

CHAPTER 8

INTERIOR FINISHES

780 CMR 801.0 GENERAL

801.1 Scope: Interior finish and trim of buildings shall conform to the requirements of 780 CMR 8. Interior finish shall include all wall, ceiling and *floor finishes* and wainscoting and paneling or other finish applied structurally or for acoustical treatment, insulation, decoration or similar purposes.

801.2 Installation and classification: All materials which are required to restrict the spread of flame or to be flameresistant under the provisions of 780 CMR - including, but not limited to, interior finish materials, fireretardant-treated wood, tents and tarpaulins, and interior hangings and decorations shall meet the requirements for installation and classification as determined by the applicable test procedures listed in 780 CMR 8.

780 CMR 802.0 DEFINITIONS

802.1 General: The following words and terms shall, for the purposes of 780 CMR 8 and as used elsewhere in 780 CMR, have the meanings shown herein.

Flame spread: The propagation of flame over a surface.

Flame spread rating: The measurement of flame spread on the surface of materials or their assemblies as determined by the tests specified in 780 CMR (see 780 CMR 803.0).

Flameresistance: That property of materials or combinations of component materials which restricts the spread of flame as determined by the flameresistance tests specified in 780 CMR (also see 780 CMR 807.2).

Floor finish: The finish placed on top of the floor, slab or other structural floor element.

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803.1 Exposed construction: These requirements shall not be considered as requiring the installation of interior finish, but where construction or fire protection materials are exposed in the use groups specified in 780 CMR 803.4, the hazard from rate of flame spread of such exposed materials shall not be greater than that of the interior finish permitted for such occupancy.

803.1.1 Paper finish: The use of a surface finish of paper or of material that does not have a greater fire hazard than paper shall not be prohibited, provided that such finish does not exceed 1/28 inch (1 mm) in thickness and is applied directly to a noncombustible base or substrate that conforms to the requirements of 780 CMR 2310.0.

803.1.2 Type 4 construction: Exposed portions of structural members complying with the requirements for buildings of Type 4 construction in 780 CMR 605.0 and 2304.0, shall not be subject to interior finish regulations.

803.1.3 Window exception: Show windows in the first story of buildings are permitted to be constructed of any approved materials.

803.2 Classification: All materials used for interior finish and trim shall be classified in accordance with ASTM E84 listed in *Appendix A*. The classifications of interior finishes referred to herein correspond to flame spread ratings determined by ASTM E84 listed in *Appendix A* as follows: Class I flame spread, 0 - 25; Class II flame spread, 26 - 75; Class III flame spread, 76 - 200.

803.3 Materials: Materials shall only be installed as interior finish and trim as specifically provided for in 780 CMR for the occupancy of the space in which the material is installed. Installation of any material for *floor finish*, interior finish and trim in a building of Type 1 or 2 construction within the scope permitted in 780 CMR 803.0 or in 780 CMR 806.0 shall not declassify the building with respect to the type of construction classification.

803.3.1 Foam plastics: Foam plastics shall not be installed as interior trim or finish except in compliance with 780 CMR 803.0 and 780 CMR 2603.0.

803.3.2 Smoke development: Interior wall and ceiling finish materials that have a smoke-developed rating greater than 450 when tested in accordance with ASTM E84 listed in *Appendix A* shall not be permitted.

803.4 Required flame spread rating: Interior finish of walls and ceilings shall have a flame spread rating not greater than that designated by the class prescribed for the various use groups listed in Table 803.4, when tested in accordance with 780 CMR 803.2.

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803.4.1 Basements: In occupancies other than Use Group R-3, Class I or II interior finish shall be required in all *basements* or other underground spaces from which there is not direct exit to the

803.4.2 Maximum flame spread: Interior finish materials with flame spread classifications greater than 200 shall not be installed in any room or space subject to human occupancy, except to such extent as specifically approved on the basis of a finding that such installation does not significantly increase the life hazard.

803.4.3 Rooms and enclosed spaces: Requirements for rooms or enclosed spaces are based upon spaces enclosed in partitions of the building or structure, and where a fire resistance is required for the structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered as enclosing spaces and rooms or spaces on both sides thereof shall be counted as one. In determining the applicable requirements for rooms or enclosed spaces, the specific occupancy thereof shall be the governing factor, regardless of the use group classification of the building or structure. Where an *automatic sprinkler system* installed in accordance with 780 CMR 906.2.1 or 906.2.2 is installed throughout a building, Class II or III interior finish shall be permitted where Class I or II materials, respectively, are required in Table 803.4.

outside of the building, if subject to occupancy for any purpose other than storage or service facilities.

Note c. Class III interior finish materials are permitted for wainscoting or paneling for not more than 1,000 square feet (93m²) of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and firestopped as required by 780 CMR 804.0.

Note d. Class III interior finish materials are permitted in mercantile occupancies of 3,000 square feet (279m²) or less gross area occupied for sales purposes on the street floor only (balcony permitted).

Note e. Lobby areas shall not be less than Class II.

Note f. Where building height is over two stories, Class II shall be required.

Note g. For the classifications of interior finishes referred to herein, see 780 CMR 803.2. For interior finish requirements for exposed insulation, see 780 CMR 722.2.

Note h. Walls and ceilings shall be a minimum of Class II materials in individual rooms of not more than four persons in capacity. Where a building is equipped throughout with an automatic sprinkler system installed in accordance with 780 CMR 906.2.1 the minimum requirement for interior finish shall be Class II.

Note i. In Use Groups A, I-2 and I-3, Class II interior wall finish material shall be permitted as wainscoting extending not more than 48 inches (1219 mm) above the floor in corridors providing exit access.

Table 803.4

INTERIOR FINISH REQUIREMENTS^g

Use Group	Required vertical exits and passage-ways ^c	Corridors providing exit access ⁱ	Rooms or enclosed spaces ^a
A-1, A-2, A-3	I	I ^e	II ^b
A-4, B, E, F, I-1, R-1, R-2	I	II	III
H	I	II	III ^f
I-2	I ^h	I ^h	I ^h
I-3	I	I	III
M: walls	I	II	III
ceilings	I	II	II ^d
R-3	III	III	III
S	II	II	III

Note a. For requirements applicable to rooms and enclosed spaces, see 780 CMR 803.4.3.

Note b. Class III interior finish materials are permitted in places of assembly with a capacity of 300 persons or less.

803.5 Interior trim: Baseboards, chair rails, moldings, trim around openings and other interior trim, not in excess of 10% of the aggregate wall and ceiling areas of any room or space, shall be of Class I, II or III materials.

803.6 Carpet and carpet-like wall coverings: Textile wall coverings having a napped, tufted, looped, woven, nonwoven or similar surface, shall comply with the following:

- Such materials shall have a Class I flame spread classification and be installed only in rooms or areas protected by an *automatic sprinkler system* installed in accordance with 780 CMR 9; or
- Such materials shall be tested in accordance with an eight-foot by 12-foot by eight-foot high (2438 mm by 3658 mm by 2438 mm) room/corner fire test procedure utilizing a product-mounting system, including adhesive, representative of actual installation. Prior to testing, the sample shall be conditioned at 70°F (21°C) ± 5% and at a relative humidity of 50% ± 5% until the sample reaches a rate of weight change of less than 0.1% per day. The product shall be exposed to a flame from a gas diffusion burner for 15 minutes. The

fire exposure shall be 40 kW for the first five minutes, followed by an exposure of 150 kW for an additional ten minutes. Such tests shall demonstrate that a product will not spread fire to the edge of the specimen or cause flashover in the test room.

804.1 Attachment: Where interior finish is regulated by the requirements of 780 CMR 8, interior finish materials shall be applied or otherwise fastened in such a manner that such materials will not readily become detached when subjected to room temperatures of 200°F (93°C) for not less than 30 minutes.

804.2 Fireresistive and noncombustible construction: Interior finish materials installed on walls, ceilings or structural elements which are required to provide a fireresistance rating or to be of noncombustible construction, shall comply with the provisions of 780 CMR 804.2.1 or 804.2.2.

804.2.1 Application to structural elements: Interior finish materials applied to walls, ceilings or structural elements shall be applied directly against the exposed surface of such structural elements or to furring attached to such surfaces. In concrete or masonry construction, furring of wood or any other material of similar combustible characteristics is permitted. All concealed spaces created by furring shall be *firestopped* at not more than ten-foot (3048 mm) intervals in any direction (see 780 CMR 720.6.6).

804.2.2 Set-out construction: Where the interior finish is set out or dropped distances greater than 1¾ inches (44 mm) from the surface of such elements, only material of which both faces qualify as Class I shall be installed.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with 780 CMR 906.2.1 or 906.2.2, Class II finish materials shall be permitted provided that *automatic sprinklers* are also installed in combustible concealed spaces behind the interior finish.
2. Class II or III materials shall be permitted where attached to a backing that complies with 780 CMR 804.3 or to furring applied directly to such backing as provided for in 780 CMR 804.2.1.

804.3 Class II and III materials: Class II and III interior finish materials which are less than ¼ inch in thickness shall be applied directly against a noncombustible backing or a backing that complies with the requirements of 780 CMR 2310.0, unless the tests under which such material has been classified were made with the materials suspended

803.7 Design load: Interior wall finish materials shall be capable of resisting the horizontal load specified in 780 CMR 1615.4.

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from the noncombustible backing. The backing material shall provide a continuous surface completely behind the finish. Where the backing does not constitute an integral part of the structural elements or system, the backing shall be attached directly to the structural elements or to the furring as required for the application of finish in 780 CMR 804.2, or shall be suspended from the structural members at any distance and all concealed spaces created thereby shall be *firestopped* in accordance with 780 CMR 720.0.

804.4 Type 4 construction: Interior finish materials shall be applied directly to the wood members and decking of buildings of Type 4 construction, or to furring strips applied to such members or wood decking as provided for in 780 CMR 804.2.1.

780 CMR 805.0 FLOOR FINISH

805.1 General: Finished floors or floor covering materials of a traditional type, such as wood, vinyl, linoleum, terrazzo and other resilient floor covering materials, are exempt from the requirements of 780 CMR 805.0. Floor coverings judged by the code official to represent an unusual hazard shall meet the requirements of 780 CMR 805.0.

805.2 Classification: Interior *floor finish* required by 780 CMR 805.3 to be of Class I or Class II materials shall be classified in accordance with ASTM E648 listed in *Appendix A*. The classifications referred to herein correspond to the classifications determined by ASTM E648 listed in *Appendix A* as follows: Class I, 0.45 watts/cm²; Class II, 0.22 watts/cm².

805.2.1 Test report: All carpet required by 780 CMR 805.0 to meet critical radiant flux limitations in accordance with 780 CMR 805.2 shall be tested by an *approved agency*. A copy of the test report identifying and representing the style to be installed shall be provided to the code official upon request. The test report shall identify the carpet by manufacturer (or supplier) and style name, and shall be representative of the current construction of the carpet.

The carpet shall be identified as to manufacturer (or supplier) and style by a hang tag or other suitable method, which shall indicate the classification of the material based upon the limitations specified in 780 CMR 805.2.

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805.3 Required classification: Interior *floor finish* in vertical *exits*, *exit* passageways and *exit access corridors* shall not be less than Class I in Use Group I-2 and not less than Class II in Use Groups A, B, E, I-1, I-3, M, R-1 and R-2. In all other areas, the interior *floor finish* shall comply with the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630) listed in *Appendix A*.

Exception: Where a building is equipped throughout with an *automatic sprinkler system* in accordance with 780 CMR 906.2.1 or 906.2.2, Class II materials are permitted in any area where part of the *corridor*.

805.5 Other materials: All carpet manufactured for sale in the United States is required by federal regulations to pass the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630) listed in *Appendix A*. If a material other than carpet is installed, the material shall be shown to be at least as resistant to flame propagation as a material which passes DOC FF-1 (minimum critical radiant flux of 0.04 watts/cm²).

780 CMR 806.0 COMBUSTIBLE MATERIALS PERMITTED IN FLOORS OF TYPES 1 AND 2 CONSTRUCTION

806.1 General: Except as provided for in 780 CMR 1014.0 for *stairways* and in 780 CMR 412.0 for *stages* and *platforms*, combustible materials installed in or on floors of buildings of Types 1 and 2 construction shall be as herein specified.

806.2 Sleepers, bucks and grounds: Floor sleepers, bucks, nailing blocks and grounds shall not be constructed of combustible materials, unless the space between the fire-resistance rated floor construction and the flooring is either solidly filled with approved noncombustible materials or *firestopped* in accordance with 780 CMR 720.6.7, and provided that such open spaces shall not extend under or through permanent partitions or walls.

806.3 Flooring: Wood finish flooring is permitted to be attached directly to the embedded or *firestopped* wood sleepers, and shall be permitted where cemented directly to the top surface of approved fire-resistance rated construction or directly to a wood subfloor attached to sleepers as provided for in 780 CMR 806.2. Combustible insulating boards not more than 1/2 inch thick and covered with approved finished flooring are permitted for sound deadening or heat insulating where attached directly to a non-combustible floor assembly or to wood subflooring attached to sleepers as provided for in 780 CMR 806.2.

Class I materials are required and materials complying with the DOC FF-1 "pill test" (CPSC 16 CFR, Part 1630) listed in *Appendix A* are permitted in any area where Class II materials are required.

805.4 Rooms and enclosed spaces: Requirements for rooms or enclosed spaces are based upon the spaces being enclosed with partitions extending from the floor to the ceiling. Where partitions do not satisfy this criterion, the room or space is considered

780 CMR 807.0 INTERIOR HANGINGS AND DECORATIONS

807.1 Decorative material restrictions: In occupancies in Use Groups A, E, I-2, I-3 and R-1, all curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall be noncombustible or be maintained flameresistant in accordance with 780 CMR 807.2 as herein specified *and 527 CMR 21.00* as listed in *Appendix A*.

807.1.1 Noncombustible: The permissible amount of non-combustible decorative hangings shall not be limited.

807.1.2 Flameresistant: The permissible amount of flameresistant decorative hangings shall not exceed 10% of the total wall and ceiling area.

807.2 Acceptance criteria: Where required to be flameresistant under the provisions of 780 CMR, all materials used for artistic enhancement, decorations, draperies, curtains, scenery and hangings shall comply with 780 CMR 807.0. If treated to be flameresistant, these materials shall not generate smoke more dense than that given off by untreated wood or paper burning under comparable conditions when tested in accordance with both the small-scale and large-scale tests in NFPA 701 listed in *Appendix A*.

807.2.1 Limitation of approval: All approvals of organic decorative material shall be limited to one year. The owner or the owner's authorized agent shall file an affidavit with the code official which certifies that the process and materials utilized comply with 780 CMR and which states the date of treatment and the warranted period of effectiveness of the process.

807.2.2 Field test for decorative materials: Where documented certification of flameresistance is not provided, the code official shall subject decorative materials that are required

to be flameresistant to a field test in accordance with Chapter 10 of NFIPA 701 listed in *Appendix A*.

807.2.3 Replacement of defective materials: All treated hangings, draperies, canvas and other decorative and tent materials which fail to conform to the field test requirements shall be retreated or replaced by an approved installation.