



Subject: **FIRE SAFETY REQUIREMENTS FOR INTERIOR FINISH MATERIALS**

Policy No. 133

**APPLICATION**

All New York University academic, commercial and residential facilities.

**PURPOSE**

To ensure that interior finish materials selected for installation will not pose an unacceptable fire hazard due to their ease of ignitability and subsequent evolution of smoke and toxic by-products; and to ensure that these materials meet or exceed all applicable statutory and voluntary standards.

**POLICY AND GENERAL INFORMATION**

Interior finish materials used in any New York University academic, commercial or residential facility shall meet or exceed the requirements of the 1991 Edition of "The Life Safety Code" (1991 National Fire Codes [Quincy: National Fire Protection Association, 1991], pp. 101-I - 101-312) and Title 27 New York City Administrative Code, Construction & Maintenance Sections 27-348 and 27-351, updated through September 1, 1989.

1.0 Definitions

"ASTM". American Society for Testing and Materials.

"Critical Radiant Flux". The level of incident radiant heat energy on a floor covering system at the most distant flameout point as determined by the test procedure of NFPA 253: "Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source"/ASTM E-648. The unit of measurement of critical radiant flux is watts per square centimeter (watts/cm<sup>2</sup>).

"DOC". Department of Commerce.

"Flame Spread Rating". A rating of the propagation of flame over a surface.

"NFPA". National Fire Protection Association.

"Smoke Developed Rating". A rating of the propagation of smoke over a surface.

2.0 Interior Wall and Ceiling Finish

2.1 Interior wall and ceiling finish is defined as those materials that form the exposed interior surfaces of a building and are part of or affixed to walls, fixed or folding partitions, ceilings, and other construction elements.

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- 2.1.1 No material that upon exposure to fire will produce products of decomposition or combustion more toxic than those emitted by wood or paper under comparable conditions shall be used in any interior location.
- 2.1.2 Textile materials having a napped, tufted, looped, woven, non-woven, or similar surface shall not be applied to interior walls or ceilings without prior approval from the Environmental Services Department.
- 2.1.3 Cellular or foamed plastic materials shall not be used as interior wall or ceiling finish without prior approval from the Environmental Services Department.

## 2.2 Interior Wall and Ceiling Finish Flame Spread Requirements

- 2.2.1 Interior wall and ceiling finish shall be classified as follows when tested in accordance with NFPA 255: "Standard Method of Test of Surface Burning Characteristics of Building Materials"/ASTM E-84:

Class A - Flame Spread Rating 0-25

Class B - Flame Spread Rating 26-75

Class C - Flame Spread Rating 76-225

Class D - Flame Spread Rating Over 225

- 2.2.1.1 An interior finish material that was affixed to a substrate when tested in accordance with NFPA 255/ASTM E-84 shall be applied to an equivalent substrate in use to be credited with the same flame spread rating.
  - 2.2.1.2 An interior finish material shall be secured to an interior surface in the same manner and with equivalent materials as used during flame spread testing in accordance with NFPA 255/ASTM E-84.
  - 2.2.1.3 Where an interior wall or ceiling is required to have a fire-resistance rating or to be constructed of noncombustible materials, and the interior finish is secured to studs or furring, the surface of the interior finish facing the concealed space shall have either a Class A rating, be applied to a substrate having a Class A rating, or have the concealed space completely filled with noncombustible material.
- 2.2.2 Interior wall and ceiling finish in any University academic, commercial or residential facility shall be as follows:
    - Exits and Shafts - Class A
    - Corridors - Class A
    - Rooms Greater than 1500 sq. ft. in Area - Class B
    - Rooms Less than 1500 sq. ft. in Area - Class C or better
  - 2.2.3 A wall covering or coating less than 0.036 inches thick is exempt from the above requirements when applied to a noncombustible or fire-retardant treated wood substrate.

- 2.2.4 Exposed structural members and planking in buildings of Class II-A construction (in accordance with Title 27 New York City Administrative Code, Construction & Maintenance Section 27-269), which may be left exposed in any room or space other than an exit, are exempt from the above requirements.
- 2.2.5 Ten percent of the aggregate wall and ceiling area of any room, space or corridor requiring a Class A or Class B rating may be finished with materials having a Class C rating. This allowance shall include the area of doors, folding partitions, windows, glazing, skylights, luminous ceilings, trim, bases, chair rails, moldings, etc.
- 2.2.6 When a sprinkler system is installed in any room or space in compliance with the construction provisions of Chapter 1, Subchapter 7 of Title 27 New York City Administrative Code, Construction & Maintenance, interior finish materials may be one class higher in flame spread rating than required by 2.2.1.

### 2.3 Interior Wall and Ceiling Finish Smoke Density Requirements

- 2.3.1 Materials used for interior wall and ceiling finish in any University academic, commercial or residential facility shall not develop smoke in greater density than follows when tested in accordance with NFPA 255: "Standard Method of Test of Surface Burning Characteristics of Building Materials"/ASTM E-84:

Exits and corridors - Smoke Developed Rating 25

Rooms in which the net floor area per occupant is 10 sq. ft. or less - Smoke Developed Rating 100

All other areas - Smoke Developed Rating 0-450

- 2.3.2 Interior finish materials covering not more than twenty percent of the aggregate wall and ceiling area of any room, space or corridor shall be exempt from the above requirements.

### 3.0 Interior Floor Finish

- 3.1 Interior floor finish is defined as those materials that form the exposed floor surfaces of a building and are part of or affixed to a normal finished floor or stair, including risers.
- 3.2 Interior Floor Finish Requirements
- 3.2.1 Exits - In any University academic, commercial or residential facility, except those of construction group II-E (Title 27 New York City Administrative Code, Construction & Maintenance Section 27-269), finish flooring in exits shall be of noncombustible material. Stairs meeting the criteria listed in Title 27 New York City Administrative Code, Construction & Maintenance Section 27-375 are exempt from this requirement.

3.2.2 Buildings or spaces of construction group I - Except for the provisions of 3.2.1, finish flooring in buildings or spaces of construction group I (Title 27 New York City Administrative Code, Construction & Maintenance) may be of combustible material when cemented directly to the top surface of noncombustible floor construction, or attached to noncombustible or combustible sleepers. When attached to sleepers, the space between the noncombustible floor construction and the bottom of the combustible floor finish material shall be solidly filled with noncombustible material to within one-quarter inch of the flooring; or the space between the sleepers under the combustible finish flooring shall be fire stopped into areas of not more than twenty square feet with the additional provision that no open spaces shall extend under or through such fire divisions or separations. Combustible insulating or sound absorbing boards not greater than one-half inch thick and having a flame spread rating not greater than Class C may be used when attached directly to noncombustible floor construction and covered with finish flooring.

3.2.3 Buildings or spaces of construction group II - Except for the provisions of 3.2.1, finish flooring in buildings or spaces of construction group I (Title 27 New York City Administrative Code, Construction & Maintenance) may be of combustible material.

#### 4.0 Floor Coverings

4.1 The requirements of this paragraph shall apply only to carpets and carpet assemblies used as floor coverings, not those used as interior finishes. Carpet assemblies include the carpet, its underlay and adhesives.

#### 4.2 Floor Coverings Requirements

4.2.1 All carpets and underlayment shall meet the requirements of DOC FF1-1970, "Methane Pill Test".

4.2.2 Carpets and carpet assemblies shall be tested in accordance with the requirements of NFPA 253: "Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source"/ASTM E-648. The duration of the test shall be at least a fifteen-minute exposure.

4.2.2.1 Exits - Carpets shall not be installed in any University facility exit that is required under Title 27 New York City Administrative Code, Construction & Maintenance. Wool carpeting may be installed in lobby areas, exit passageways and convenience stairs.

4.2.2.2 Corridors - Minimum Critical Radiant Flux of 0.5 watts per square centimeter.

4.2.2.3 Other areas - Minimum Critical Radiant Flux of 0.4 watts per square centimeter.

4.2.3 Carpets and carpet assemblies shall be tested for smoke developed ratings in accordance with the requirements of ASTM E-662 and shall not exceed 300 within the first four minutes of the test.

5.0 Furniture

5.1 All mattresses shall meet the test requirements of the State of California Technical Bulletin 129. IF a mattress/foundation (mattress/box spring) set is purchased, it shall meet the testing requirements of the State of California Technical Bulletin 603.

5.2 All upholstered furniture for student housing and all public areas shall meet the test requirements of the State of California Technical Bulletin 133.

6.0 If a buyer other than the New York University Purchasing Department (i.e., an architect or general contractor) initiates the purchase of interior finish materials, the Project Manager must submit all interior finish flammability test reports to the Environmental Services Department for approval prior to selection for installation. Where materials submitted have not been tested, the Environmental Services Department can arrange for testing by an accredited outside laboratory to determine compliance with this policy.