



Miami Beach Fire Department
FIRE PREVENTION DIVISION
STANDARDS



TOPIC: **Egress Corridors**

STANDARD NO: EXINSP -S18

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Revision 0

Means of egress corridors must be maintained clear and unobstructed as designed and in compliance with the Florida Fire Prevention Code. The corridors are designed by the architect to provide safe travel from an occupied space to the primary and secondary exits. In order to meet this objective, the code regulates the features of the exit access corridors such as construction, fire resistant rating, clear width, interior wall and ceiling finish, floor finish, contents, etc.

Five main reasons for corridor code requirements (FFPC-2007, NFPA 101):

- a) Design and maintain the necessary clear width for that occupancy and number of occupants to be able to evacuate in a timely manner.
- b) Design and maintain the tenable environment of the corridor during a fire emergency to be able to evacuate safely.
- c) Design and maintain the separation between units and common area.
- d) Maintain the design intent of life safety systems such as the sprinkler system and the smoke control system.
- e) Maintain clear and safe access for emergency personnel during rescue and firefighting efforts.

a) Maintain designed clear width

- Section 30.2.3.3 Corridors shall be of sufficient width to accommodate the required occupant load but have a width of not less than 44 inches. Depending on the occupant load, the clear width could be designed to be at least 36 inches.
- Section 7.5.1 Exits shall be located and exit access shall be arranged so that exits are readily accessible at all times.
- Section 7.5.1.1.1 Where exits are not immediately accessible from an open floor area, passageways, aisles, or corridors leading directly to every exit shall be maintained and shall be arranged to provide access for each occupant.



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b) Corridor safety – no combustible materials in corridor, fall hazards, etc.

- Section 7.1.10.1 - Means of egress shall be continuously maintained free of all obstruction or impediments to full instant use in the case of fire or other emergency.
- Section 7.1.10.2.1 - No furnishings, decorations or other objects shall obstruct exits, access thereto, egress therefrom, or visibility thereof.
- Section 7.1.10.2.3 - Mirrors shall not be placed on exit doors. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of egress.
- Section 4.5.3.2 - In every occupied building or structure, means of egress from all parts of the building shall be maintained free and unobstructed. Means of egress shall be accessible to the extent necessary to ensure reasonable safety for occupants having impaired mobility.
- Section 4.5.3.3 - Each means of egress shall be arranged or marked so that the way to a place of safety is indicated in a clear manner.
- Section 10.2.1.2 - Materials applied directly to the surface of walls and ceilings in a total thickness of less than 1/28 inch shall not be considered interior finish and shall be exempt from tests simulating actual installation if they meet the requirements of Class A interior wall or ceiling finish.
- Section 10.2.1.3 - Fixed or movable walls and partitions, paneling, wall pads, and crash pads applied structurally or for decoration, shall be considered interior finish and shall not be considered decorations or furnishings.
- Section 30.3.3.2/31.3.3.2 - Wall and ceiling in lobbies and corridors must have a Class A or Class B rating. Refers to Section 10.2
- Section 30.3.3.3/31.3.3.3 - Floor rating must be Class II. Refers to Section 10.2
- Section 30.3.3.4/31.3.3.4 - Furnishings or decorations of highly flammable character shall not be used outside of dwelling units.
- Section 10.2.4 - Addresses specific materials such as Textile wall covering, cellular or foamed plastic, and light-transmitting plastics that are not allowed.



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- Section 10.2.5 - Trim and incidental finish not in excess of 10% can be Class C.
- Section 102.5.3 - Bulletin boards, posters, and paper attached directly to wall surface shall not exceed 20% of wall area.
- Section 7.1.6.2 - Abrupt changes in elevation of walking surfaces shall not exceed ¼ inch to prevent tripping hazards.
- Section 7.1.6.4 - Walking surfaces shall be slip resistant under foreseeable conditions. The walking surface of each element of the means of egress shall be uniformly slip resistant along the natural path of travel.

c) Doors – obtain permits to change doors to ensure proper rating

- Section 30.3.6.2 Unit doors that open onto exit access corridors shall have not less than 20-minute fire protection rating. Some doors were designed to have a 1-hour fire protection rating or greater due to equivalencies approved during construction.



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d) Smoke Control Systems

Architects designed most of the high-rise buildings using acceptable engineering assumptions for the operation of the system. Normally, the floor of fire origin is designed to be neutral mode or smoke evacuation mode and the floors above and below are under positive pressure to prevent the fire from spreading to other floors. The design of the system is based on the fact that the corridor has no combustible contents; therefore, a sprinkler activation is assumed to be inside the unit and the system follows a programmed sequence of operation. If the design of the corridor is modified, even by adding furniture or other combustible materials, the smoke control system safety feature will now be reversed and smoke could be forced inside the units.

e) Clear access for emergency responders

Firefighters responding to a fire would normally expect corridors to be free of obstructions. During a fire, the corridor can fill with smoke very quickly and there should be nothing in the corridor hindering firefighter's search and rescue operations.

In summary, decorations and furniture are not allowed in the corridor. Corridors can have paint and wall paper in a single layer, less than 1/28 inch thick, meeting Class A finish rating. Frame pictures or art work is permitted as long as it does not exceed 10% of the wall area, and does not cover full height of wall regardless of width.



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INTERIOR FINISH

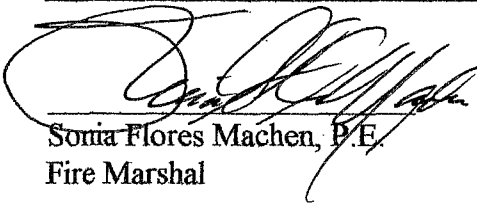
Interior Finish requirements are set by the Code with the objective to slow the flame spread across the finish surfaces to allow additional time for occupants to evacuate. The fire characteristics play a dramatic role in life safety when a fire occurs.

Interior Finish has been a significant factor in rapid flame spread in many of the deadliest US fires of recent decades. A few examples of such fires are:

- 1989, Atlanta, five people died on the floor of fire origin due to an intense, rapidly developing fire on the sixth floor of an office building. Fire spread very fast in the corridor and was later determined that multiple layers of wall coverings was a contributing factor in the fire.
- 1986, Dupont Plaza Hotel fire in which 96 people died. Interior finish in the ballrooms contributed to the rapid fire growth.
- 1981, Las Vegas, combustible carpeting on the walls and ceilings of elevator lobbies contributed to fire spread on the fire floor and spread vertically involving 22 floors.
- 1978, Holiday Inn fire that killed 10 people. Plywood paneling produced rapid growth.
- 1979, another fire, also 10 people died as a result of interior finish producing rapid fire growth. Carpeting and some wall coverings in corridors had excessive high flame-spread properties.

Highly combustible interior wall and ceiling finishes and easily ignited contents and furnishings are reported as factors in fire spread in various occupancies.

The faster a fire develops, the greater the threat it represents to the occupants of a building. Wall and ceiling surfaces have a major influence on how fast a fire develops. The Code's intention is to limit the spread of fire across the interior surfaces of a building. Any interior finish that acts as a "fuse" to spread flame and involve objects remote from the point of origin, or contributes fuel load to the fire, is not desirable. Therefore, the code requirements must be enforced during new construction and during annual fire inspections.


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4/17/2011
Date Issued