



**Boston Fire Department  
Fire Prevention Division  
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**REGULATION OF UPHOLSTERED FURNITURE: BFD IX-10**

January 1, 1995

**SCOPE**

This document describes the procedure by which upholstered furniture is regulated under the authority of the Fire Prevention Code. The component approval process is eliminated effective January 1, 1995. The Boston Fire Department Chair Test is no longer acceptable for approval purposes.

**PRODUCT APPROVAL**

Seating products subject to this regulation include upholstered chairs, benches, couches and banquettes and solid plastic chairs. Seating products shall be evaluated using test methods: (1) California Bureau of Home Furnishings, Technical Bulletin 133 (1991), Flammability Test Procedures for Seating Furniture for Use in Public Occupancies, or (2) American Society of Testing and Materials, ASTM E 1537, Standard Test Method for Fire Test of Real Scale Upholstered Furniture Items.

Both test methods evaluate finished furniture exposed to flaming ignition in a specified room or in a furniture calorimeter. The tests can be conducted by the California Bureau of Home Furnishings, an independent test laboratory or a corporate test laboratory with appropriate certification. The certification procedure for corporate laboratories is under development. Seating products evaluated by test method (1) or (2) shall meet one of the following criteria:

**(1) BOSTON FIRE DEPARTMENT SEATING CRITERIA (1) FOR OPEN CALORIMETER TEST METHOD:**

**Rate of Heat Release:** Shall not exceed 80 kW (kilowatts) during the entire test.

**Total Heat Release:** Shall not exceed 25 MJ (megajoules) for the first 10 minutes or the time interval for the occurrence of the maximum rate of heat release.

**Total Mass Loss:** Shall not exceed 3 pounds for the entire test.

**(2) BOSTON FIRE DEPARTMENT SEATING CRITERIA (2) FOR ROOM FIRE TEST METHOD:**

**Rate of Heat Release:** Shall not exceed 80 KW (kilowatts) during the entire test.

**Total Heat Release:** Shall not exceed 25 MJ (megajoules) for the first 10 minutes or the time interval for the occurrence of the maximum rate of heat release.

**Total Mass Loss:** Shall not exceed 3 pounds for the entire test.

**Carbon Monoxide:** Concentration shall not exceed 1,000 ppm over a 5 minute time interval in the test room (measured in accordance with TB 133).

**Smoke Opacity:** Shall not exceed 75 percent at 4 foot level in the test room (measured in accordance with TB 133) at any time during the test.

**BOSTON FIRE DEPARTMENT SEATING CRITERIA (3) FOR ROOM FIRE TEST METHOD:**

**Temperature Rise:** Shall not exceed 200 deg. F (111 deg. C) four inches below the ceiling of the test room (measured in accordance with TB 133) at any time during the test.

**Total Mass Loss:** Shall not exceed 3 pounds for the entire test.

**Carbon Monoxide:** Concentration shall not exceed 1,000 ppm over a 5 minute time interval in the test room (measured in accordance with TB 133).

**Smoke Opacity:** Shall not exceed 75 percent at 4 foot level in the test room (measured in accordance with TB 133) at any time during the test.

## **TEST REPORT**

Reports for tests specified in this regulation shall when measured, include the following a 6 second interval:

Rate of heat release

Total heat release

Temperature 4 inches below ceiling at center of room

Carbon monoxide concentration or mass

Smoke opacity at the 4 foot level

The following quantities (when measured) shall be tabulated at the time of occurrence:

The maximum temperature 4 inches below the ceiling.

The maximum rate of heat release

The total heat released for the first 5 minutes, first 10 minutes and entire test.

The total mass loss

Maximum smoke opacity

Reports for test conducted to demonstrate compliance with this regulation shall include a video of the entire test.

## **RE-UPHOLSTERED FURNITURE**

The following regulations will apply to re-upholstery of all types :

Re-upholstered Furniture will have to meet the minimum construction of the following:

### **Using Existing Foam:**

1. Cover existing foam with barrier, **or**
2. Use fabric with laminated barrier.

**Note:** Polyolefin fabrics must be laminated.

The Boston Fire Department reserves the right to examine upholstered furniture using Polyolefin fabrics and untreated nylon fabrics of a heavy weight.

### **Using New Foam:**

1. If foam is replaced, new foam must be Cal 117 (minimum) and be covered with a barrier,  
**or**
2. Fabric with laminated barrier.

Fiberfill must be protected by a barrier.

Fire retardant treatment of fabric is not required if above construction is met.

The Boston Fire Department may regulate large numbers of custom made furniture using one of the Boston Fire Department Seating Criteria.

All Components used in the re-upholstering must be clearly identified.

The submitter, by making and signing the application to the Boston Fire Department Chemist, is certifying that the reupholstery is being completed as specified on the application.

## **COM COVER FABRICS**

COM cover fabrics shall be considered for furniture which has been tested by TB 133 or ASTM E 1537. The evaluation process may include a comparison of fiber content, weight and flame retardant finish of the proposed COM cover fabric with the fabrics tested by the manufacturer. Manufacturers are required to develop procedures to accept COM fabrics and affix the label designated by California Technical Bulletin 133.

## **REGULATED OCCUPANCIES - USE GROUPS**

This regulation applies to all seating in the following occupancy/use groups as defined in 780 CMR, Massachusetts State Building Code:

A - Assembly; B - Business; E - Educational; I - Institutional; M - Mercantile in public areas and offices; R - Residential excluding R-3, R-4. There are no provisions for exemptions based on automatic sprinklers and no exclusions for limited seating capacity in any area.