possible breach through back  
25:00 Continues to smolder, less smoke  
35:00 Seat and back smoking heavily, smoke accumulating due to less heat  
40:00 Smoldering, much less smoke  
42:00 Thinner, hazy smoke  
50:30 No more smoke  
End of test  
50:35 Stopped data collection

**DISPOSITION:**

The chair was retained pending disposition instructions from Zoefitg.

Testing Managed By:  
Eric Frees

Lab Manager  
  
Terry S. Heath

## California TB-133 Fire Test Summary Criteria A & B

Customer Test Request #:

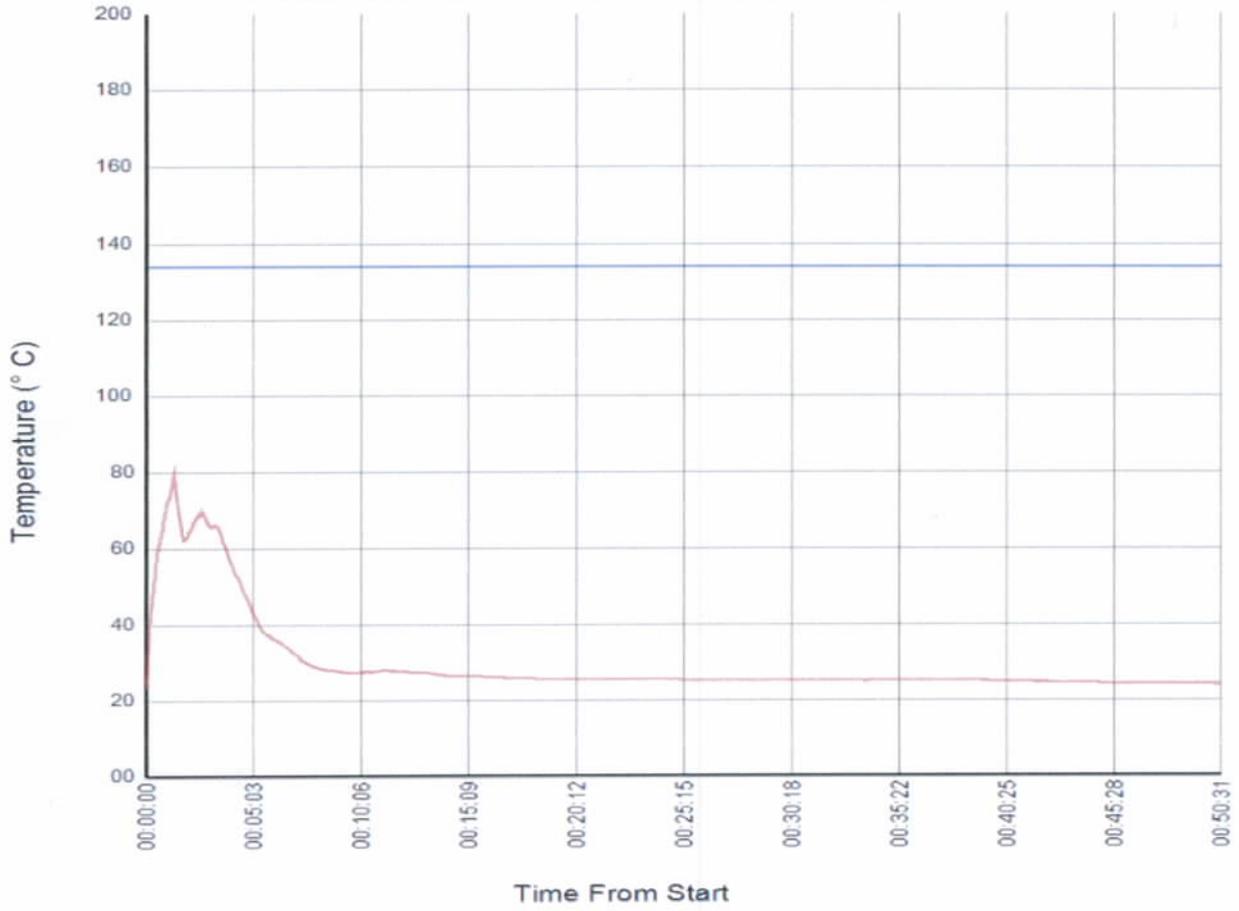
Sample ID: Infinite Seat Module (Red)

| Parameter                                   | Criteria | Actual Value               | Pass/Fail |
|---|----------|----------------------------|-----------|
| Ceiling Temp. Increase (maximum), °C        | < 111°C  | 57.09 ° C                  | Passed    |
| 4' Temp. Increase (maximum), °C             | < 28°C   | 9.62 ° C                   | Passed    |
| 4' Smoke Opacity (maximum), %               | ≤ 75%    | 47.2716 %                  | Passed    |
| CO concentration (maximum), ppm             | NA       | 857.6 ppm                  | NA        |
| Time CO is greater than 1,000 ppm (min:sec) | < 5:00   | 0:00                       | Passed    |
| Pre-Test weight of chair                    | NA       | 39.4 lbs                   | NA        |
| Weight loss at 10 minutes                   | < 3 lbs  | 0.6 lbs                    | Passed    |
| Post-Test weight of chair                   | NA       | 38.6 lbs                   | NA        |
| Flame out (min:sec)                         | NA       | Self-Extinguished @ ≈18:30 | NA        |
| Maximum Rate of Heat Release (kW)           | < 80 kW  | 22.37 kW                   | Passed    |
| Total Heat Release (MJ) in first 10 minutes | < 25 MJ  | 4.43 MJ                    | Passed    |

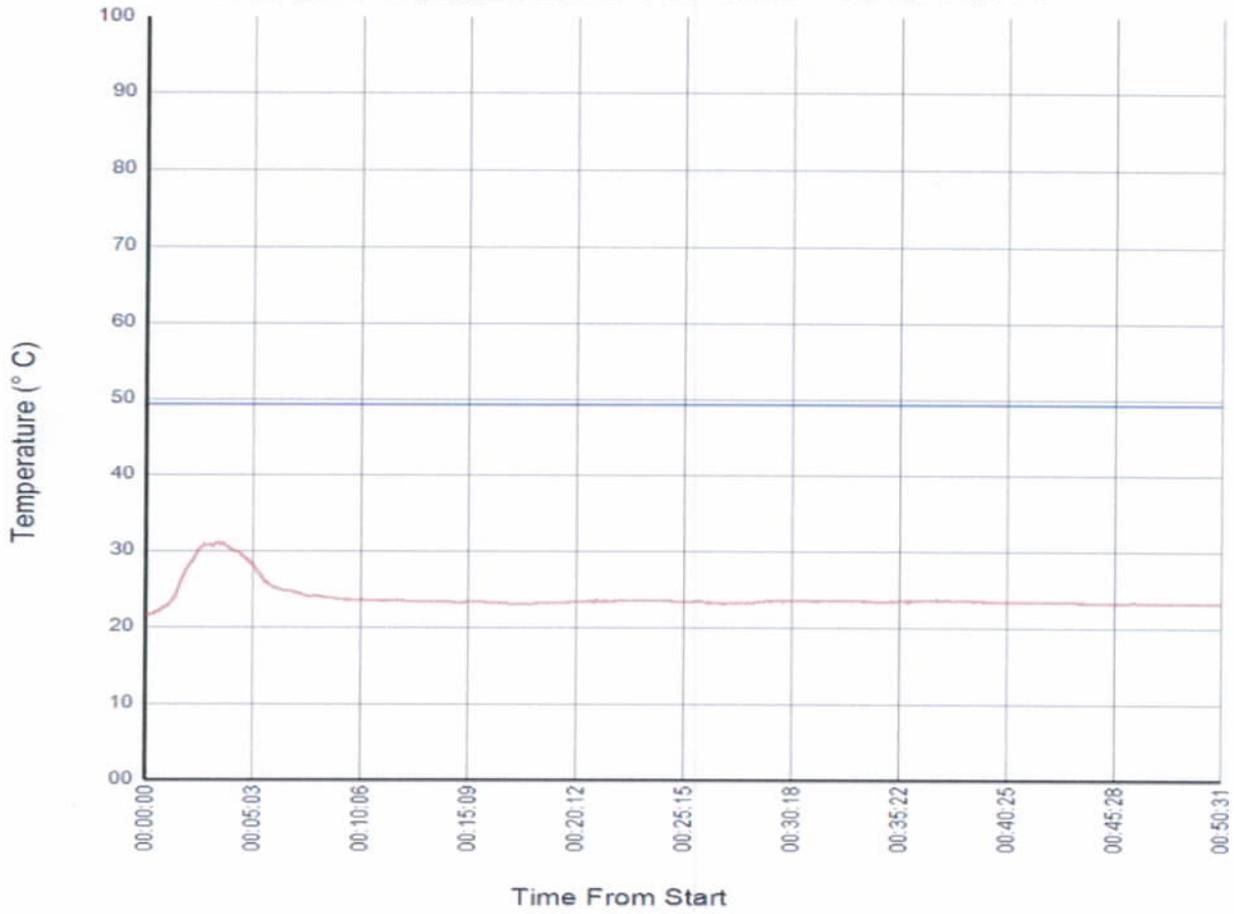
Page 4 of 13  
Test No. T8208

Lab No. 1210001

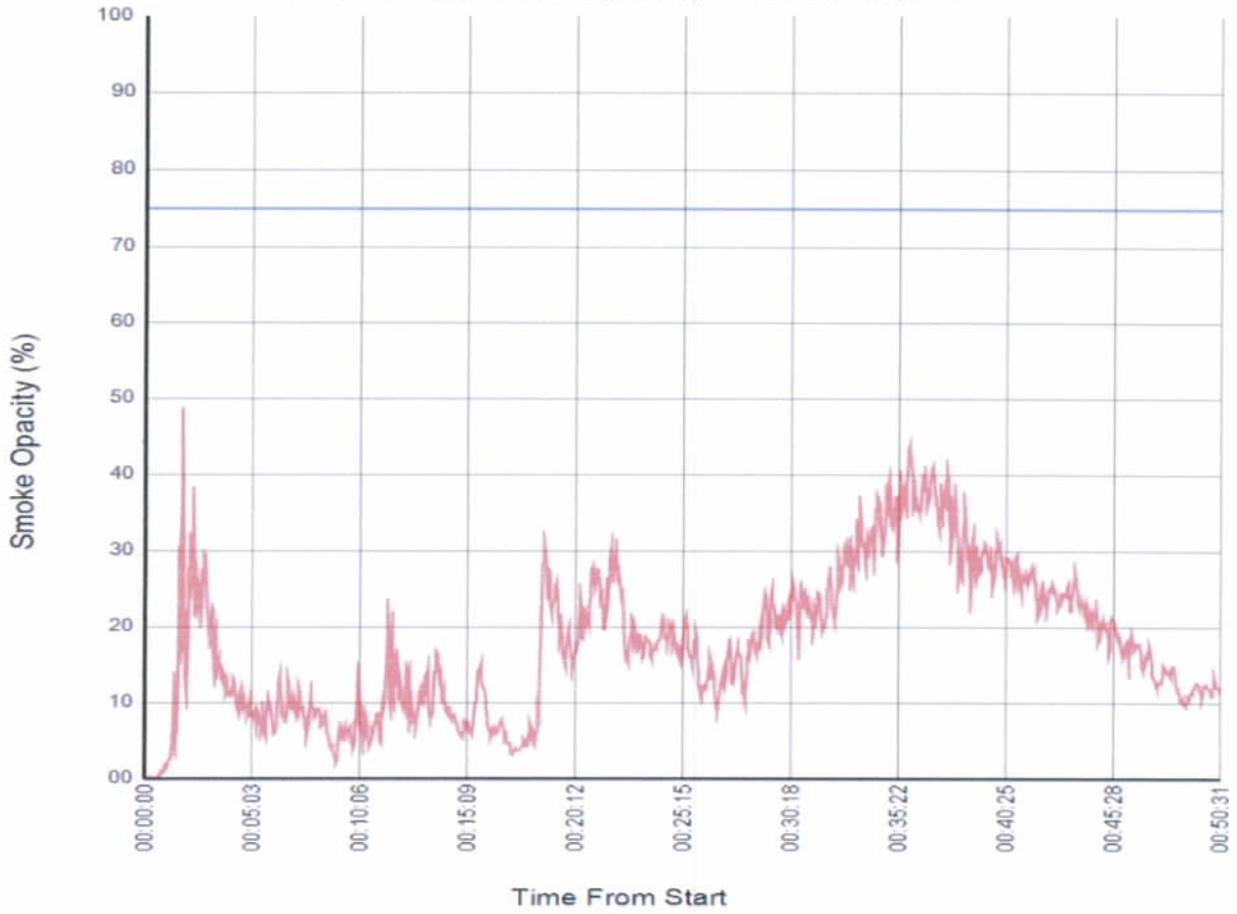
### Ceiling Temperature vs. Time - CAL 133 A



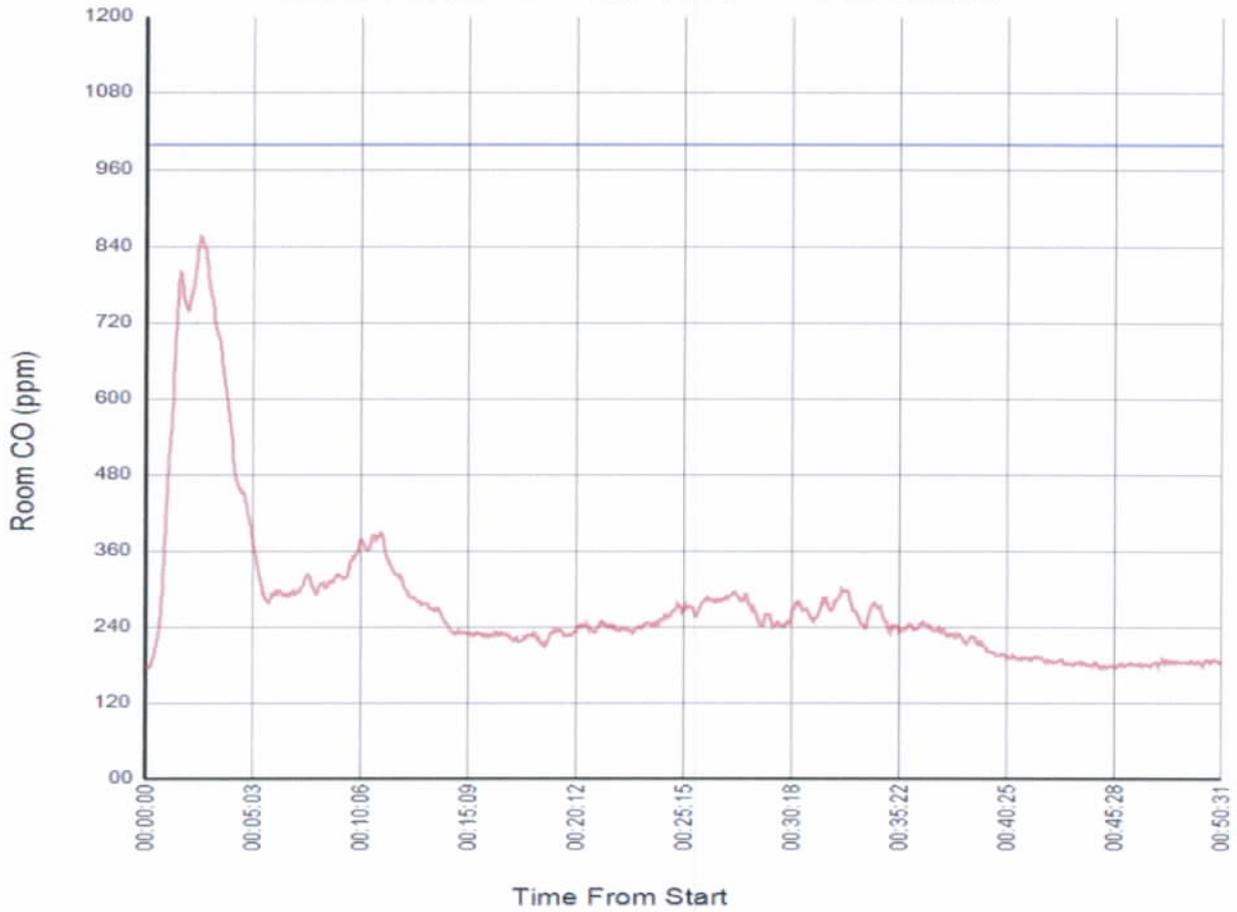
Plot of 4' Temperature vs. Time - CAL 133 A



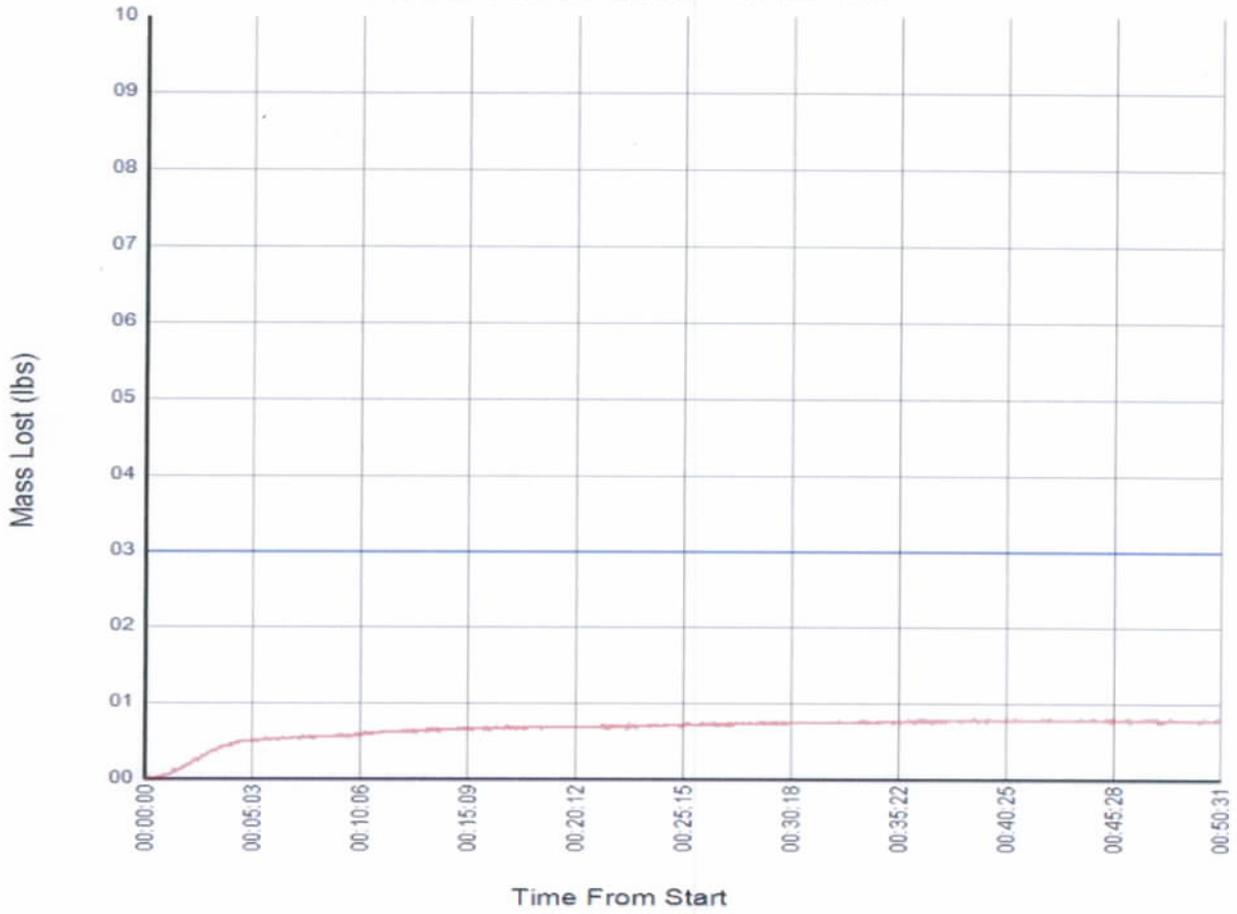
Plot of Smoke Opacity - CAL 133 A



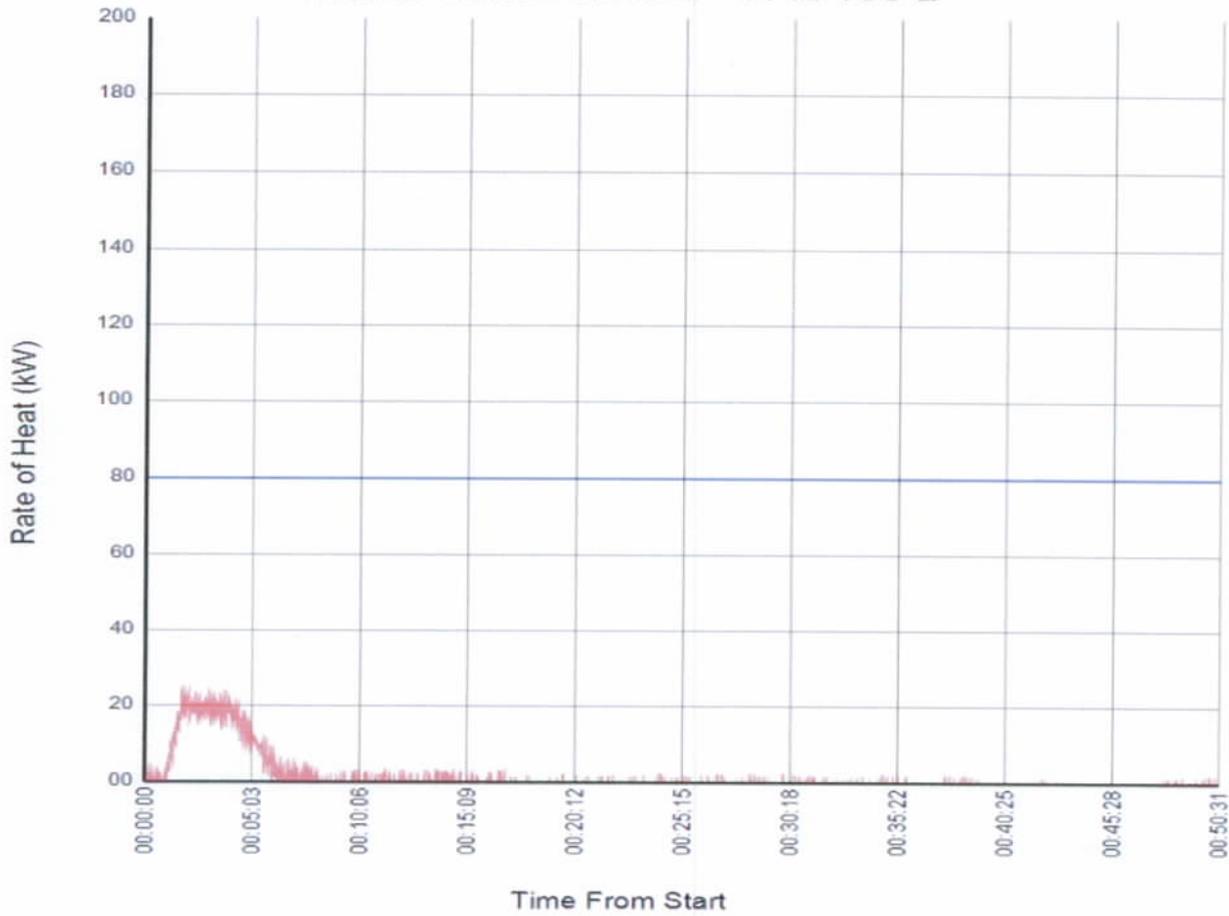
Plot of Room CO vs. Time - CAL 133 A



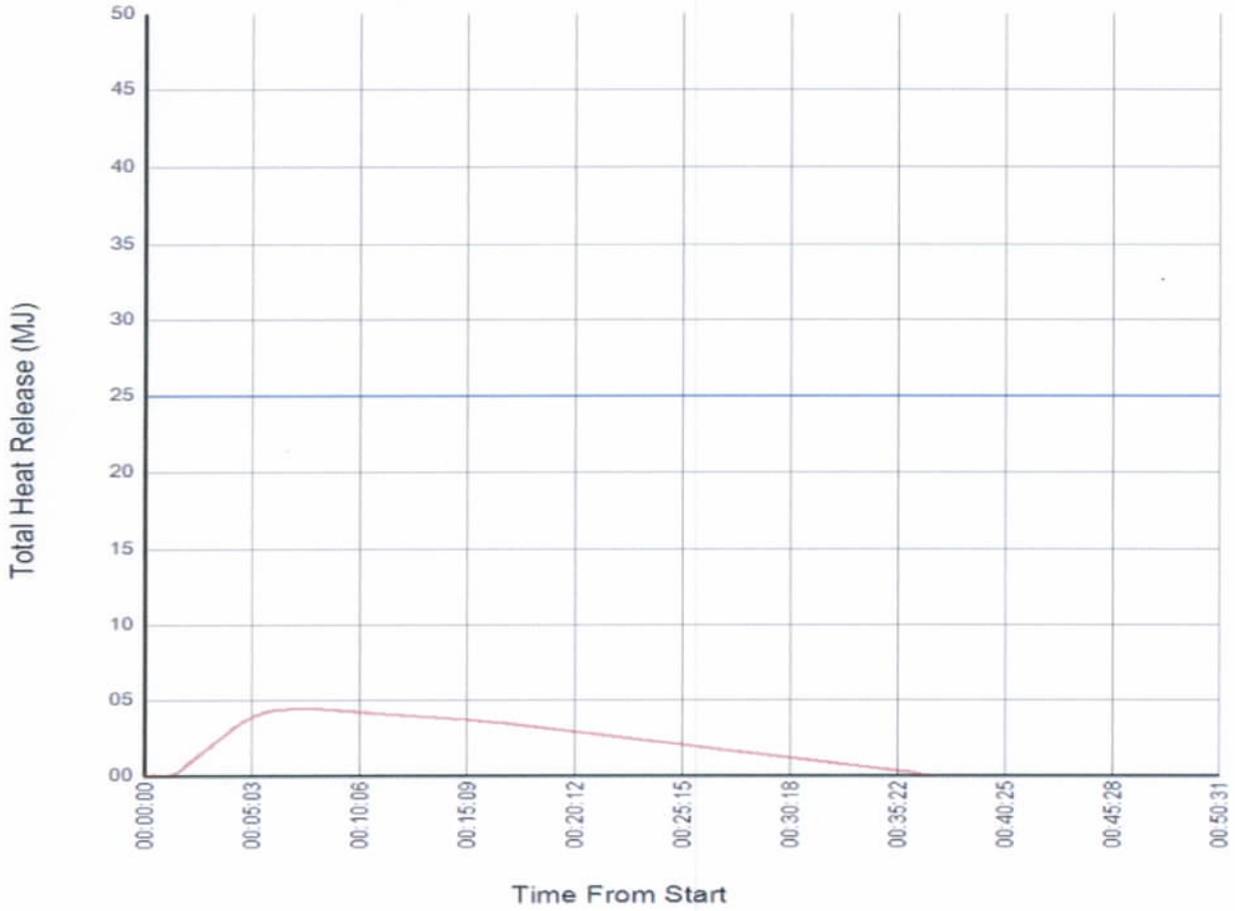
### Plot of Mass Lost - CAL 133



Plot of Heat Release - CAL 133 B

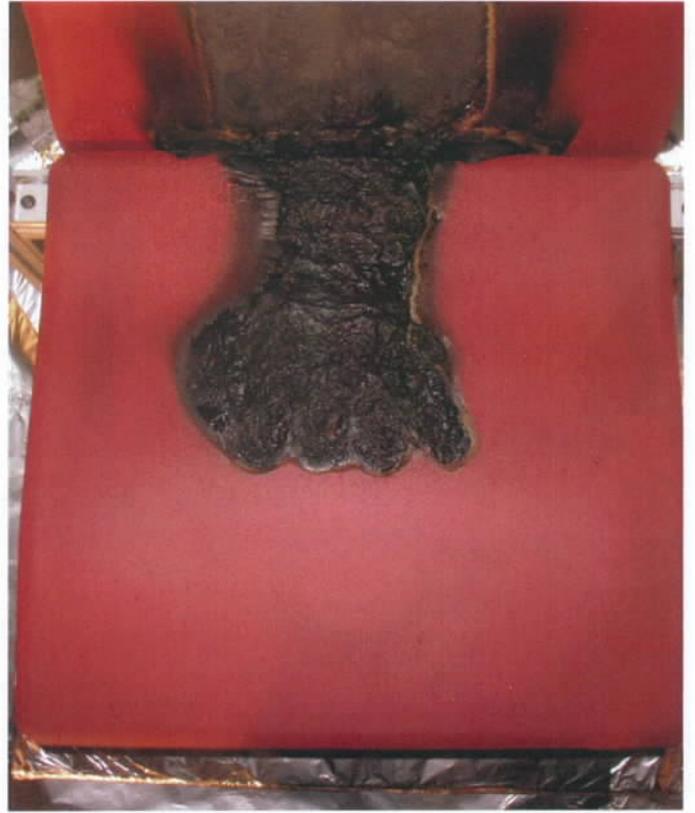


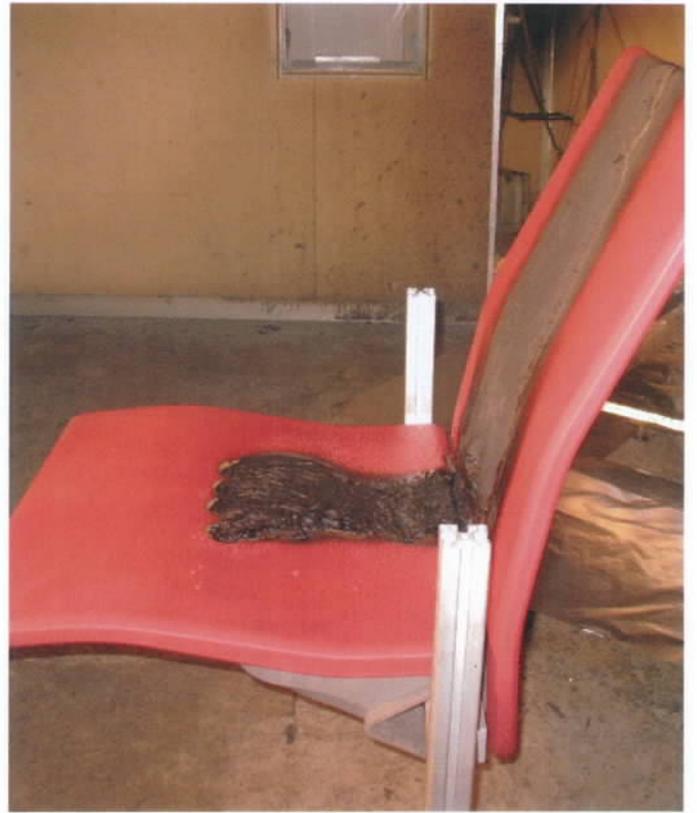
Plot of Total Heat - CAL 133 B





T8208 - Infinite - CAL133





T8208 - Infinite - CAL133