



FIRE PREVENTION GUIDELINE

Title: Fire Escapes		
Number: FPG-07	Effective Date: 01/01/2023	Revised Date: 03/01/2023
Code References: California Fire Code (CFC), California Code of Regulations (CCR) Title 19, Merced Municipal Code (MMC)		
Note: <i>This guideline is a summary of Fire Department clarifications and interpretations of City and State Codes and nationally recognized standards in accordance with the currently adopted edition of the Fire Code. Information contained herein applies to typical circumstances and may not address all situations.</i>		

Scope

This Guideline has been developed to assist the public and business community with the inspection, testing and certification requirements for fire escapes.

Codes and Guidelines

This guideline shall apply to buildings provided with one or more fire escapes in accordance with the California Fire Code, California Code of Regulations, Title 19 and the Merced Municipal Code.

Permits Required

An operational permit is not required. Construction permit may be required from Building Department.

Definitions

Fire Escape Assembly: A secondary exit attached to the exterior wall of a building that is two or more stories in height and which provides emergency egress from the building. Fire escape assemblies shall include stairs, railings, landings, ladders and all associated safety equipment

Specific Requirements

1. Inspection

All fire escape assemblies shall be inspected at least annually by a structural engineer or trained individual approved by the Fire Marshal. The following items must be reviewed and documented on the attached "Fire Escape Checklist" (page 4). The completed form shall be submitted to the City of Merced Fire Prevention Bureau. References: NFPA, ASTM E-119, UL 2079

- a. Visually inspect all stairs, landings, ladders, guards, rails and safety chains.
- b. Bolts and supports should not be damaged or rusted.
- c. Paint is in good condition
- d. Ensure that all landings are accessible from the inside of the building and proper signage is provided.

2. Access



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Access to exterior fire escapes is commonly via doors or windows at the end of a common hallway or via a tenant space/apartment unit. Exit access requirements limit the number and types of locks/locking devices, the size of the opening, size and type of breakable glass, the presence of tools for breaking the glass, and signage for locating the fire escape.

3. Signs

Fire escape access points are to be provided with a sign "FIRE ESCAPE" to be visible on approach. These signs have been installed as paper/plastic/metal signs with external illumination, older style glass light fixtures (green or red) with FIRE ESCAPE painted on them, or newer internally illuminated signs indicating either FIRE ESCAPE or EXIT. Modifications or upgrades to existing signage may be ordered by the Fire Marshal. The preferred wording for signage leading to an exterior fire escape is "FIRE ESCAPE".

4. Operation

Verify all moving parts, ladders, stairs, windows, and doors are operable

- a. Operate the ladder mechanism to ensure the ladder travels to the ground without hesitation. The ladder must be stable after reaching the ground. This procedure should be conducted at least twice.
- b. All escape windows should be opened. The window latch should be free of debris and easy to open.
- c. Doors should be equipped with approved hardware that is operable without the use of a key or any special knowledge or effort.

5. Repairs

A licensed contractor or other qualified person or firm as approved by the Fire Marshal must perform all repairs. Major repairs may require certification and stress testing.

6. Certification

All fire escape assemblies must be inspected and certified every five years by a licensed structural engineer or other qualified testing agency as approved by the Fire Marshal. The certification shall be noted through an affidavit delivered to the Fire Marshal. If the fire escape fails to pass certification or requires major repairs a load test may be required by the Fire Marshal after repairs have been completed.

7. Stress Test-Fire Escape Performance Criteria

Fire escapes shall comply with the following performance standards:

- a. Fire escape stairs and balconies shall support their dead load plus a live load of not less than 100 pounds per square foot or concentrated load of 300 pounds placed anywhere on the landing, balcony or stairway so as to produce the maximum stress.



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- b. In addition to individually testing each landing/platform, the fire escapes will be tested to evaluate a maximum loading event: Buildings 4 to 8 stories in height must load two adjacent platforms simultaneously.
- c. All stairway and balcony railings shall support a horizontally applied force of not less than 50 pounds per lineal foot of railing applied at top of railing, or a concentrated load of 200 pounds placed anywhere on the railing so as to produce the maximum stress.
- d. Building ladders shall be designed and connected to the building to withstand a horizontal force of 100 pounds per lineal foot in any direction; each rung shall support a concentrated load of 500 pounds placed anywhere on the rung so as to produce the maximum stress. Ladder assemblies shall have a minimum vertical load capacity of 100 pounds per lineal foot for each foot of width.

Engineered drawings must be submitted to the Fire Marshal's Office (and/or Building Department) for approval that detail where and how loads will be placed for each test for each stair, platform, ladder, and railing. A test procedure shall be provided by the testing company outlining each test.

ANNUAL FIRE ESCAPE CHECKLIST



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FOR EXISTING BUILDINGS

Building Name: _____
Address: _____
Building Owner: _____
Mailing Address: _____

	In Compliance/ Not Applicable	Correction Needed	Date Corrected
1. Is the fire escape clear and unobstructed?	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. All access doors and windows are operable from the inside with a single action and without the use of a key or any special knowledge or effort?	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. All windows have a minimum unobstructed opening width of 29"X 29".	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Windows and doors are not stuck and open easily.	<input type="checkbox"/>	<input type="checkbox"/>	_____
5. Proper illuminated fire escape signs in place?	<input type="checkbox"/>	<input type="checkbox"/>	_____
6. Has the fire escape been maintained, and protected from internal and external rust and integrity of the paint been maintained since the date of installation?	<input type="checkbox"/>	<input type="checkbox"/>	_____
7. Handrails checked for integrity?	<input type="checkbox"/>	<input type="checkbox"/>	_____
8. No electrical lines or other hazards are located within 10 feet of the fire escape?	<input type="checkbox"/>	<input type="checkbox"/>	_____
9. Anchoring devices are intact and free from rust or rot?	<input type="checkbox"/>	<input type="checkbox"/>	_____
10. Counterbalance is balanced and operational?	<input type="checkbox"/>	<input type="checkbox"/>	_____
11. Ladders were dropped and stayed down, at grade, when activated and/or released?	<input type="checkbox"/>	<input type="checkbox"/>	_____
12. There were no obstructions preventing ladders from reaching ground level?	<input type="checkbox"/>	<input type="checkbox"/>	_____
13. Operation of the counter balance and ladders was completed twice?	<input type="checkbox"/>	<input type="checkbox"/>	_____
14. All loose bolts, grates and framework tightened, repaired, or replaced as necessary?	<input type="checkbox"/>	<input type="checkbox"/>	_____
15. The last Five-Year Fire Escape Certification was completed by:			_____
			Date _____

Engineer/Inspector of Record:

I _____ on this date _____ have inspected and tested the fire escape with this form's criteria and good engineering practices. A copy of this form is to be forwarded to the City of Merced Fire Department at 99 E. 16th Street, Merced Ca. 95340. Fax (209)-385-6870



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