



National Fire Escape Association

INDUSTRY STANDARDS CODES & COMPLIANCE

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Fire Escape Restoration and Replacement National Standard

in relation to fire-escapes, fire-stairs, etc..

Fire-escapes shall comply with the national, state and local laws governing such structures.

The voluntary erection of fire-escapes on residential or commercial buildings shall be in conformity with these rules and regulations unless otherwise directed by AHJ, Authority Having Jurisdiction.

It is the intent of these rules to cover only general conditions and they are not designed to cover specific or special cases.

When such may occur the owner is required to consult the AHJ and receive instructions before starting of work.

(1) *Fire-escapes on multiple dwellings requiring new certificate of occupancy.* Except as provided in Local Law re lodging houses, double-rung ladder type fire-escapes will not be accepted when a new Certificate of Occupancy is required.

(2) *Alterations for increased occupancy.* Where an alteration is made increasing occupancy on any story and a fire-escape is required such fire-escape shall conform to the provisions of Local Law and to the applicable provisions of these rules.

(b) *General provisions.*

(3) *Caution.* No fire-escapes shall be removed from any building without due precaution against leaving occupants without fire-escape protection as required by Local Law.

(4) *Entrance story, etc.-second means of egress.* Where the distance to safe landing, from the window sill of any apartment on any story, including the entrance story, is more than twelve feet (12'-0"), a balcony and sliding drop-ladder or other approved second means of egress shall be provided for such apartment. Safer egress to street or other safe place shall be provided from the termination of such means of egress.

(5) *Application blanks and plans.* Before the erection of new fire-escapes or alteration of existing fire-escapes upon any building, application must be filed with and approved by the AHJ.

(6) *Projections beyond the building line.* Every part of fire-escapes or balconies erected on the fronts of multiple dwellings shall be at least ten feet (10') above the sidewalk when such fire-escapes or balconies project beyond the building line.

(c) *Illegal fire-escapes shall be removed.* All vertical ladder, wire, chain or cable fire-escapes if required as a means of egress shall be removed and replaced with a legal means of egress.

(d) *Acceptable existing means of egress on existing multiple dwellings.* With exceptions in current Local Law, any existing means of egress which was lawfully permitted prior to the time Local Fire Escape Laws became effective may be continued as a legal means of egress as hereinafter enumerated.

If located on the front or rear wall of the building and properly connected with stairs with proper openings.

If located in an outer court at a point distant not more than thirty feet (30'-0") from the outer end of such court and provided such court is not less than five feet (5'-0") in width from wall to wall at any point between such fire-escape and the outer end of said court.

If located in an inner court whose least horizontal dimension is not less than fifteen feet (15'-0") measured from wall to wall.

If a party-wall balcony on the front or rear wall of the building and there are no doors or openings in the walls between the two buildings other than windows in fireproof air shafts.

If a party-balcony located in an outer court not more than fifteen feet (15'-0") in length measured from the outer end of such court to the innermost point thereof, and not less than five feet (5'-0") in width from wall to wall at any point between the fire-escape and the outer end of said court, and provided also that there are no doors or openings in the walls between the two buildings other than windows in fireproof air-shafts.

No fire-escape, however, shall be deemed sufficient unless all the following conditions are complied with:

All fire-escapes, whether a required means of egress or not, shall be maintained in good order, repair and structurally safe.

Except as provided in Local Law every apartment above the ground floor in a multiple dwelling shall have direct access to a legal fire escape without passing through a public hall.

Except party-wall balconies, all balconies shall be connected to each other by means of a stair or, when permitted, by double-rung ladders.

All fire-escapes, except party-wall balconies, shall have proper drop-ladders in guides from the lowest balcony of sufficient length to reach a safe landing place beneath.

All fire-escapes not on the street shall have a safe and adequate means of egress from the yard or court to the street or to the adjoining premises.

Prompt and ready access shall be had to all fire-escapes. Except as provided in Local Law, such access shall be through a living room or private hall in each apartment or suit of rooms at each story above the ground floor and shall not include the window of a stairhall, nor shall any such egress be obstructed by sinks or other kitchen fixtures, or in any other way.

No existing fire-escape shall be extended or have its location changed except with the written approval of the AHJ.



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Where an existing apartment in a tenement house erected prior to April twelfth, nineteen hundred and one, is located entirely on a court and has no rooms opening on the street or yard, fire-escapes hereafter provided for such apartments may be located in courts under the same conditions as prescribed for existing fire-escapes in this subdivision.

When wire, chain cable or vertical ladder fire-escapes are permitted to remain on Multiple Dwellings under the provisions of Local Law, they shall be considered only as supplemental fire-escapes.

Such fire-escapes shall be maintained in a safe condition of repair at all times and shall be subject to the applicable requirements of all laws and to these rules in relation to maintenance of existing fire-escapes.

Before a pending violation requiring the removal of such existing fire-escapes is superseded or cancelled, an inspection shall be made in accordance with the specific requirements as set forth in the preceding paragraph.

Each of the owners of adjoining structures, commonly served by party-wall balconies serving as a required means of egress, shall maintain in good order and repair that portion of each such balcony which is on his property, and each such owner shall maintain egress normally unobstructed and unimpeded from each such balcony to and [sic] through his structure.

It shall be unlawful for the owner of a structure on which there is a party-wall balcony serving as a required means of egress from an adjoining structure, to remove such party-wall balcony or any portion thereof or to prevent, eliminate or obstruct egress from such party-wall balcony to and through his structure, unless and until such owner has had erected a legal fire-escape or other approved means of egress.

(e) *Party-wall balconies.*

(1) *New party-wall balconies.* The erection of new party-wall balconies shall be subject to the discretion and jurisdiction of the Department of Buildings, provided, however, that there shall be no doors or openings in the wall between the buildings served by such balconies other than windows in fireproof airshafts. New party-wall balconies will not be permitted on adjoining frame multiple dwellings.

(2) *Existing party-wall balconies.* Party-wall balconies existing on any multiple dwelling shall afford safe egress, be kept in good order and repair, be constructed so as to be structurally strong and shall be maintained in conformity with all other applicable laws, rules and regulations. Such fire-escapes are acceptable on occupied multiple dwellings.

(f) *Party-wall fire-escapes.* The Department of Buildings may consent to the erection of party-wall fire-escapes on adjoining multiple dwellings, to which the occupants have safe, unobstructed access in common, when such party-wall fire-escapes are constructed and maintained in accordance with the law and these rules.

(1) Any existing party-wall fire-escape (stairways) connection with and used in common by a multiple dwelling and a non-multiple dwelling is acceptable when such fire-escape is maintained in good order and repair and affords safe egress.

(g) *Double-rung ladders.*

(2) Double-rung ladders will not be permitted on new fire-escapes.

(3) Any fire-escape existing prior to the enactment of the Multiple Dwelling Law on any multiple dwelling that does not require a certificate of occupancy resulting from an alteration, if structurally sound and in good condition and provided with existing ladders inclined at an angle not exceeding eighty (80) degrees and equipped with double-rung steps and which affords safe egress, shall be deemed to be a legal fire-escape.

When a Certification of Occupancy is requested or required in connection with a lodging house which is equipped with a double-rung ladder fire-escape and such fire-escape is in good repair and adequate, except as to type, and only minor violations exist the correction of which will make the premises conform to all other law requirements, the existing double-rung ladder fire-escape may be accepted.

(4) Except as provided in re lodging houses, double-rung ladders are not acceptable when a new Certificate of Occupancy is to be issued.

(h) *Alteration of existing two-balcony fire-escapes on existing multiple dwellings.* When a building is not more than three

(3) stories in height and provided with a balcony on each of the second and third stories, with connecting vertical ladders, and balconies not less than two feet five inches (2'-5") in width and of adequate length, the Department of Buildings may permit the removal of vertical ladders and replacing of the said ladders with regulation sixty (60) degree connecting stairs.

Standards shall be one-half inch (1/2") round or square and height of rail at least two feet nine inches (2'-9").

The stairs shall be not less than seventeen inches (17") wide with a passageway between string and wall or string and top rail of not less than fourteen inches (14"). In lieu of such passageway, the AHJ will permit a drop-ladder to be installed and placed at each end of the lowest balcony in those cases where it is impractical to provide a passageway of such minimum width.

New brackets shall be provided where necessary.

The gateway shall be cut in the front rail with a drop-ladder and guides from second (2nd) story to safe landing. Where fire-escapes are located at rear of building a gooseneck ladder shall be provided. The gooseneck ladder may be placed at an angle from the top floor balcony to the roof. When placed at an angle a minimum space of twenty-four inches (24") shall be maintained between the strings and front top rail and a minimum space of fourteen inches (14") between the strings and the front bottom rail. There shall be a space of at least twenty-four inches (24") between the string of the gooseneck ladder and the frame of the window.

Conditions may be found where this modification will not exactly apply. When such a condition is found it should be brought to the attention of the AHJ for decision.



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When fire-escapes are at the front no gooseneck ladder shall be required.

When access to such existing two-balcony fire-escape is solely by means of a window in a bathroom, the doors of such bathrooms shall be glazed with glass other than wire glass and all key or cylinder locks shall be removed from doors. In such bathrooms there shall be no fixtures located in front of the window opening to fire-escape.

Such altered two-balcony fire-escape shall conform to all other requirements of law and these rules and regulations.

(i) *Accessibility of fire-escapes from apartments, rooms, kitchenettes and other spaces.* Prompt and ready access shall be had to all fire-escapes and, except as provided in Local Law, such access shall be through a living room, kitchenette or private hall in each apartment or suite of rooms at each story above the ground floor.

Access to fire-escapes shall not include the window of a stairhall, nor shall any such egress be obstructed by sinks or other kitchen fixtures, or in any other way.

A clear space of at least twenty-one inches (21") must be maintained as a passageway between any fixtures and the side of an opening leading to fire escapes.

In any apartment which is occupied by a "family" as defined in Local Law, and in which one or more living rooms are rented to boarders or [*sic*] lodgers, every such room shall be directly accessible to a fire-escape without passing through a public hall, and for separately occupied living rooms access to fire-escapes shall be direct from such rooms without passing through a public hall or any other separately occupied room, except as may be permitted in Local Law.

(1) *Egress from apartments used for "Single Room Occupancy".* No room in any apartment shall be so occupied for "single room occupancy" unless each room therein shall have free and unobstructed access to each required means of egress from the dwelling without passing through any sleeping room, bathroom or water-closet compartment.

In apartments used for "single room occupancy" there shall be access to a second means of egress within the apartment without passing through any public stair or public hall. Every tenement used or occupied for single room occupancy in whole or part under the provisions of Local Law, and which does not have at least two means of egress accessible to each apartment and extending from the ground story to the roof, shall be provided with at least two means of egress, or, in lieu of such egress, every stair hall or public hall, and every hall or passage within an apartment, shall be equipped on each story with one or more automatic sprinkler heads approved by the department. Elevator shafts in such tenements shall be completely enclosed with fireproof or other incombustible material and the doors to such shafts shall be fireproof or shall be covered on all sides with incombustible material.

In apartments used for "single room occupancy" where access to a required means of egress is provided through a room such access to such room shall be through a clear opening at least thirty inches (30") wide extending from floor to ceiling and such opening shall not be equipped with any door frame, or with any device by means of which the opening may be closed, concealed or obstructed.

(j) *Window bars, gates, etc.* No iron bars, gates or other obstructing devices will be permitted on any window giving access to fire-escapes or where such window provides a secondary means of egress in case of fire on any story, including the ground floor, basement, cellar, etc.

(k) Windows on grade level at sidewalk, yard or court, or at roof level of an adjoining building, may have bars, but at least, one window in any apartment or suite of rooms shall be without bars or obstructions of any kind in order to afford a second means of egress and such window shall conform to the provisions of Local Law.

(l)(k) Windows and doors to fire-escapes. The window or door giving access to fire-escapes shall not be less than two feet (2') in width and the sill of the window shall not be more than three feet (3') above the floor. Window openings shall be not less than two feet six inches (2'-6") high in the clear.

(1) *Steel casement sash.* Steel casement sash opening outward onto any fire-escape balcony three feet six inches (3'-6") in width will be permitted, provided such sash is equipped with approved extension hinges so that, when opened, the sash will be flat against the wall, and further provided that there will be no adjusters on the sash as part of its equipment. Passageway of fourteen inches (14") clear width is required to be maintained between the sash or hinges and any portion of the fire-escape when the sash lies flat against the wall.

When casement sash is set at right angle to the fire-escape stairway a clear radial width of twenty inches (20") must be provided.

(2) *Wire screens and storm windows.* Wire screens are permitted on a door or window giving access to a fire-escape. Such screens may be of the rolling type, casement or of a type that slides vertically or horizontally in sections, providing that there shall be a clear unobstructed space two feet (2') in width and two feet six inches (2'-6") in height when the screens are opened and further provided that no such screen shall be subdivided with muntins or other dividing or separating bars into spaces less than two feet (2') in width by two feet six inches (2'-6") in height.

Storm sash and storm doors are permitted on openings giving access to fire-escapes provided they are arranged so as to be easily and readily opened from the inside and do not obstruct or interfere with safe egress.

(1) *Egress from fire-escape balconies not to be obstructed.* Egress from fire-escape balconies must not be obstructed by signs, fixed awnings or any other obstruction.

(m) *Extension roofs used as means of egress or directly under fire-escape balcony.*

(1) *Hereafter erected extension roofs.* Where the roof of an extension hereafter erected is to be used as a means of egress from a fire-escape, or where a fire-escape balcony is located directly above said roof, such roof shall be of fireproof construction.

(2) *Existing extension roofs.* Except in converted dwellings where sprinklers may be installed, in every multiple dwelling where a



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fire-escape balcony is situated over and not more than eight feet (8') above a non-fireproof roof, or where a non-fireproof roof of an extension is to be used as egress from fire-escapes, the entire ceiling of said extension must be fire-retarded with metal lath and cement or gypsum mortar in the manner prescribed in these rules and regulations, or with one-half inch (1/2") approved plaster boards lined with No. 26 U.S. gage [sic] stamped metal. In buildings requiring the issuance of a Certificate of Occupancy as a result of being altered structurally, the only approved method shall be with cement or [sic] gypsum mortar and metal lath weighing not less than three (3.0) pounds per square yard which shall be applied directly to the beams or other structural members.

Where the roof of an existing extension is used as fire egress, a balcony shall be provided at the level of the roof and, if the distance between the said balcony and a safe landing is more than sixteen feet (16'-0"), a landing platform must be provided not more than ten feet (10'-0") from said safe landing and this landing platform and the balcony on the roof level must be connected by a regulation stairway. From the landing platform a drop-ladder in guides must be provided so as to reach the safe landing.

A balcony and drop-ladder in guides as per Local Law shall be provided for every two fire-escape stacks or fraction thereof using an extension roof for landing and fire egress.

(3) *Skylights on extensions.* Any existing skylights in said roof must be constructed of incombustible material whenever deemed necessary.

Where skylights exist or are hereafter constructed on the roof of an extension used as a means of egress from a fire-escape, they must not interfere with egress in any way and if in the line of said egress, they must be provided with a substantial guard-rail not less than three feet six inches (3'-6") high.

(n) *Egress to street required from fire-escapes located in yards and courts not extending to the street.* In an old law tenement or a converted dwelling where fire-escapes are located in a yard less than thirty feet (30'-0") in depth, or in a court which does not extend to such a yard or to the street, there shall be egress to the street by means of a fireproof [sic] passageway. In such multiple dwellings, where the yard is less than thirty feet (30'-0") in depth and where the consent of owner of the adjoining premises is obtained, in lieu of providing such fireproof [sic] passageway, a door or gate in a lot-line fence leading from such yard or court to the yard or court of the adjoining premises may be accepted, provided, however, that such door or gate provides adequate egress and is not locked or secured in any manner except by a readily [sic] accessible, easy to open hook or bolt.

Where fire-escapes are located in the yard of a new law tenement or of a multiple dwelling, access shall be provided from the street to the yard either in a direct line or through a court as provided in Local Law.

§Where fire-escapes are located in a court of a new law tenement or of a multiple dwelling, and such court does not extend to the street, a fireproof passageway leading directly to the street shall be provided as required by Local Law.

All passageways required under these Rules shall be not less than seven feet (7'-0") in height and not less than three feet (3'-0") in width and shall at all times be kept clear and unobstructed. Doors and gates at the end of such passageways are prohibited, except that a door or gate equipped with an approved-type knob or panic bolt which shall be readily openable from the inside will be permitted at the building line. Doors and gates provided with keylocks or padlocks are prohibited.

(o) *Location for new fire-escapes.* No required fire-escape shall be permitted to be placed on an adjoining property without the written consent of the AHJ. No fire-escape shall be erected within ten feet (10') of the termination of a duct. Fire-escapes for existing multiple dwellings shall be located as required by the department and arranged so as to provide legal egress for all rooms and apartments.

§*Fire-escapes in court (side yard).* Except as provided in Local Law where an apartment has a street frontage and extends also to a yard, fire-escapes may be permitted to be placed in a court (side yard) if the court (side yard) is not less than seven feet (7'-0") wide. In any multiple dwelling where exterior structural conditions are such as to prevent the erection of a fire-escape on the street front or yard, new fire-escapes may be permitted to be erected in a lot-line court (side yard) providing the lot-line court (side yard) extends from street to rear yard and is not less than three feet (3'-0") in width for its full length. Fire-escapes erected in such court may be three feet (3'-0") wide when the width of such court does not permit balconies three feet four inches (3'-4") in width.

The width of stairways and passageways and other arrangement details affected by the permitted reduction in the width of balconies will be determined and furnished to contractor by the AHJ upon request.

§Where an existing apartment in a tenement is located entirely on a court and has no rooms opening on the street or yard, fire-escapes hereafter provided for such apartments may be located in courts under the same conditions as prescribed for existing fire-escapes in Local Law.

() *Materials.* All fire-escapes hereafter constructed shall consist of outside open balconies and stairways of iron, stone, or other approved materials. Wherever the term wrought iron is used in these rules it shall be deemed to include all other especially approved metals.

() Cast iron will not be permitted to enter into the construction of fire-escapes.

(r) The use of old material in the construction of new fire-escapes is prohibited.

(s) Bolts used in the construction or repair of fire-escapes shall be machine bolts. The use of stove bolts is prohibited.

(t) The strength and construction of stone balconies hereafter erected forming part of the fire-escape shall be subject to the approval of the AHJ.

(u) All structural steel used in the construction of fire-escapes shall be at least one-quarter (0.25) inch in thickness.



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(q) *Types of fire-escapes.* There shall be two types of fire-escapes: "Type A" and "Type B". Except for brackets and braces as hereafter described, what is applicable to one type is equally applicable to the other whether or not it is so stated specifically.

(1) *Definition of "Type A" and "Type B" fire-escapes.* A "Type A" fire-escape [sic] is one which has a supporting bracket at each end of the balcony or platform.

A "Type B" fire-escape is one which has brackets not more than four feet (4') apart supporting the balcony or platform.

(2) Cantilever brackets will not be accepted for new fire-escapes on existing buildings.

(3) Details of other types of structural supports for fire-escapes must be submitted to and approved by the AHJ before being used in the construction of fire-escapes.

(4) "Type A" fire-escapes are not permitted on frame buildings, walls or hollow masonry constructions, on walls of solid masonry less than eight inches (8") in thickness nor on hollow walls of solid masonry unless complete construction details are submitted to and approved by the Department before the construction of fire-escapes.

(r) *Balconies.* All balconies, except those erected upon frame buildings and buildings having eight inch (8") brick walls, shall be not less than three feet four inches (3'-4") in width overall [sic] and may project into the public highway to a distance not greater than four feet (4') beyond the building line. Balconies erected upon frame buildings and buildings having eight inch (8") brick walls shall be thirty-six inches (36") in width. Balcony railings must be not less than two feet nine inches (2'-9") high.

(1) *Passageway.* Seventeen inches (17") in width is required between the strings of stairs and the wall, or between the strings of stairs and railings, clear of all projections to a height of six feet six inches (6'-6").

Fourteen inches (14") clear width is required between the hatchway railing and the window sill.

Seventeen inches (17") in width is required between the gooseneck ladder and the hatchway on the upper balcony.

(2) *Openings.* The openings for stairways in all balconies shall be not less than twenty-one inches (21") wide, and of such length as to provide at least six feet six inches (6'-6") clear headroom on all stairways at every tread, and shall have no covers of any kind.

A round, iron guard rail, three-quarter inch (3/4") in diameter shall be provided around all hatchways on all new balconies, and also, when necessary, around hatchways on existing balconies. Such guard rails shall be at least two feet six inches (2'-6") high and shall be properly braced at intervals of three feet (3'). The brace from guard rail to the front top rail shall be so arranged to allow six feet six inches (6'-6") of headroom on the stairway.

Openings are not permitted in the floor of the lowest balcony of any new fire-escapes. Egress must be from a gateway in the front of end rail.

(3) *Top rails.* New top rails must be one and three-quarters inches by one-half inch (1 3/4" x 1/2") wrought iron or steel. Angle iron top rails will not be accepted. Separate bolt ends must be one and one-half inches by one-half inch (1 1/2" x 1/2") at connection with top rails and secured to the same by two three-eighths inch (3/8") bolts well upset.

No welded connections, other than shop welding, for top rails, will be permitted.

Top rails must go through the wall. When the wall is of brick, stone or concrete they must be anchored on the inner face thereof by means of nuts and four-inch by four-inch by three-eighths inch (4" x 4" x 3/8") washers. Where a masonry wall is eight inches (8") in thickness the washers shall be continuous and shall extend vertically from four inches (4") below the bracket anchorage to four inches (4") above the top rail.

Bolt ends must be at least three-quarters inch (3/4") in diameter.

Top rails must be anchored in the wall at least nine inches (9") from the window or door opening.

On recess fire-escapes the top rails need not go through the wall, but must be hot leaded six inches (6") in brick or stone and at least twelve inches (12") from the outside face of the wall.

The front and return top rail, unless in one (1) piece, must be secured at the angle in the following manner: (1) with lap joint, by one-half inch (1/2") rivet and a strap of same dimension as the top rail, with one (1) three-eighths inch (3/8") rivet or bolt in each end of the strap; (2) with butt joint, by a triangular plate four inches by six inches by three-eighths inch (4" x 6" x 3/8") secured to each member of the top rail by two (2) three-eighths inch (3/8") rivets or bolts.

Top rails may be spliced with iron of the same dimensions as the rails with two (2) three-eighths inch (3/8") rivets or bolts on each side of the splice, or may be overlapped not less than eight inches (8") and secured by two (2) three-eighths inch (3/8") bolts or rivets. Where front rails are not rigid they must be braced with outside braces. Said braces must be wrought iron not less than one and three-quarters inches by one-half inch (1 3/4" x 1/2") placed on edge. The braces must be properly spaced and secured to the extended brackets and top rails by three-eighths inch (3/8") rivets or bolts. Where brackets are extended to receive outside braces the extended portion must never less than two inches by one-half inch (2" x 1/2") and secured to the bracket by two (2) three-eighths inch (3/8") rivets or bolts.

Bow braces and overhead [sic] braces will not be accepted.

(4) *Bottom rails.* Bottom rails must be one and one-half inches by three-eighths inch (1 1/2" x 3/8") wrought iron and front rail of same must be secured to brackets by three-eighths inch (3/8") rivets or bolts.

Return bottom rails must be leaded or cemented in the wall when the latter is of brick, or may be secured to the brackets when this is practicable.

The [sic] bottom front and return rails must be connected at angles by at least one (1) three-eighths inch (3/8") rivet or bolt well burred.

They may be spliced as in the [sic] case of top rails.

(5) *Standards.* Standards must be not less than one-half inch (1/2") round or square set vertically, riveted to the top and bottom



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rails, not more than six inches (6") apart on centers. Special designs must be submitted for any variation, and approved before work is begun.

(6) *Floor slats.* Floor slats must be of wrought iron one and one-half inches (1 1/2") in width and three-eighths inch (3/8") thick and placed not more than one and one-quarter inches (1 1/4") apart.

In new balconies floor slats shall not project more than six inches (6") and in old balconies not more than eighteen inches (18"), beyond the end bracket and shall not be supported by the bottom rail.

All floors must be well secured to the brackets by three-eighths inch (3/8") "U" or clamp bolts.

Floor slats may be spliced with a four inch (4") splice plate [*sic*] three-eighths inch (3/8") thick, secured by three-eighths inch (3/8") countersunk or roundhead bolts or rivets on each side of the joint.

The ends of the floor slats must not project over stairs so as to overhang the top tread more than one-half inch (1/2"). The ends of such floor slats shall not be cut or burned off so as to be jagged or uneven. The floor slats shall be in true alignment.

(7) *Battens.* Battens must be one and one-half inches by three-eighths inch (1 1/2" x 3/8") not more than three feet (3') apart, riveted to the slats by five-sixteenth inch (5/16") rivets and so spaced as to secure rigidity.

No welded connections, other than shop welding, for top rails will be permitted.

Top rails must go through the wall. When the wall is of brick, stone or concrete they must be anchored on the inner face thereof by means of nuts and four-inch by four-inch by three-eighths inch (4" x 4" x 3/8") washers. Where a masonry wall is eight inches (8") in thickness the washers shall be continuous and shall extend vertically from four inches (4") below the bracket anchorage to four inches (4") above the top rail.

Bolt ends must be at least three-quarters inch (3/4") in diameter.

Top rails must be anchored in the wall at least nine inches (9") from the window or door opening.

On recess fire-escapes the top rails need not go through the wall, but must be hot leaded six inches (6") in brick or stone and at least twelve inches (12") from the outside face of the wall.

The front and return top rail, unless in one (1) piece, must be secured at the angle in the following manner: (1) with lap joint, by one-half inch (1/2") rivet and a strap of same dimension as the top rail, with one (1) three-eighths inch (3/8") rivet or bolt in each end of the strap; (2) with butt joint, by a triangular plate four inches by six inches by three-eighths inch (4" x 6" x 3/8") secured to each member of the top rail by two (2) three-eighths inch (3/8") rivets or bolts.

Top rails may be spliced with iron of the same dimensions as the rails with two (2) three-eighths inch (3/8") rivets or bolts on each side of the splice, or may be overlapped not less than eight inches (8") and secured by two (2) three-eighths inch (3/8") bolts or rivets.

Where front rails are not rigid they must be braced with outside braces. Said braces must be wrought iron not less than one and three-quarters inches by one-half inch (1 3/4" x 1/2") placed on edge. The braces must be properly spaced and secured to the extended brackets and top rails by three-eighths inch (3/8") rivets or bolts. Where brackets are extended to receive outside braces the extended portion must never be less than two inches by one-half inch (2" x 1/2") and secured to the bracket by two (2) three-eighths inch (3/8") rivets or bolts.

Bow braces and overhead [*sic*] braces will not be accepted.

(8) *Landings.* Landings at the head and foot of stairs shall be at least forty inches by twenty inches (40" x 20") except on the balcony on the top story where the gooseneck ladder is located such landing shall be not less than forty inches by thirty inches (40" x 30"). On the lowest balcony where the opening to drop-ladder is in the return rail at front of the lowest tread the landing must be at least forty inches by thirty-six inches (40" x 36").

(9) *Egress from lowest balcony.* The gateway in the rail must be of sufficient width to permit the proper installation of the drop-ladder and guide-rods.

When the opening to the drop-ladder is in the return rail and at front of the lowest step, the landing at the foot of the stairs must be at least three feet by three feet, four inches (3' x 3'-4") [*sic*].

Top rails must be well braced at the gateway.

(10) *Distance from lowest balcony to ground.* The distance from the lowest balcony to the ground or safe landing shall be not more than sixteen feet (16'-0") except that in existing multiple dwellings where due to structural conditions, such as plate glass store fronts, etc., it is not possible to erect such lowest balcony within sixteen feet (16'-0") of the ground, the AHJ may permit such balcony to be erected at a height of not more than eighteen feet (18'-0") above the ground.

(11) *Termination of fire-escapes on extension roofs.* Where fire-escape stairs or ladders rest upon a fire-proof roof, no balcony need be provided at the foot of such stairs or ladders.

Where fire-escapes terminate on the roof of an existing extension, a guide-rod drop-ladder shall be provided at the level of the roof of such extension. Where the distance from such roof to a safe landing is more than sixteen feet (16'-0") an intermediate balcony not more than ten feet (10'-0") above a safe landing shall be provided, and such intermediate balcony shall be equipped with a guide-rod and drop-ladder and connected by means of a regulation stairway and balcony at the level of the extension roof. Balconies, where required, must be anchored and constructed in a manner satisfactory to the AHJ.

The roof of every extension used for egress, or upon which fire-escapes terminate, shall be fire-proof or fire-retarded according to the provisions of these Rules and Regulations.

(s) *Brackets and braces.*

(12) *"Type A".* All horizontal members of brackets and all cross beams shall be not less than four-inch (4") channels weighing not less seven and one-quarter (7.25) pounds to the linear foot.



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The end bracket members shall enter the wall at a point not less than nine inches (9") from a door or window and shall be anchored on the inside face of the wall with an eight-inch by eight-inch by three-eighths inch (8" x 8" x 3/8") washer and a one-inch (1") bolt and nut. Where the wall is eight inches (8") in thickness the washer shall be continuous and shall extend across all brackets and cross beams. The bolt end shall be wrought iron not less than two inches by one-half inch (2" x 1/2") which shall be drawn out to form the necessary bolt end without welded connections. The bolt end shall be secured to the bracket with two (2) one-half inch (1/2") rivets. On eight-inch (8") walls the bolt end shall not be less than nine inches (9") long. On twelve-inch (12") walls the bolt end shall not be less than eleven inches (11") long. On sixteen-inch (16") walls the bolt end shall not be less than fifteen inches (15") long.

When the wall is eight inches (8") in thickness the bracket member shall enter the wall not less than seven inches (7").

When the wall is twelve inches (12") in thickness the bracket member shall enter the wall not less than eleven inches (11").

When the wall is sixteen inches (16") in thickness the bracket member shall enter the wall not less than fifteen inches (15").

The intermediate cross beams shall enter the wall not less than eight inches (8") except where they enter the wall under the window. In such case the cross beam shall enter the wall not less than four inches (4").

The member forming the hatchway opening shall be a four-inch (4") channel iron weighing not less than seven and one-quarter (7.25) pounds per foot. It shall be secured to the intermediate cross beam with a three-inch by three-inch by one-quarter inch (3" x 3" x 1/4") lug and two (2) one-half inch (1/2") rivets or bolts.

The front bottom member of the fire-escape shall be of the following size and weights:

<u>Length of Balcony</u>	<u>Weight of Channels</u>	<u>Size of Channels</u>
Up to 11 feet	9.0 pounds per foot	5 inches
Up to 13 feet	10.5 pounds per foot	6 inches
Up to 15 feet	12.25 pounds per foot	7 inches
Up to 17 feet	13.75 pounds per foot	8 inches

The bracket braces shall be angle iron not less than two and one-half inches by two and one-half inches by one-quarter inch (2 1/2" x 2 1/2" x 1/4"). The braces shall drop not less than twenty-four inches (24") from the top of the bracket and shall extend out to a point not less than three-quarters (3/4) of the length of the bracket.

Each member of the brace shall be secured to the bracket with two (2) one-half inch (1/2") rivets.

The drop member of the brace shall be secured to the extended member with two (2) one-half inch (1/2") rivets.

The heel of the brace shall be cut out one-half inch (1/2") to allow for the drainage of water.

Where, owing to cornices, water-tables and porticos, it is impossible to use the standard brackets, inverted brackets may be used. When inverted brackets are used they shall be constructed with an upright wall member and a diagonal member. The wall member shall be an angle iron not less than three inches by four inches by three-eighths inch (3" x 4" x 3/8") and the diagonal member shall be an angle iron not less than three inches by three inches by three-eighths inch (3" x 4" x 3/8").

Each member shall be secured to the bracket with two (2) one-half inch (1/2") rivets.

The wall members shall be secured to the wall with (2) one-inch (1") bolts which shall pass through the wall and be anchored on the inside face of the wall with a washer four inches by three-eighths inch (4" x 3/8") which shall extend across the two (2) bolts. A one-inch (1") nut shall secure the washer to the bolt. The bolts shall be placed sixteen inches (16") apart on centers. The four-inch (4") member of the wall brace shall bear against the wall and shall extend from the bracket to and above the top return rail of the balcony. The top return rail of the balcony shall be secured to the wall member of the brace with two (2) one-inch (1") rivets or nuts and bolts.

When inverted braces are used the bracket member shall enter the wall not less than four inches (4")

All other portions of "Type A" fire-escapes, except roof balconies, shall be constructed and erected as specified for the construction and erection of "Type B" fire-escapes.

(2) "Type B". The horizontal members of brackets shall consist of a one-piece wrought iron bar two inches by one-half inch (2" x 1/2") set so that the two inch (2") dimension is vertical.

Brackets shall be not more than four feet (4'-0") apart.

Welded brackets will not be accepted.

Angle iron brackets will not be accepted.

The top member of the bracket must be drawn out to form the necessary bolt end without welded connection.

Brackets shall be placed not less than eight inches (8") nor more than sixteen inches (16") below the window sill, except by special permission from this Department.

The top member of the bracket must go through the wall, and when the wall is of brick, must be anchored as specified for brackets in new buildings.

Brackets on buildings in course of erection must be built into the wall. They must be carried through the wall and turned down three inches (3") or the top member must be drawn out so as to form a bolt end one inch (1") in diameter and provided with nuts and washers four inches by six inches (4" x 6") and three-eighths inch (3/8") in thickness, or where brackets on existing buildings or buildings in the course of erection pass through the walls under window or door openings, such brackets shall be anchored on the inside face of the wall with a four-inch by three-eighths inch (4" x 3/8") plate extending across the opening and bearing nine inches (9") on the inner face of each pier. In such case an additional one-half inch (1/2") bolt passing through wall



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and anchored to plate with one-half inch (1/2") nut shall be provided. If wall is recessed said bar must be shaped so as to bear on inner face of recessed wall and the ends of said bar to bear nine inches (9") on inner face of each pier. In addition a four-inch (4") steel channel stiffener must be provided to extend across the entire recessed portion. Blocking the recessed portion will not be permitted. Where walls are eight inches (8") in thickness the four-inch by three-eighths inch (4" x 3/8") plate must extend across and take in all brackets.

Special designs must be submitted for fire-escape framing other than standard and for masonry openings not included in above schedule.

Horizontal members of brackets must be braced with one-inch (1") square braces and shall rest on a shoulder. The braces shall be secured to the horizontal member with a rivet one-half inch (1/2") in diameter, at a point two-thirds (2/3) [sic] of the length of the horizontal member from the wall. The heel of the brace must be secured to the top member by a rivet of the same size.

The brace when entering the wall must be hot leaded in brick or stone three inches (3") and have a proper bearing on the face of the wall for at least eight inches (8").

If wedges are used to obtain full bearing against the wall, they must be of iron and well secured to the brace and must fill in solidly the space between brace and wall.

Anchorage in or bracing in terra cotta is not permitted.

Braces must drop at least one-third (1/3) of the length of the long brackets and must drop not less than eight inches (8") for short brackets.

Where a bracket is to receive additional weight on account of suspension rod for lower balconies, said bracket must be reinforced by an additional one-inch (1") square brace running from the end of the bracket parallel to the regulation brace.

Where it is impossible to brace the brackets in the manner described above, angle iron and tie rod supports must be used.

(3) *Anchorage for mullion windows, both "Type A" and "Type B".*

Masonry Span	Brackets	Anchorage Member
5'-0"	3'-6" long	6" channel 10.5 pounds or 6" x 4" x 9/16" angle
6'-0"	3'-6" long	7" channel 9.8 pounds or 6" x 4" x 1 1/16" angle
7'-0"	3'-6" long	8" channel 11.5 pounds or 7" channel 12.25 pounds
8'-0"	3'-6" long	8" channel 11.5 pounds
9'-0"	3'-6" long	8" channel 13.75 pounds
5'-0"	4'-0" long	8" channel 11.5 pounds or 6" x 4" x 3/4" angle
6'-0"	4'-0" long	8" channel 11.5 pounds
7'-0"	4'-0" long	8" channel 13.75 pounds
8'-0"	4'-0" long	8" channel 16.25 pounds
9'-0"	4'-0" long	8" channel 21.25 pounds

Notes:

- 1-Working stresses taken at 16,000 pounds per square inch.
- 2- Load taken at 100 pounds per sq. ft. and includes live and dead loads.
- 3- Loads on anchorage members due to bracket reaction placed for maximum bending moment produced in member.
- 4- Bearing plates of suitable size must be provided for brackets taking ladder load and for anchorage members.

6" x 4 9/16" angle weighs 18.1 pounds per lin. ft.
6" x 4 1 1/16" angle weighs 21.8 pounds per lin. ft.
6" x 4 3/4" angle weighs 23.6 pounds per lin. ft.

Angle irons to support balconies where regulations braces cannot be used shall not be less than four inches by four inches by three-eighths inch (4" x 4" x 3/8"). Tie rods shall not be less than one inch (1") in diameter and shall be anchored through the wall in the same manner as brackets.

The angle iron support in such cases shall be set so that the tie rods will pull toward the heaviest part of the webs.

When it becomes necessary to shift a bracket from one location to another in order to carry the stairs, a new regulation two inch by one-half inch (2" x 1/2") bracket shall be installed.

No welded brackets, corroded brackets or brackets set flat with cast iron under-bracing will be accepted. Such brackets shall be replaced, whenever found, by a two-inch by one-half inch (2" x 1/2") regulation bracket. However, when a two inch by one-half



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inch (2" x 1/2") bar bracket with cast iron under-bracing is found, said bracket may be permitted to remain if proper one inch (1") square under-bracing is provided.

(t) *Stairways*. All stairways shall be placed at an angle of not more than sixty (60) degrees with flat open steps not less than six inches (6") in width and twenty inches (20") in length and with a rise of not more than nine inches (9").

(1) *Treads*. Treads of such construction as may be approved by the Department from time to time will be permitted.

Flat iron bars forming treads must be one and one-half inches by three-eighths inch (1 1/2" x 3/8") and spaced not more than three-quarters of an inch (3/4") apart.

Bars forming treads must be secured to supporting angle irons by three-eighths inch (3/8") rivets and these angle irons must be fastened to the strings by two (2) three-eighths inch (3/8") rivets or bolts, well burred. Galvanized angle irons one and one-half inches by one and one-half inches by one-quarter inch (1 1/2" x 1 1/2" x 1/4") will be accepted but if not galvanized, said angle irons shall be one and one-half inches by one and one-half inches by three-eighths inch (1 1/2" x 1 1/2" x 3/8"). In all cases the vertical legs of the angle irons must be set tightly against the strings so that there will be no intervening spaces.

All treads must be set level and must not overhang so as to interfere with foot room on the tread below.

(2) *Patented treads*. Patented treads approved by the Department of Buildings or previously approved by the Board of Standards and Appeals for new installations will be accepted by the Department of Buildings as legal for use in buildings under its jurisdiction. Five samples of approved treads to be furnished to the Department of Buildings (one delivered to each borough) as a permanent record.

(3) *Strings*. Where the strings of the stairs are adjacent to the front rails the strings must be securely fastened to the top rails.

Strings must be braced by round bars three-quarters inch (3/4") in thickness, properly hot-leaded or secured by four inches by three-eighths inch (4" x 3/8") expansion bolts in brick or stone wall at height of not less than six feet six inches (6'-6") [*sic*] in the clear above the floor of the balcony. Strings of stairways shall be four inches by three-eighths inch (4" x 3/8") wrought iron and shall rest on a bracket at the bottom and be bolted to a bracket at the top.

Welded strings, other than shop welded, will not be accepted.

(4) *Hand rails*. Hand rails must be of wrought iron, three-quarters inch (3/4") round or one and one-half inches by three-eighths inch (1 1/2" x 3/8") bar, well braced with intermediate braces not more than five feet (5'-0") apart, and of the same size and material as the hand rail, and secured to the strings with two (2) three-eighths inch (3/8") rivets at each end and at each brace; or handrails may be secured to the bottom rail of the upper balcony and top rail of the lower balcony by two (2) three-eighths inch (3/8") rivets at each end.

On all fire-escapes hereafter erected double hand rails must be provided for all stairways.

(u) *Drop-ladder*. A drop-ladder shall be provided from the lowest balcony and be of sufficient length to reach a safe landing place beneath. The drop-ladder shall be fifteen inches (15") in width, shall be placed in guides and shall be not more than sixteen feet (16'-0") in length.

Except in multiple dwellings hereafter erected or converted, where the distance from the lowest balcony to a safe landing place is more than sixteen feet (16'-0") but because of structural conditions, such as plate glass store fronts, etc., a balcony is not possible, the department may accept a drop-ladder in guides, if the distance from the floor of the lowest balcony to a safe landing place is not more than eighteen feet (18'-0")

No drop-ladder is required where the distance from the lowest balcony to a safe landing place does not exceed five feet (5'-0").

No drop-ladder will be permitted to land or terminate on a stoop or any part thereof unless the written approval of the AHJ is obtained.

(1) *Guides*. All drop-ladders shall have guides provided with stops so that the ladders cannot be raised above the same. The [*sic*] drop-ladder must be suspended from a point directly over the opening in the rail of the balcony and arranged to slide in the guides so as to drop in position for use. All [*sic*] drop-ladders shall be provided with a shoe at the bottom.

The guides shall be constructed of one and one-half inches by one and [*sic*] one-half inches by one-quarter inch (1 1/2" x 1 1/2" x 1/4") angle iron, and shall be not less than twenty-one inches (21") apart.

(2) *Strings*. Strings of drop-ladders must be one and one-half inches by three-eighths inch (1 1/2" x 3/8") bar. No welded drop-ladders will be accepted unless shop welded.

(3) *Rungs*. The rungs must be five-eighths inch (5/8") in thickness, not over twelve inches (12") apart [*sic*] and must be riveted to the strings.

(v) *Gooseneck ladder*. The top balcony of every fire-escape shall be provided with a stair or with a gooseneck ladder leading from said balcony to and above the roof, except that no such stairs or gooseneck ladders will be required in the following locations or under the following conditions:

(1) On multiple dwellings with peak roofs having a pitch of more than twenty (20) degrees.

(2) Where fire-escapes are located on the fronts or in street courts of multiple dwellings facing upon the street.

Where a multiple dwelling does not face upon the street, such as a multiple dwelling located at the rear of a lot upon which there is another building, every fire-escape on such multiple dwelling shall be provided with a stair or gooseneck ladder as required above, except where the roof of such building has a pitch more than twenty (20) degrees as stated in exception (1) above.

Except as provided in exceptions (1) and (2) above, every fire-escape on every hereafter erected or converted multiple dwelling, and every new fire-escape hereafter provided on every existing multiple dwelling shall be provided with a regulation stairway from the top balcony to the roof when such buildings exceed four (4) stories in height. In such multiple dwellings exceeding four (4) stories in height when due to special structural conditions which would not permit the erection of a stair from the top balcony



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to the roof or where the height from the top balcony to the roof may [sic] be such as to make the installation of a stair impractical, the AHJ may accept a gooseneck ladder in lieu of a regulation stairway. The top balcony of a fire-escape on every multiple dwelling not exceeding four (4) stories in height may be equipped with a gooseneck ladder.

(i) *Construction and location of gooseneck ladders.* The gooseneck ladder shall be fifteen inches (15") wide and shall be so located that it will not obstruct egress from the apartment or apartments on the top floor. The effective opening between the side of any window and the string of gooseneck ladder shall be not less than twenty-four inches (24")

The gooseneck ladder must be fourteen inches (14") from the front rail on existing balconies and twenty-one inches (21") on balconies hereafter erected.

(ii) *Strings.* The gooseneck ladder must be constructed with one piece of [sic] strings [sic] two inch by one-half inch (2" x 1/2") wrought iron.

Strings must be directly secured to the brackets or secured to a two inch by one-half inch (2" x 1/2") bar bearing on two (2) brackets and well secured to strings and brackets by three-eighths inch (3/8") bolts or rivets.

Strings must be spread at the parapet wall or roof to give a passageway of eighteen inches (18")

Strings must be tied through the wall by braces going through the parapet immediately above the roof, or, in the absence of the parapet wall, the said braces must go through the wall immediately below the ceiling of the top floor and be secured by three-quarters inch (3/4") bolts and four inches by four inches by three-eighths inch (4" x 4" x 3/8") washers.

The gooseneck ladder strings must extend thirty inches (30") above the roof level. Where there is a parapet, a gateway at the roof level shall be provided.

The strings of the gooseneck ladder must be secured to and braced at the roof.

(iii) *Rungs.* Rungs shall be of wrought iron five-eighths inch (5/8") thick, spaced not more than twelve inches (12") apart and shall be riveted through the strings.

The top rung of all gooseneck ladders shall be level with the roof.

(w) *Painting.* Local Law requires new fire-escapes to have two (2) coats of paint. The AHJ will require these two (2) coats to be applied on contrasting colors, the first coat at the shop before erection, and the second coat applied after erection.

Existing fire-escapes shall be repainted whenever deemed necessary.

(x) *Exceptions.* Any deviations or exceptions from these rules other than those specifically mentioned herein shall be submitted to the AHJ for approval. Consent and approval shall be in written form and bear the signature of the commissioner, deputy commissioner, superintendent or the person designated to sign such consent by the commissioner, deputy commissioner or superintendent.

(y) *Fire-escapes on frame buildings.* Fire-escapes shall be constructed as for brick or stone buildings with the following exceptions, and except also that balconies three feet (3'-0") wide will be acceptable to the department.

(1) *Brackets.* Horizontal members of brackets must be one and three-quarters inches by one-half inch (1 3/4" x 1/2") wrought iron set on edge; one inch (1") bolt end through a four inches by three-eighths inch (4" x 3/8") iron plate, long enough to take in all brackets, secured to and bearing directly on the inside of the studs. Spaces between the studs behind such plates shall be filled in solidly with timber secured to the studs.

The heel of bracket braces must rest against one and three-quarter inches by one and three-quarter inches by one-quarter inch [sic] high (1 3/4" x 1 3/4" x 1/4") angle iron extended across and well secured to studs.

(2) *Top rails.* Top rails shall be anchored by three-quarters inch (3/4") [sic] bolt ends, through a four inch by three-eighths inch (4" x 3/8") wrought iron plate spanning at least two (2) studs. Space behind plate and between studs shall be blocked solidly.

(3) *Bottom rails.* Bottom rails shall be secured to the siding in a substantial manner with two (2) one and one-quarter inch (1 1/4") No.14 wood screws, or may be secured to the brackets where practicable.

(4) *Stairways.* Stair braces shall be secured to the wall of the building by two (2) No. 14 wood screws.

(z) *Outside fireproof stairs.* Outside fireproof stairs shall be constructed according to approved plans and applications of the AHJ. Such regulations that [sic] as govern the measurements of inside stairs shall be applied to outside fireproof stairways except that in multiple dwellings not exceeding three (3) stories and basement in height, fireproof stairway leading from a front porch roof which is fireproof to the fireproof floor of an unenclosed porch will be deemed an outside fireproof stairways and such stairways may be of the same width as the ordinary fire-escape stairs. Area covered by fireproof outside stairs must not encroach upon the minimum dimensions of yard and courts.

(aa) *Fire towers.* Fire towers shall be constructed according to approved plans and applications filed with the AHJ.

(bb) *Egress.* Hotels and certain other class A and class B dwellings which are subject to the provisions of Local Law [sic].

(1) *Exceptions.* Any exceptions must be approved by the AHJ.

(i) Except in fireproof class A multiple dwellings erected under plans filed after January first, nineteen hundred twenty-five, and which were completed before December thirty-one, nineteen hundred thirty-three, and except as otherwise provided in paragraph (4) of subdivision (bb) of this section, in every such dwelling three (3) or more stories in height there shall be from each story at



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least two (2) independent means of unobstructed egress located remote from each other and accessible to each room, apartment or suite.

(2) *First means of egress.* The first means of egress shall be an enclosed stair extending directly to a street, or to a yard, court or passageway affording continuous, safe and unobstructed access to a street, or by an enclosed stair leading to the entrance story, which story shall have direct access to a street. The area of the dwelling immediately above the street level and commonly known as main floor, where the occupants are registered and the usual business of the dwelling is conducted, shall be considered a part of the entrance story; and a required stair terminating at such main floor or its mezzanine shall be deemed to terminate at the entrance story. An elevator or unenclosed escalator shall never be accepted as a required means of egress.

(3) *Second means of egress.* The second means of egress shall be by an additional enclosed stair conforming to the provisions of §Local Law, a fire-stair, a fire-tower or an outside fire-escape. In a non-fireproof dwelling when it is necessary to pass through a stair enclosure which may or may not be a required means of egress to reach a required means of egress, such stair enclosure and that part of the public hall or corridor leading thereto from a room, apartment or suite, shall be protected by one (1) or more sprinkler heads; in a fireproof dwelling only that part of the hall or corridor leading to such stair enclosure need be so protected.

(4) *Required second means of egress-impractical.* Where it is impractical in such existing dwellings to provide a second means of egress, the department may order additional alteration to the first means of egress and shafts, stairs and other vertical openings as the department may deem necessary to safeguard the occupants of the dwelling, may require the public halls providing access to the first means of egress to be equipped on each story with one (1) or more automatic sprinkler heads, and, in non-fireproof dwellings, may also require automatic sprinkler heads in the stair which serves as the only means of egress.

(5) *Public halls and corridors providing access to fire-escapes.* Public halls and corridors providing access to fire-escapes, existing and new, are acceptable when a direct and uninterrupted line to travel to the fire-escape is provided. Public halls and corridors providing access to fire-escapes shall be fire-retarded or shall be equipped with automatic sprinkler heads. The fire-retarding and sprinkler installation shall be in conformity with the rules and regulations of this department and as required by Local Law.

All openings which provide direct access to an existing fire-escape from a public hall or corridor shall be equipped with fireproof doors and assemblies with the doors self-closing or fireproof windows glazed with clear wire glass. Access to new fire-escapes from such halls or corridors shall be by means of fireproof doors and assemblies with doors self-closing. Doors providing access to fire-escapes from public halls or corridors may be glazed with clear wire glass.

(6) *Fire-escapes-existing and new.* Existing fire-escapes which are structurally strong and in good repair, having connecting stairways set at an angle or not more than sixty-five (65) degrees, may be accepted as a secondary means of egress.

Except as otherwise required herein, new and existing fire-escapes shall be provided with a safe landing and the termination shall lead directly to a street or to a passageway which provides access to a street.

When it is impractical to provide a termination for fire-escapes as specified in these Rules, the AHJ may accept a termination from such fire-escapes which leads to safety.

(7) *Supplementary means of egress.* A stair, fire-stair, fire-tower, or fire-escape which is supplementary to the egress requirements of Local Law, need not lead to the entrance story or to a street, or to a yard or a court which leads to a street, provided the means of egress therefrom is approved by the AHJ.

Fire-escapes which are supplementary to the required second means of egress, including fire-escapes of the inclined ladder and vertical ladder types, may remain on the dwelling if maintained in good order and repair, are structurally strong and safe and are provided with safe landing and the termination thereof leads to safety in a manner satisfactory to this AHJ.

(8) *Signs-supplementary means of egress.*

Supplementary stairs, fire-stairs, fire-towers or fire-escapes which do not lead to the entrance story or to a street, or to a yard or court leading to a street, shall be clearly marked "NOT AN EXIT" in black letters at least four inches (4") high on a yellow background and at the termination of each such stair, fire-stair, fire-tower or fire-escape, there shall be a directional sign indicating the nearest means of egress leading to a street. All signs shall be constructed, located and illuminated in a manner satisfactory to the AHJ.

(9) *Signs-general provisions.* Every means of egress shall be indicated by a sign reading "EXIT" in red letters at least eight inches (8") high on a white background, or vice versa, illuminated at all time during the day and night by a red light of at least twenty-five (25) watts or equivalent illumination. Such light shall be maintained in a keyless socket. On all stories where doors, openings or passageways giving access to any means of egress are not visible from all portions of such stories, directional signs shall be maintained in conspicuous locations, indicating in red on a white background, or vice versa, the direction of travel to the nearest means of egress. At least one sign shall be visible from the doorway of each room or suite of rooms. Existing signs and illumination may be accepted if, in the opinion of the department, such existing signs and illumination serve the intent and purpose of this subdivision.

(10) *Stairs, fire-stairs and fire-towers.* Stairs, fire-stairs and fire-towers hereafter provided shall be constructed according to plans and applications approved by the AHJ.

(cc) *Egress: lodging houses.*

(1) *Arrangement.* There shall be at least two (2) means of unobstructed egress from each lodging-house story, which shall be remote from each other. The first means of egress shall be to a street either directly or by an enclosed stair having unobstructed direct access thereto. If the story is above the entrance story, the second means of egress shall be by an outside fire-escape constructed in accordance with the provisions of Local Law, or by an additional enclosed stair. Such second means



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of egress shall be accessible without passing through the first means of egress.

(2) *Doors and windows.* All doors opening upon entrance halls, stair halls, other public halls or stairs, or elevator, dumbwaiter or other shafts, and the door assemblies, shall be fireproof with the doors made self-closing by a device approved by the AHJ, and such doors shall not be held open by any device whatever. All openings on the course of a fire-escape shall be provided with such doors and assemblies or with fireproof windows and assemblies, with the windows self-closing and glazed with wire glass, such doors or windows and their assemblies to be acceptable to the department.

(3) *Aisles.* There shall be unobstructed aisles providing access to all required means of egress in all dormitories. Main aisles, approved as such by the department to provide adequate approaches to the required means of egress, shall be three feet (3'-0") or more in width, except that no aisles need be more than two feet six inches (2'-6") wide if it is intersected at intervals of not more than fifty feet (50'-0") by cross-over aisles at least three feet (3'-0") wide leading to other aisles or to an approved means of egress.

(4) *Signs.* Every required means of egress from the lodging-house part of the dwelling shall be indicated by a sign reading "EXIT" in red letters at least eight inches (8") high on a white background illuminated at all times during the day and night by a light at least twenty-five (25) watts or equivalent illumination. Such light shall be maintained in a keyless socket. On all lodging-house stories where doors, openings, passageways or aisles are not visible from all portions of such stories, and in other parts of the dwelling which may be used in entering or leaving the lodging-house part and in which a similar need exists, signs with easily readable letters at least eight inches (8") in height, and continuously and sufficiently illuminated by artificial light at all times when the natural light is not sufficient to make them easily readable, shall be maintained on conspicuous locations, indicating the direction of travel to the nearest means of egress. At least one (1) such sign shall be easily visible from the doorway of each cubicle.

(5) *Roof egress.* Access from the public hall at the top story to the roof shall be provided by means of a bulkhead or a scuttle acceptable to the department. Every such scuttle and the stair or ladder leading thereto shall be located within the stair enclosure.

(6) *Persons accommodated.* The number of persons accommodated on any story in a lodging house shall not be greater than the sum of the following components:

(i) Twenty-two (22) persons for each full multiple of twenty-two inches (22") in the smallest clear width of each means of egress approved by the department, other than a fire-escape.

(ii) Twenty (20) [*sic*] persons for each lawful fire-escape accessible from such story if it is above the entrance story.

(7) In view of the fact that Local Law, required lodging houses to be sprinkled throughout, including the public halls, the department will accept existing double-rung ladder type fire-escapes on the condition that such fire-escapes are maintained in a good state of repair.

(8) (dd) Ladders leading to roof scuttles. Ladders to roof scuttles as required under the provisions of Local Law, shall be of incombustible material, not less than fifteen inches (15") wide, with strings not less than one and one-half inches by three-eighths inch (1 1/2" x 3/8"), with five-eighths inch (5/8") rungs not more than twelve inches (12") apart. Strings of such ladders shall be secured at top and bottom and ladder must be so arranged as to permit sufficient toe hold.

These requirements are sourced from §15-10 Fire-Escapes, Fire Stairs and Fire Towers, NYC Fire Protection Code, as most manufacturers of fire escape systems and components 75-125 years ago were in NYC and shipped nationwide.