

 State of Connecticut
 Department of Administrative Services
 Division of Construction Services
 Office of Education and Data Management

*Office of Education and Data Management
 Spring 2017 Career Development Series*

Inspection of Existing Three or More Family Dwellings

*Presented by
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What is an existing building?



What is the effective date of our current Connecticut Fire Safety Code?

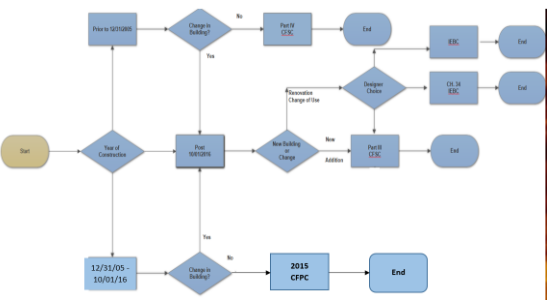
Existing definitions

- **Existing:** That which is already in existence on the date this edition of the code goes into effect (3.3.79 CFSC, Part IV).
- **Approved Existing:** That which is already in existence on the date this edition of the code goes into effect and is acceptable to the AHJ (3.3.79.1 CFSC, Part IV).
- **Existing Apartment Building:** A building erected or officially authorized prior to the effective date of the adoption of this edition of the Code by the agency or jurisdiction (3.3.36.5 CFSC, Part IV).

CFSC Part IV – Application 1.3.1

- This Part shall only apply to an occupancy or use located within buildings or structures, or portions thereof, that existed prior to December 31, 2005.
- Part III of this code shall be applicable for buildings or structures, or portions thereof for which a building permit was issued on or after December 31, 2005 up to the adoption date of this code.
- Change of use: **Part III**
- Repairs, alterations, and additions: **Part III**

CFSC Application Flowchart



Preparation

- Research
 - Proper preparation for the inspection will save time.
 - Construction date
 - Modifications
 - Prior Inspections
 - Compliance History



Do you schedule inspection appointments?

Appointment?

- | | |
|---|---|
| <ul style="list-style-type: none"> • Pros: <ul style="list-style-type: none"> • Inspection will be conducted. • Owner of owners rep will be present. • Prior arrangements can be made with tenants. • Necessary for large buildings or complexes. | <ul style="list-style-type: none"> • Con <ul style="list-style-type: none"> • Absentee landlords • Convenient time may mean working extended hours. |
|---|---|

- **Sec. 29-305.** (Formerly Sec. 29-52). Inspections by local fire marshals. Reports. Schedule of inspections. (c) Each local fire marshal and the State Fire Marshal, for the purpose of satisfying themselves that all pertinent statutes and regulations are complied with, may inspect in the interests of public safety all buildings, facilities, processes, equipment, systems and other areas regulated by the Fire Safety Code and the State Fire Prevention Code within their respective jurisdictions.
- **(d)** Upon receipt by the local fire marshal of information from an authentic source that any other building or facility within the local fire marshal's jurisdiction is hazardous to life safety from fire, the local fire marshal shall inspect such building or facility. In each case in which the local fire marshal conducts an inspection, the local fire marshal shall be satisfied that all pertinent statutes and regulations are complied with, and shall keep a record of such investigations. **Such local fire marshal or a designee shall have the right of entry at all reasonable hours into or upon any premises within the local fire marshal's jurisdiction for the performance of the fire marshal's duties except that occupied dwellings and habitations, exclusive of common use passageways and rooms in tenement houses, hotels and rooming houses, may only be entered for inspections between the hours of 9:00 a.m. and 5:00 p.m.,** except in the event of any emergency requiring immediate attention for life safety, or in the interests of public safety. Each local fire marshal shall make a monthly report to the authority which appointed the local fire marshal and shall be paid for his or her services in making such inspections of buildings, facilities, processes, equipment, systems and other areas the compensation agreed upon with such appointing authority.

Who can grant you the permission to inspect a building?

Can a landlord grant you entry into a rented dwelling unit?

What are your option when you are refused entry by the property owner?

Unscheduled Inspections

- Gaining Entry
 - Knock
 - Open doors to common areas
 - Plain view



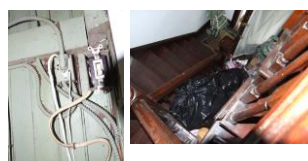
Door Tags

Tenants will call especially if they are having problems with the owners or management company.



Be prepared to prepare a case

- Violations must be documented for court.
- In some cases it may be advantageous to document at the initial inspection.

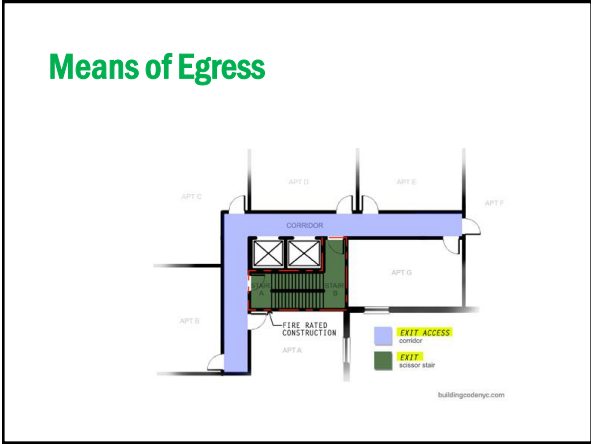


Important concepts



Four Primary Concerns

- Means of Egress
- Segregation of Hazards
- Early Detection & Warning
- Maintenance



Number of Exits (31.2.4)

- Single Exits Permitted
 - 31.2.4.4 (Amended) Any Dwelling unit
 - Door opening direct to exterior at ground level. Or,
 - Direct access to an outside stair complying with 7.2.2., Or
 - Dedicated 1-hour fire rated interior stair.
 - 7.2.2.6.3.1 (Amended) Separation of Outside Stairs
 - Outside stairs protected as required for interior stairs, except:
 - When served by exterior exit access balcony w/ 2 stairs or ramps
 - Existing, not more than 4 stories including LED with remote 2nd exit.
 - Outside stairs in sprinkler protected buildings.

In a single exit building, when does an outside stair need to be separated from the interior of the building?

• **Single Exits Continued:**


- 31.2.4.5 (Amended) 4 Stories or Less w/ Sprinklers
 - Stair is separated by 1-hour rated construction
 - Stairway does not serve more than ½ story below LED
 - ½ hour rated exit access corridors
 - Maximum 50 foot travel distance from apartment entrance door to the exit.
 - ½ hour dwelling unit separation.

• **Single Exits Continued**

- 31.2.4.6 (Amended) 3 Stories or Less
 - Stairway separation not less than 1-hour
 - Stairway does not serve more than ½ story below LED
 - ½ hour fire rated exit access corridors
 - Maximum 50 foot travel distance from apartment entrance door to the exit.
 - ½ hour dwelling unit separation.

What concerns are there in applying 31.2.4.6 to an existing building?

- Ratings of existing materials are very difficult to assess.
- Evaluation of the continuity of the separation is nearly impossible




Recommendation

Require that the property owner provide documentation from a Connecticut registered design professional that the dwelling unit separations are provided.

Enclosure of Interior Egress Stairs

- 31.2.2.2.3.1: Stairs shall comply with 7.2.2.
- 7.2.2.5: Enclosure and protection of stairs
- 7.2.2.5.1.1: Inside stairs shall be enclosed per 7.1.3.2



Enclosure of Interior Egress Stairs

- 7.1.3.2.1 (Amd)
 - Separating construction per 8.2
 - Existing, non-high-rise: 1 Hour
- 8.2.2.2: Fire barriers constructed per 8.3
 - 8.3.1.1: Existing Lathe & Plaster equivalent to ½ hour
 - 8.3.4.3: Existing ¾ hour doors acceptable in 1 –hour enclosures.
 - 8.3.4.3.1 (Amd): 20 minute rated or 1 ¾ inch solid wood door with other protection permitted.


What constitutes a high-rise building?

Solid wood door allowance (8.3.4.3.1)

- 1 ¾ inch solid wood core door
- ¾ inch hardwood stock door frame
- Partial
 - Sprinkler protection
 - Fire detection
 - Installed opposite of, and on the inside of any door that opens into the exit enclosure
 - Occupant notification required per 9.6

Other Exit Enclosure Concerns

- Enclosure continuity (8.3.1.2 CFSC, 7.1.3.2.1 CFSC)
 - Basement Level
- Closets
 - Enclosed usable space (14.6.3 CFPC, 7.2.2.5.3 CFSC)
- Porches




Protection of Outside Stairs (7.2.2.6 CFSC)

- Protection as required for interior stairs (7.2.2.6.3.2 Amd)
- Except:
 - When serving an exterior exit access balcony w/ 2 stairs
 - Existing stairs serving not more than 4 adjacent stories, including the story of discharge, may be unprotected where there is a remotely located second exit.
 - Outside stairs in existing, sprinkler protected buildings.

Protection of Fire Escapes (7.2.8.2)

- Exposed to the smallest number of openings
- Protection required when:
 - Horizontally within 15'
 - Below within 3 stories
 - Above within 10'



How can the Local Fire Marshal be sure that a fire escape is safe?

The AHJ shall be permitted to approve any existing fire escape stair that has been shown by load test or other satisfactory evidence to have adequate strength (7.2.8.6.2 CFSC).

What component of the means of egress does a corridor constitute?

Corridor Ratings (31.3.6CFSC)

- ½ hour rated fire barrier walls.
- 20 minute fire rated doors with self-closing and positive latching devices.
- Transoms and louvers prohibited

Stair details to worry about

- **Minimum Dimensions** (7.2.2.2.1.1)
 - Width: 36" (unless egress capacity demands greater)
 - Maximum Riser Height: 8"
 - Minimum Tread Depth: 9"
- **Handrails** (7.2.2.4.1)
 - Required on one side in existing buildings.
 - Existing buildings: 30" to 38" above the surface of the tread.
 - Grasp ability requirements of 7.2.2.4.4.6 apply.

Guard Details (7.2.2.4.5)

- Height of the guard is measured from the floor surface to the top of the guard.
- Minimum Height: 42"
- Exceptions:
 - Within dwelling units: Not less than 36" (does not apply to common use stairs)
 - **Existing guards on existing stairs may be not less than 30"** (7.2.2.4.5.2 (3)).

A.7.2.2.4.5.2(3) This reduction in required height applies only to the stair, not to the landings.

Approved Existing Open Guards (7.2.2.4.5.3 CFSC)

- 7.2.2.4.5.3 requires that open guards have intermediate rails or ornamental patterns that will not allow a 4" sphere to pass.
- This section exempts approved existing guards.

What constitutes an approved existing guard?

Prior Code Requirements

- 2 methods acceptable in buildings built prior to 10/16/1989:
- Longitudinal rails spaced not more than 10" apart.
- Traditional balusters spaced not more than 6" apart.

Source: 1971 CSBC



Connecticut Winders (7.2.2.2.4.4Amd)

- Existing winders acceptable if:
 - Min. tread depth of 7 1/2" measured 12" from narrow end
 - 2" wide contrasting stripe at nosing
 - Normal and emergency lighting
 - Handrail for full length of stair along widest portion.



Windows for Rescue and Ventilation

- 31.2.1.2: Means of escape within the dwelling unit shall comply with Section 24.2 for one and two family dwellings.
- 24.2.2 requires that each sleeping room and every living area be provided with a primary means of escape and a secondary means of escape.
- Primary means of escape is the entry door into the room.

- Secondary means of egress, other than existing approved:
 - Door or stairway
 - Passage through another unlockable, adjacent space that leads to a remote means of escape or means of egress.
 - A window or door that meets the following requirements:

Window Requirements

(22.2.2.3.3 Amd)

- Opening 5.7 s.f.
 - Opening size to accommodate FF with full PPE.
 - 3.3 s.f. opening must be achievable without tools.
- Min. 20" width
- Min. 22" high
- Max. 40" above the floor or steps.



- Window must be maximum 20' above grade
- Accessible to the FD
- Below grade windows:
 - Net opening of window well 9 s.f. with 36" minimum dimensions
 - Steps or ladder if the well in more than 44" below grade.

Segregation of Hazards (31.3.2 CFSC)

Table 31.3.2.1.1 Hazardous Area Protection

Hazardous Area Description	Separation/Protection*
Boiler and fuel-fired heater rooms serving more than a single dwelling unit	1 hour or sprinklers
Employee locker rooms	1 hour or sprinklers
Gift or retail shops >100 ft ² (>9.3 m ²)	1 hour or sprinklers ²
Bulk laundries	1 hour or sprinklers
Laundries >100 ft ² (>9.3 m ²) outside of dwelling units	1 hour or sprinklers
Maintenance shops	1 hour or sprinklers
Rooms or spaces used for storage of combustible supplies and equipment in quantities deemed hazardous by the authority having jurisdiction	1 hour or sprinklers
Trash collection rooms	1 hour or sprinklers

What does this mean?

*Minimum fire resistance rating.
²Where sprinklers are provided, the separation specified in 8.7.1.2 and 31.3.2.1.2 is not required.





Heating Appliances

- Residential furnaces, boilers, hot water heaters may be unenclosed when located within dwelling unit (31.3.2.1.1.1 Amd CFSC)
- Boilers, furnaces with less than 400,000 btu input rating may be unenclosed
- Unvented, fuel-fired heaters, other than those in compliance with NFPA 54, shall not be used (31.5.2.2 CFSC)
- Unvented kerosene burners and oil stoves shall not be used in any residence other than a single family detached home (11.5.2.2 Amd CFPC)

Multiple Occupancies (31.1.3 CFSC)

- Multiple dwelling units can be located above non-residential occupancy when:
- 1-hour separation, or
- Sprinklers throughout non-residential occupancy, or
- Automatic fire detection system throughout the non-residential occupancy.

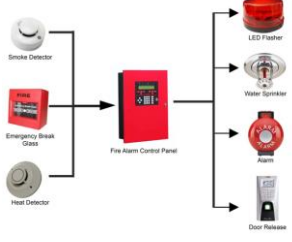


Fire Protection



Fire Alarm Systems (31.3.4 CFSC)


- System required:
 - More than 11 dwelling units
 - Exception: ½ hour separation and separate exits
 - Exception: No interior corridors with sprinklers and separate exits



- Initiation by manual means.
 - Exception
 - 4 or less stories
 - 16 or less dwelling units
 - Sprinkler protected
- Occupant Notification
 - Installed in accordance with Section 9.6 CFSC
 - Visual signals in units designed for hearing impaired

Smoke Alarms
(31.3.4.5)

- Required within all dwelling units:
- Outside every sleeping area and in the immediate area of the bedrooms, and
- On all levels of the dwelling unit including the basement



Maintenance

- Fire protection equipment tested and maintained in accordance with the Fire Prevention Code.
- Emergency lights and exit signs tested in accordance with the Fire Prevention Code.
- Means of egress maintained in accordance with the Fire Prevention Code.
- Building services maintained in accordance with the Fire Prevention Code.