



Promulgation Details for 1 RCNY 3610-01

This rule became effective on December, 14, 2009.

Since such date, one or more amendments have been made to this rule. Each rule amendment has its own effective date and Statement of Basis and Purpose.

Below you will find one or more rule amendments (the most recent appearing at the top), followed by the original rule.

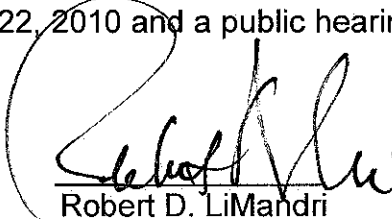
The effective date of each amendment and the original rule can be found at the top of each "NOTICE OF ADOPTION OF RULE."

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of the Department of Buildings by Section 643 of the New York City Charter and in accordance with Section 1043 of the Charter and Section 28-103.19 of the New York City Administrative Code, that the Department of Buildings hereby amends Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Official Compilation of the Rules of the City of New York, relating to the Safety Code for existing elevators and escalators.

This rule was first published on December 22, 2010 and a public hearing thereon was held on January 26, 2011.

Dated: 3/9/11
New York, New York


Robert D. LiMandri
Commissioner

Section 1. Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended by adding a Section 2.1.2 to read as follows:

2.1.2 Windows in Hoistway Enclosures.

Delete and revise Section 2.1.2 to read as follows:

2.1.2 Windows in Hoistway Enclosures. Every hoistway-window opening ten (10) stories or fewer above a thoroughfare, and every such window opening three (3) stories or fewer above the roof of an adjacent building, shall be guarded by one of the following:

- (a) Vertical bars at least $\frac{5}{8}$ inch (16 mm) in diameter or equivalent, spaced not more than 10 inches (254 mm) apart, permanently and securely fastened in place; or**
- (b) Metal-sash windows having solid-section steel muntins of not less than $\frac{1}{8}$ inch (3.2 mm) thickness, spaced not more than 8 inches (203 mm) apart.**

Exterior hoistway-windows shall be marked with the word "SHAFTWAY" in red letters at least 6 inches (152 mm) high on a white background.

§ 2. Section 2.6.7 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended to read as follows:

2.6.7 Bottom Guides.

Delete and revise Section 2.6.7 to read as follows:

2.6.7 Bottom Guides. Existing elevators in occupancy groups R-1, R-2 and E shall comply with the following requirements [within one (1) year from the effective date of this rule]:

- (a) The bottom of each horizontally sliding hoistway door panel shall be equipped with bottom guiding members and bottom safety retainers.**
 - (1) The bottom of each horizontally sliding hoistway elevator door panel shall be guided by two or more members as described in ASME A17.1 §2.11.11.6.**
 - (2) Safety Retainers – The bottom of each horizontally sliding hoistway elevator door panel shall be provided with a means of**

retaining the door panel in position if the primary guiding means fail, and preventing displacement of the bottom of the door panel by not more than 19 mm (0.75 in) into the hoistway. Such Retainers shall be installed on the bottom, shaft side of each door panel, shall be fabricated of at least twelve (12) gauge stainless or galvanized steel, and shall engage the corresponding sill member by not less than 9.5mm (0.375 in).

Exception: New elevator doors installed under the 1996/1997 or later editions of ASME A17.1.

(b) The door panels shall be structurally sound and in such condition that the guide(s) and retainer(s) may be securely attached.

(1) At least one bottom guide shall be installed near each end of every door panel.

(2) A safety retainer(s) totaling at least 203 mm (8 in) in length shall be installed between the two (2) outermost guides.

(3) On smaller sized door panels, where due to the width of the door panel, the space between the two (2) outermost bottom guides would be less than 203 mm (8 in), then either:

(i) The length of the retainer may be reduced to a minimum 102 mm (4 in); or

(ii) When only one (1) bottom guide is provided near the center of the door, a 102 mm (4 in) retainer shall be installed on each side of the bottom guide. If the space between the bottom guide and the edge of the door is less than four inches, the length of the retainer may be reduced to the amount of the space between the bottom guide and the edge of the door.

Exception: New elevator doors installed under the 1996/1997 or later editions of ASME A17.1.

§ 3. Section 3.5.6 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended to read as follows:

3.5.6 Rail Lubricants and Lubrication Plate.

Delete and revise Section 3.5.6 to read as follows:

3.5.6 Rail Lubricants [and Lubrication Plate]. Rail lubricants or coatings that will reduce the holding power of the safety or prevent its functioning as required shall not be used.

§ 4. Paragraphs (p) and (q) of Section 3.10.4 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York are amended to read as follows:

(p) Emergency Stop Switch. On all [freight] elevators, [passenger elevators with perforated enclosures, and passenger elevators with nonperforated enclosures not provided with an in-car stop switch (see §3.10.4(t)),] an emergency stop switch shall be provided in the car, and located in or adjacent to each car operating panel. When [opened] open (i.e. the “stop position”), this switch shall cause the electric power to be removed from the elevator driving-machine motor and brake. Emergency stop switches shall:

(1) Be of the manual open and close type;

(2) Have red operating handles or buttons;

(3) Be conspicuously and permanently marked “STOP” and indicate the “STOP” and “RUN” positions; and

(4) When open, cause an audible signaling device to sound.

(q) Stop Switch in Pit. A stop switch, conforming to the following requirements [of §3.10.4(e)], shall be provided in the pit of every elevator. The switch shall be located adjacent to the normal pit access. The switch shall cause the electric power to be removed from the elevator driving machine motor and brake and shall:

(1) Be of the manual open and close type;

(2) Have red operating handles or buttons;

(3) Be conspicuously and permanently marked “STOP” and indicate the “STOP” and “RUN” positions; and

(4) Be positively opened mechanically and its opening shall not be solely dependent on a spring.

§ 5. Section 3.11.1 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended to read as follows:

3.11.1 Car Emergency Signaling Devices.

Delete and revise Section 3.11.1 to read as follows:

3.11.1 Car Emergency Signaling Devices. Elevators shall be provided with the following signaling devices [within one (1) year from the effective date of this rule]:

(a) In all buildings, the elevator shall be provided with the following:

(1) An audible signaling device, operable from the emergency stop switch, and from a switch marked "ALARM" that is located in or adjacent to each car operating panel. The signaling device shall be located inside the building and audible inside the car and outside the hoistway. One signaling device may be used for a group of elevators.

(b) In buildings in which a building attendant (building employee, watchperson, etc.) is not continuously available to take action when the required emergency signal is operated, the elevators shall be provided with a means within the car for communicating with or signaling to a service which is capable of taking appropriate action when a building attendant is not available. [An emergency power system shall be provided conforming to the requirements of §3.11.1(a)(3).]

§ 6. Section 3.11.3 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended as follows:

3.11.3 Firefighters' Service.

Delete and revise Section 3.11.3 to read as follows:

3.11.3 Firefighters' Service Operation in Existing Elevators.

Firefighters' service operation shall be installed in accordance with the New York City Building Code in all existing elevators serving any of the following:

(a) High rise buildings or buildings classified in occupancy group M except existing R-2.

(b) All buildings or buildings classified in occupancy group A, B, [C,] E, I or R-1 (except for "residential hotels," as such term is defined by the commissioner pursuant to rules and regulations).

§ 7. Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended by adding Sections 4.5 and 4.5.2 to read as follows:

SECTION 4.5
TANKS

4.5.2 Pressure Tanks.

Delete Section 4.5.2 in its entirety.

Section 4.5.2 Reserved.

§ 8. Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended by adding a Section 4.6 to read as follows:

SECTION 4.6
TERMINAL STOPPING DEVICES

4.6 Delete Section 4.6 in its entirety.

Section 4.6 Reserved.

§ 9. Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended by adding Sections 4.7.1 through 4.7.3 to read as follows:

4.7.1 Operating Devices.

Delete Section 4.7.1 in its entirety.

Section 4.7.1 Reserved.

4.7.2 Top-of-Car Operating Devices.

Delete Section 4.7.2 in its entirety.

Section 4.7.2 Reserved.

4.7.3 Anticreep Leveling Devices.

Delete Section 4.7.3 in its entirety.

Section 4.7.3 Reserved.

§ 10. Section 4.7.4 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended as follows:

4.7.4 Electrical Protective Devices.

[Delete Section 4.7.4 in its entirety.

Section 4.7.4 Reserved.]

Delete and revise Section 4.7.4 to read as follows:

4.7.4 Electrical Protective Devices. Where they apply to hydraulic elevators, the following electrical protective devices conforming to the requirements of §3.10.4 shall be provided:

(a) Stop switches in the pit; and

(b) Where such emergency doors are provided, in-car emergency exit door electric contacts.

Such devices shall prevent the operation of the elevator by the normal operating device and shall prevent the movement of the car in response to the anticreep leveling device.

§ 11. Section 5.3.7 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended as follows:

5.3.7 Skirt Obstruction Device.

Delete and revise Section 5.3.7 as follows:

5.3.7 Skirt Obstruction Device. Escalators shall comply with the following no later than January 1, 2014: Means shall be provided to cause the electric power to be removed from the escalator driving machine motor and brake if an object becomes caught between the step and the skirt as the step approaches the upper combplate, intermediate device or lower combplate. On units having a run of 6.10 m (20 ft) or more, intermediate devices shall be provided on both sides of the escalator with devices located at interval of 3.05 m (10 ft) or less. The activation intermediate devices shall stop the escalator at a rate not greater than 0.91 m/s² (3 ft per sec²) in the direction of travel. The upper and lower combplate devices shall be located so that the escalator will stop before that object reaches the combplate. The activation of any skirt device shall stop the

escalator with any load up to full brake rated load with the escalator running.

§ 12. Section 5.3.12 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended as follows:

5.3.12 Add new Section 5.3.12 to read as follows:

[5.3.12 Comb-Step Impact Devices. Devices shall be provided that will cause the opening of the power circuit to the escalator driving machine motor and brake if either:

- (a) A horizontal force not greater than 1 780 N (400 lbf) in the direction of travel is applied at either side, or not greater than 3 560 N (800 lbf) applied at the center of the front edge of the comb plate; or
- (b) A resultant vertical force not greater than 268 N (60 lbf) in the upward direction is applied at the center of the front of the comb plate.]

5.3.12 Comb-Plate Stop Device. A device shall be provided that will cause the opening of the power circuit to the escalator driving machine motor and brake where a resultant vertical force not greater than 268 N (60 lbf) in the upward direction is applied at the center of the front of the comb-plate.

§ 13. Section 9.6.12 of Section K301.1 of Chapter K3 of Section 3610-01 of Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended as follows:

9.6.12 Add new Section 9.6.12 to read as follows:

[9.6.12 Comb-Pallet Impact Devices. Devices shall be provided that will cause the opening of the power circuit to the moving walk driving-machine motor and brake if either:

- (a) A horizontal force not greater than 1 780 N (400 lbf) in the direction of travel is applied at either side, or not greater than 3 560 N (800 lbf) applied at the center of the front edge of the combplate; or
- (b) A resultant vertical force not greater than 268 N (60 lbf) in the upward direction is applied at the center of the front of the combplate. These devices shall be of the manual-reset type.]

9.6.12 Comb-Pallet Stop Device. A device shall be provided that will cause the opening of the power circuit to the moving walk driving-machine motor and brake when a resultant vertical force not greater than 268 N (60 lbf) in the upward direction is applied at the center of the front of the comb-plate.

STATEMENT OF BASIS AND PURPOSE

The foregoing amendments are promulgated pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043 of the New York City Charter and section 28-103.19 of the New York City Administrative Code.

The original rule adopted the uniform national reference standard ASME A17.3-2002, as modified by New York City, and incorporated various retroactive provisions from Subchapter 18 and Reference Standard RS-18 of Title 27 of the Administrative Code of the New York City (1968 NYC Building Code), thereby providing users of the New York City Construction Codes with one location in which to find all existing elevator and escalator minimum requirements.

This set of amendments makes technical corrections and clarifications to the original rule in order to facilitate proper, ongoing compliance with such rule and to maintain consistency with other applicable laws and regulations.

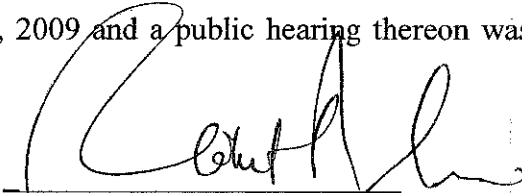
This rule has an effective date of 12-14-09.

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of the Department of Buildings by Section 643 of the New York City Charter and in accordance with Section 1043 of the Charter and Section 28-103.19 of the New York City Administrative Code, that the Department of Buildings hereby adds a new Subchapter K and Section 3610-01 to Chapter 3600 of Title 1 of the Official Compilation of the Rules of the City of New York, relating to the Safety Code for existing elevators and escalators.

This rule was first published on September 8, 2009 and a public hearing thereon was held on October 13, 2009.

Dated: 11/4/09
New York, New York



Robert D. LiMandri
Commissioner

Chapter 3600 of Title 1 of the Rules of the City of New York is amended by adding a new Subchapter K and Section 3610-01 to read as follows:

Subchapter K
Modified Industry Standards for Elevators and Conveying Systems

3610-01 Safety Code for existing elevators and escalators. Pursuant to Section 28-103.19 of the New York City Administrative Code, American Society of Mechanical Engineers A17.3-2002, as referenced in Appendix K of the New York City Building Code, is hereby amended by adding a new Chapter K3, to read as follows:

CHAPTER K3
MODIFICATIONS TO ASME A17.3-2002,
SAFETY CODE FOR EXISTING ELEVATORS AND ESCALATORS

K301.1 General. The provisions of American Society of Mechanical Engineers (“ASME”) A17.3-2002 shall be modified in accordance with this chapter. The section numbers correlate to those in the referenced ASME standard.

PART I
INTRODUCTION

SECTION 1.5
ALTERATIONS, MAINTENANCE, AND INSPECTIONS AND TESTS

1.5 Delete and revise the text of section 1.5 to read as follows:

Existing installations shall conform to the following requirements of ASME A17.1-00:

- (a) Requirement 8.10.8.11, Periodic and Acceptance Inspections and Tests;
- (b) Requirement 8.6.8.7, Alterations, Repairs, Replacements, and Maintenance.

In addition, existing installations shall conform to ASME Addenda A17.1a-02 and A17.1b-03, and Sections 1007.4, 1607.8.1, 3001.2, 3001.4, 3002.5, 3003.2 and 3409.7.2 of the New York City Building Code.

PART II
HOISTWAYS AND RELATED CONSTRUCTION FOR
ELECTRIC ELEVATORS

SECTION 2.1
HOISTWAYS

2.1.1 Hoistway Construction.

Delete Section 2.1.1 in its entirety.

Section 2.1.1 Reserved.

2.1.4 Pipes Conveying Gases, Vapors, or Liquids.

Delete Section 2.1.4 in its entirety.

Section 2.1.4 Reserved.

2.1.5 Counterweight Guards.

Delete Section 2.1.5 in its entirety.

Section 2.1.5 Reserved.

SECTION 2.2
MACHINE ROOMS AND MACHINERY SPACES

2.2.5 Pipes Conveying Gases, Vapors, or Liquids.

Delete Section 2.2.5 in its entirety.

Section 2.2.5 Reserved.

SECTION 2.4
CLEARANCES AND RUNBYS

2.4 Delete Section 2.4 in its entirety.

Section 2.4 Reserved.

SECTION 2.5
PROTECTION OF SPACES BELOW HOISTWAYS

2.5 Delete and revise Section 2.5 to read as follows:

2.5 Where the space below the hoistway is not permanently secured against access, the following requirements shall apply within one (1) year from the effective date of this rule:

(a) The cars and counterweights shall be provided with spring or oil buffers.

(b) Car and counterweight buffer supports shall be of sufficient strength to withstand without permanent deformation the impact resulting from buffer engagement of

the car plus the rated load or the counterweight with an empty car at the following speeds:

(1) Governor tripping speed where the safety is governor operated;

(2) One hundred twenty five (125) percent of the rated speed, where the safety is not governor operated.

SECTION 2.6 **HOISTWAY ENTRANCES**

2.6.3 Hoistway Door Vision Panels.

Delete and revise Section 2.6.3 to read as follows:

2.6.3 Hoistway Door Vision Panels. Hoistway door vision panels must be protected by protective grills made of number sixteen (16) gauge stainless or galvanized steel in accordance with the following specifications:

- (a) Grills shall be sized to fit within or over the vision panel frame and completely cover the vision panel opening in the elevator, car doors and hoistway doors.
- (b) Grills and vision panel frames shall be secured by means of non-reversible screws or other tamper proof fasteners.
- (c) Grills shall contain openings that shall not be larger than 19 mm (0.75 in) in diameter.
- (d) All cut edges shall be deburred.
- (e) The provisions of this section shall apply to both new and existing passenger cars. Requirements for such grills may be waived if certification is submitted that such elevator is operated manually or twenty four (24) hour doorman service is provided. A security guard shall not be considered doorman service.
- (f) For the purposes of this subparagraph, a vandal resistant 6 mm (0.25 in) polycarbonate sheet, such as Lexan, in two (2) layers, one (1) on each side of the required wire glass, may be used in lieu of the metal protective.

2.6.4 Door Hangers.

Delete Section 2.6.4 in its entirety.

Section 2.6.4 Reserved.

2.6.7 Bottom Guides.

Delete and revise Section 2.6.7 to read as follows:

2.6.7 Bottom Guides. Existing elevators in occupancy groups R-1, R-2 and E shall comply with the following requirements within one (1) year from the effective date of this rule:

(a) The bottom of each horizontally sliding hoistway door panel shall be equipped with bottom guiding members and bottom safety retainers.

(1) The bottom of each horizontally sliding hoistway elevator door panel shall be guided by two or more members as described in ASME A17.1 §2.11.11.6.

(2) Safety Retainers – The bottom of each horizontally sliding hoistway elevator door panel shall be provided with a means of retaining the door panel in position if the primary guiding means fail, and preventing displacement of the bottom of the door panel by not more than 19 mm (0.75 in) into the hoistway. Such Retainers shall be installed on the bottom, shaft side of each door panel, shall be fabricated of at least twelve (12) gauge stainless or galvanized steel, and shall engage the corresponding sill member by not less than 9.5mm (0.375 in).

(b) The door panels shall be structurally sound and in such condition that the guide(s) and retainer(s) may be securely attached.

(1) At least one bottom guide shall be installed near each end of every door panel.

(2) A safety retainer(s) totaling at least 203 mm (8 in) in length shall be installed between the two (2) outermost guides.

(3) On smaller sized door panels, where due to the width of the door panel, the space between the two (2) outermost bottom guides would be less than 203 mm (8 in), then either:

(i) The length of the retainer may be reduced to a minimum 102 mm (4 in); or

(ii) When only one (1) bottom guide is provided near the center of the door, a 102 mm (4 in) retainer shall be installed on each side of the bottom guide. If the space between the bottom guide and the edge of the door is less than four inches, the length of the retainer may be reduced to the amount of the space between the bottom guide and the edge of the door.

SECTION 2.7

HOISTWAY DOOR LOCKING DEVICES, PARKING DEVICES, AND ACCESS

2.7.3 Access to Hoistway.

Delete Section 2.7.3 in its entirety.

Section 2.7.3 Reserved.

2.7.4 Restricted Opening of Hoistway Doors and/or Car Doors on Passenger Elevators.

Delete Section 2.7.4 in its entirety.

Section 2.7.4 Reserved.

2.7.6 Add new Section 2.7.6 to read as follows:

2.7.6 Locks on elevators and elevator hoistway doors. In high rise buildings, no switch, lock or device of any kind shall be installed on any floor on or above the street floor on any elevator car or elevator hoistway door, except elevators used exclusively for freight, that shall prevent opening of such doors by anyone not having a key, unless fire department access to cars and hoistways is provided by a city-wide standard key number 2642.

PART III
MACHINERY AND EQUIPMENT FOR ELECTRIC ELEVATORS

SECTION 3.1
BUFFERS AND BUMPERS

3.1 Delete Section 3.1 in its entirety.

Section 3.1 Reserved.

SECTION 3.3
CAR FRAMES AND PLATFORMS

3.3.1 Car Platforms.

Delete Section 3.3.1 in its entirety.

Section 3.3.1 Reserved.

3.3.5 Protection of Platforms Against Fire.

Delete Section 3.3.5 in its entirety.

Section 3.3.5 Reserved.

SECTION 3.4
CAR ENCLOSURES

3.4.1 Car Enclosures.

Delete Section 3.4.1 in its entirety.

Section 3.4.1 Reserved.

3.4.2 Car Doors and Gates.

Delete and revise Section 3.4.2 to read as follows:

3.4.2 Car Doors and Gates. Passenger and loft elevators shall comply with (a) and (b) of this section within three (3) years from the effective date of this rule:

(a) Doors, Gates, and Electric Contacts. Cars shall have a car door or gate provided at each entrance equipped with a car door or gate electric contact. Car doors and/or gates shall conform to the following requirements:

(1) They shall be positively opened by a lever or other device attached to and operated by the door or gate.

(2) They shall be maintained in the open position by the action of gravity or by a restrained compression spring, or both, or by positive mechanical means.

(3) They shall not be readily accessible.

(b) Collapsible Gates. Collapsible car gates shall conform to the following requirements:

(1) Collapsible car gates shall not be power opened to a distance exceeding one-third ($\frac{1}{3}$) of the clear gate opening, and in no case more than 254 mm (10 in).

(2) When fully closed (extended position), gates shall reject a ball 76 mm (3 in) in diameter for passenger elevators and 114 mm (4.5 in) for freight elevators.

(3) Gates shall have at least every fourth vertical member guided at the top and every second vertical member guided at the bottom.

(4) Handles of manually operated collapsible gates nearest the car operating device on elevators operated from the car only shall be so located that the nearest handle is not more than 1.22 m (48 in) from the car operating device when the gate is closed (extended position), and not more than 1.22 m (48 in) above the car floor. Gate handles shall be provided with finger guards.

3.4.4 Emergency Exits.

Delete Section 3.4.4 in its entirety.

Section 3.4.4 Reserved.

3.4.5 Car Illumination.

Delete and revise Section 3.4.5 to read as follows:

3.4.5 Car Illumination. The provisions of this section shall apply within one (1) year from the effective date of this rule:

(a) Interiors of cars shall be provided with an electric light or lights. Not less than two (2) lamps shall be provided.

(b) The minimum illumination at the car threshold, with the door closed, shall not be less than:

(1) For passenger elevators: 5 fc (54 lx).

(2) For freight elevators: 2 ½ fc (27 lx).

(c) Light control switches are not required, but if provided they shall be located in or adjacent to the operating device in the car. In elevators having automatic operation, they shall be of the key-operated type or located in a fixture with a locked cover.

(d) Top of car light fixtures may be provided with a non-key-operated switch in or adjacent to the fixture.

SECTION 3.5
SAFETIES

3.5.1 Car Safeties.

Delete Section 3.5.1 in its entirety.

Section 3.5.1 Reserved.

3.5.2 Counterweight Safeties.

Delete Section 3.5.2 in its entirety.

Section 3.5.2 Reserved.

3.5.3 Safeties to Stop Ascending Cars or Counterweights Prohibited.

Delete Section 3.5.3 in its entirety.

Section 3.5.3 Reserved.

3.5.4 Application and Release of Safeties.

Delete Section 3.5.4 in its entirety.

Section 3.5.4 Reserved.

3.5.5 Maximum Permissible Movement of Governor Rope to Operate the Safety Mechanism.

Delete Section 3.5.5 in its entirety.

Section 3.5.5 Reserved.

3.5.6 Rail Lubricants and Lubrication Plate.

Delete and revise Section 3.5.6 to read as follows:

3.5.6 Rail Lubricants and Lubrication Plate. Rail lubricants or coatings that will reduce the holding power of the safety or prevent its functioning as required shall not be used.

SECTION 3.6
SPEED GOVERNORS

3.6 Delete Section 3.6 in its entirety.

Section 3.6 Reserved.

SECTION 3.8
DRIVING MACHINES AND SHEAVES

3.8.1 General Requirements.

Delete Section 3.8.1 in its entirety.

Section 3.8.1 Reserved.

SECTION 3.9
TERMINAL STOPPING DEVICES

3.9.1 Normal Terminal Stopping Devices.

Delete Section 3.9.1 in its entirety.

Section 3.9.1 Reserved.

3.9.2 Final Terminal Stopping Devices.

Delete and revise Section 3.9.2 to read as follows:

3.9.2 Final Terminal Stopping Devices. Upper and lower final terminal electromechanical stopping devices shall be provided and arranged to prevent movement of the car by the normal operating devices in either direction of travel after the car has passed a terminal landing. Final terminal stopping devices shall be located as follows:

(a) Winding Drum Driving Machines. Elevators having winding drum machines shall have stopping switches on the machines and also in the hoistway operated by the movement of the car.

(b) Traction Driving Machines. Elevators having traction driving machines shall have stopping switches in the hoistway operated by the movement of the car.

SECTION 3.10
OPERATING DEVICES AND CONTROL EQUIPMENT

3.10.1 Types of Operating Devices.

Delete Section 3.10.1 in its entirety.

Section 3.10.1 Reserved.

3.10.3 Top-of-Car Operating Devices.

Delete Section 3.10.3 in its entirety.

Section 3.10.3 Reserved.

3.10.4 Electrical Protective Devices

Delete and revise Section 3.10.4 to read as follows:

3.10.4 Electrical Protective Devices. Electrical protective devices shall be provided within one (1) year from the effective date of this rule in accordance with the following:

(a) Slack-Rope Switch. Winding drum machines shall be provided with a slack-rope device equipped with a slack-rope switch of the enclosed manually reset type that

shall cause the electric power to be removed from the elevator driving machine motor and brake if the suspension ropes become slack.

(b) Compensating Rope Sheave Switch. Compensating rope sheaves shall be provided with a compensating rope sheave switch or switches mechanically opened by the compensating rope sheave before the sheave reaches its upper or lower limit of travel to cause the electric power to be removed from the elevator driving machine motor and brake.

(c) Broken Rope, Tape, or Chain Switches Used in Connection With Machine Room Normal Terminal Stopping Switches. Broken rope, tape, or chain switches conforming to the requirements of §3.6.1 shall be provided in connection with normal terminal stopping devices located in machine rooms of traction elevators. Such switches shall be opened by a failure of the rope, tape, or chain.

(d) Car-Safety Mechanism Switch. A switch shall be required where a car safety is provided.

(e) Final Terminal Stopping Devices. Final terminal stopping devices shall be provided for every elevator.

(f) Emergency Terminal Speed Limiting Device. Where reduced stroke oil buffers are provided, emergency terminal speed limiting devices are required.

(g) Motor Generator Overspeed Protection. Means shall be provided to cause the electric power to be removed automatically from the elevator driving machine motor and brake should a motor generator set, driven by a direct current motor, overspeed excessively.

(h) Motor Field Sensing Means. Where direct current is supplied to an armature and shunt field of an elevator driving machine motor, a motor field current sensing means shall be provided, which shall cause the electric power to be removed from the motor armature and brake unless current is flowing in the shunt field of the motor.

A motor field current sensing means is not required for static control elevators provided with a device to detect an overspeed condition prior to, and independent of, the operation of the governor overspeed switch. This device shall cause power to be removed from the elevator driving machine motor armature and machine brake.

(j) Buffer Switches for Oil Buffers Used With Type C Car Safeties. Oil level and compression switches shall be provided for all oil buffers used with Type C safeties.

- (k) Hoistway Door Interlocks or Hoistway Door Electric Contacts.** Hoistway door interlocks or hoistway door electric contacts shall be provided for all elevators.
- (l) Car Door or Gate Electric Contacts.** Car door or gate electric contacts shall be provided for all elevators with car doors or gates.
- (m) Normal Terminal Stopping Devices.** Normal terminal stopping devices shall be provided for every elevator.
- (n) Car Side Emergency Exit Electric Contact.** An electric contact shall be provided on every car side emergency exit door.
- (o) Electric Contacts for Hinged Car Platform Sills.** Hinged car platform sills, where provided, shall be equipped with electric contacts.
- (p) Emergency Stop Switch.** On all freight elevators, passenger elevators with perforated enclosures, and passenger elevators with nonperforated enclosures not provided with an in-car stop switch (see §3.10.4(t)), an emergency stop switch shall be provided in the car, and located in or adjacent to each car operating panel. When opened, this switch shall cause the electric power to be removed from the elevator driving-machine motor and brake.
- (q) Stop Switch in Pit.** A stop switch, conforming to the requirements of §3.10.4(e), shall be provided in the pit of every elevator. The switch shall be located adjacent to the normal pit access.
- (r) Buffer Switches for Gas Spring Return Oil Buffers.** A buffer switch shall be provided for gas spring return oil buffers that will cause electric power to be removed from the elevator driving machine motor and brake if the plunger is not within 13 mm (0.5 in) of the fully extended position.

3.10.5 Power Supply Line Disconnecting Means.

Delete Section 3.10.5 in its entirety.

Section 3.10.5 Reserved.

3.10.11 Add new Section 3.10.11 to read as follows:

3.10.11 Signal Systems on Car Switch Elevators. Elevators with car switch operation shall be provided with a signal system by means of which signals can be given from any landing whenever the elevator is desired at the landing.

SECTION 3.11 **EMERGENCY OPERATION AND SIGNALING DEVICES**

3.11.1 Car Emergency Signaling Devices.

Delete and revise Section 3.11.1 to read as follows:

3.11.1 Car Emergency Signaling Devices. Elevators shall be provided with the following signaling devices within one (1) year from the effective date of this rule:

(a) In all buildings, the elevator shall be provided with the following:

(1) An audible signaling device, operable from the emergency stop switch, when provided, and from a switch marked "ALARM" that is located in or adjacent to each car operating panel. The signaling device shall be located inside the building and audible inside the car and outside the hoistway. One signaling device may be used for a group of elevators.

(b) In buildings in which a building attendant (building employee, watchperson, etc.) is not continuously available to take action when the required emergency signal is operated, the elevators shall be provided with a means within the car for communicating with or signaling to a service which is capable of taking appropriate action when a building attendant is not available. An emergency power system shall be provided conforming to the requirements of §3.11.1(a)(3).

3.11.3 Firefighters' Service.

Delete and revise Section 3.11.3 to read as follows:

3.11.3 Firefighters' Service Operation in Existing Elevators.

Firefighters' service operation shall be installed in all existing elevators serving any of the following:

(a) High rise buildings or buildings classified in occupancy group M except existing R-2.

(b) All buildings or buildings classified in occupancy group A, B, C, or R-1 (except for "residential hotels," as such term is defined by the commissioner pursuant to rules and regulations).

SECTION 3.12 **SUSPENSION MEANS AND THEIR CONNECTIONS**

3.12.1 Suspension Means.

Delete Section 3.12.1 in its entirety.

Section 3.12.1 Reserved.

PART IV
HYDRAULIC ELEVATORS

SECTION 4.2
MECHANICAL EQUIPMENT

4.2 Delete Section 4.2 in its entirety.

Section 4.2 Reserved.

4.3.1 Connection to Driving Machine.

Delete Section 4.3.1 in its entirety.

Section 4.3.1 Reserved.

4.3.2 Plunger Stops.

Delete Section 4.3.2 in its entirety.

Section 4.3.2 Reserved.

4.3.3 Hydraulic Elevators.

Delete and revise Section 4.3.3 to read as follows:

4.3.3 Hydraulic Elevators. Hydraulic elevators that have any portion of the cylinder buried in the ground and that do not have a double cylinder or a cylinder with a safety bulkhead shall, within five (5) years from the effective date of this rule:

(a) Have the cylinder replaced with a double cylinder or a cylinder with a safety bulkhead protected from corrosion by one or more of the following methods:

(1) Monitored cathodic protection;

(2) A coating to protect the cylinder from corrosion that will withstand the installation process;

(3) By a protective plastic casing immune to galvanic or electrolytic action, salt water, and other known underground conditions; or

(b) Be provided with a device meeting the requirements of §3.5 or a device arranged to operate in the down direction at an overspeed not exceeding one hundred twenty five (125) percent of rated speed. The device shall mechanically act to

limit the maximum car speed to the buffer striking speed, or stop the elevator car with rated load with a deceleration not to exceed 9.8 m/s² (32.2 ft/s²), and shall not automatically reset. Actuation of the device shall cause power to be removed from the pump motor and control valves until manually reset; or

(c) Have other means acceptable to the department to protect against unintended movement of the car as a result of uncontrolled fluid loss.

SECTION 4.4
VALVES, SUPPLY PIPING, AND FITTINGS

4.4 Delete Section 4.4 in its entirety.

Section 4.4 Reserved.

SECTION 4.7
OPERATING DEVICES AND CONTROL EQUIPMENT

4.7.4 Electrical Protective Devices.

Delete Section 4.7.4 in its entirety.

Section 4.7.4 Reserved.

4.7.5 Power Supply Line Disconnecting Means.

Delete Section 4.7.5 in its entirety.

Section 4.7.5 Reserved.

SECTION 4.8
ADDITIONAL REQUIREMENTS FOR COUNTERWEIGHTED
HYDRAULIC ELEVATORS

4.8 Delete Section 4.8 in its entirety.

Section 4.8 Reserved.

SECTION 4.9
ADDITIONAL REQUIREMENTS FOR ROPED HYDRAULIC ELEVATORS

4.9 Delete Section 4.9 in its entirety.

Section 4.9 Reserved.

PART V

ESCALATORS

SCOPE:

This Part applies to escalators used to transport passengers.

SECTION 5.1 CONSTRUCTION

5.1.7 Step Risers.

Delete Section 5.1.7 in its entirety.

Section 5.1.7 Reserved.

5.1.8 Slotting of Step Treads.

Delete Section 5.1.8 in its entirety.

Section 5.1.8 Reserved.

5.1.11 Step/Skirt Performance Index

Delete Section 5.1.11 in its entirety.

Section 5.1.11 Reserved.

SECTION 5.2 BRAKES

5.2 Delete Section 5.2 in its entirety.

Section 5.2 Reserved.

SECTION 5.3 OPERATING AND SAFETY DEVICES

5.3.1 Starting Switches.

Delete and revise Section 5.3.1 as follows:

5.3.1 Starting Devices. In every new and existing escalator, starting devices shall be provided with the combination of a starting switch and a starting button. The escalator shall be started only after the activation of both the switch and the button.

(a) Starting Switch. Starting switches shall be of continuous pressure spring return type and shall be operated by a cylinder type lock having five-pin, five-disc or

five-tumbler combination. Starting switches shall be of three-position type and shall be clearly marked as follows:

NORMAL. A central position for the key entry and spring return position.

START-UP. A right side position for starting the escalator in the upward direction.

START-DOWN. A left side position for starting the escalator in the downward direction.

(b) **Starting Button.** Starting buttons shall be of the constant pressure type and located within 152 mm (6 in) from the starting switch. They shall be clearly marked “**Starting Button**”.

(c) **Cover Plate.** A locked, transparent cover plate that can be opened by the starting key and clearly marked “For Start Only” shall protect the starting devices.

(d) **Location of starting devices.** Starting devices shall be located at top and bottom of the escalator on the right side-facing newel.

(NOTE: The starting key shall be kept on the premises at all times and shall only be accessible to persons authorized to start escalators. It shall also be made available to the commissioner or the commissioner’s representative.)

5.3.2 Emergency Stop Buttons.

Delete and revise Section 5.3.2 as follows:

5.3.2 Emergency Stop Buttons Location. A red stop button shall be visibly located at the top and bottom landings on the right side facing the escalator. Remote stop buttons are prohibited except that any escalator connected to an automatic fire alarm system shall gradually stop not exceeding the speed of 0.91 m/s² (3 ft per sec²) upon the activation of such system.

5.3.3 Speed Governor.

Delete Section 5.3.3 in its entirety.

Section 5.3.3 Reserved.

5.3.4 Broken Step-Chain Device.

Delete Section 5.3.4 in its entirety.

Section 5.3.4 Reserved.

5.3.5 Application of Brake.

Delete Section 5.3.5 in its entirety.

Section 5.3.5 Reserved.

5.3.6 Broken Drive-Chain Device.

Delete Section 5.3.6 in its entirety.

Section 5.3.6 Reserved.

5.3.7 Skirt Obstruction Device

Delete and revise Section 5.3.7 as follows:

5.3.7 Skirt Obstruction Device. Means shall be provided to cause the electric power to be removed from the escalator driving machine motor and brake if an object becomes caught between the step and the skirt as the step approaches the upper combplate, intermediate device or lower combplate. On units having a run of 6.10 m (20 ft) or more, intermediate devices shall be provided on both sides of the escalator with devices located at interval of 3.05 m (10 ft) or less. The activation intermediate devices shall stop the escalator at a rate not greater than 0.91 m/s^2 (3 ft per sec^2) in the direction of travel. The upper and lower combplate devices shall be located so that the escalator will stop before that object reaches the combplate. The activation of any skirt device shall stop the escalator with any load up to full brake rated load with the escalator running.

5.3.12 Add new Section 5.3.12 to read as follows:

5.3.12 Comb-Step Impact Devices. Devices shall be provided that will cause the opening of the power circuit to the escalator driving machine motor and brake if either:

- (a) A horizontal force not greater than 1 780 N (400 lbf) in the direction of travel is applied at either side, or not greater than 3 560 N (800 lbf) applied at the center of the front edge of the comb plate; or**
- (b) A resultant vertical force not greater than 268 N (60 lbf) in the upward direction is applied at the center of the front of the comb plate.**

SECTION 5.5 **ENTRANCE AND EGRESS ENDS**

5.5.2 Distinction Between Comb and Step.

Delete Section 5.5.2 in its entirety.

Section 5.5.2 Reserved.

5.5.3 Adjacent Floor Surfaces.

Delete Section 5.5.3 in its entirety.

Section 5.5.3 Reserved.

5.5.5 Landing Access Plates

Delete Section 5.5.5 in its entirety.

Section 5.5.5 Reserved.

PART VI
DUMBWAITERS

Part VI Delete Part VI in its entirety.

Part VI Reserved.

PART VII
HAND ELEVATORS

SCOPE:

This part applies to hand-operated elevators.

7.0 Add new Section 7.0 to read as follows:

SECTION 7.0
EXISTING HAND POWERED FREIGHT ELEVATORS

Existing hand powered freight elevators shall not be subject to the provisions of this rule. However, adequate protection of landing openings shall be provided by hinged or sliding doors which shall remain locked at all times except when the freight elevator is in use. Auxiliary gates not less than 914 mm (36 in) in height, substantially constructed and secured in place, of wood or metal, or equivalent metal chains shall be installed. Such gates or chains may be arranged to lift vertically, to slide horizontally, or to swing. No part of any gate or chain shall project into the freight elevator shaft. Gates may be operated automatically or manually.

SECTION 7.1
HOISTWAY, HOISTWAY ENCLOSURES, AND RELATED CONSTRUCTION

7.1 Delete Section 7.1 in its entirety.

Section 7.1 Reserved.

SECTION 7.2
MACHINERY AND EQUIPMENT

7.2 Delete Section 7.2 in its entirety.

Section 7.2 Reserved.

PART VIII
SIDEWALK ELEVATORS

SCOPE:

This part applies to sidewalk elevators.

SECTION 8.1
HOISTWAY, HOISTWAY ENCLOSURES, AND MACHINERY ROOMS

8.1 Delete Section 8.1 in its entirety.

Section 8.1 Reserved.

SECTION 8.2
MACHINERY AND EQUIPMENT

8.2.2 Buffers and Bumpers.

Delete Section 8.2.2 in its entirety.

Section 8.2.2 Reserved.

8.2.3 Counterweights.

Delete Section 8.2.3 in its entirety.

Section 8.2.3 Reserved.

8.2.4 Car Frames and Platforms.

Delete Section 8.2.4 in its entirety.

Section 8.2.4 Reserved.

8.2.5 Bow-Irons and Stanchions.

Delete Section 8.2.5 in its entirety.

Section 8.2.5 Reserved.

8.2.6 Car Enclosures and Car Doors and Gates.

Delete Section 8.2.6 in its entirety.

Section 8.2.6 Reserved.

8.2.7 Car and Counterweight Safeties and Governors.

Delete Section 8.2.7 in its entirety.

Section 8.2.7 Reserved.

8.2.8 Capacity and Loading.

Delete Section 8.2.8 in its entirety.

Section 8.2.8 Reserved.

8.2.9 Driving Machines and Sheaves.

Delete Section 8.2.9 in its entirety.

Section 8.2.9 Reserved.

8.2.10 Terminal Stopping Devices

Delete Section 8.2.10 in its entirety.

Section 8.2.10 Reserved.

8.2.11 Locking Devices for Hinged Swinging Doors or Vertically Lifting Covers in Sidewalks or Other Areas Exterior to the Building.

Delete Section 8.2.11 in its entirety.

Section 8.2.11 Reserved.

8.2.12 Requirements for Electrical Wiring and Electrical Equipment.

Delete Section 8.2.12 in its entirety.

Section 8.2.12 Reserved.

8.2.13 Clearance Between Loading Side of Car Platforms and Hoistway Enclosures.

Delete Section 8.2.13 in its entirety.

Section 8.2.13 Reserved.

8.2.14 Operating Devices and Control Equipment of Sidewalk Elevator.

Delete and revise Section 8.2.14 as follows:

8.2.14 Operating Devices and Control Equipment of Sidewalk Elevator. Operating devices and control equipment shall conform to the following:

- (a) The operation of power sidewalk elevators through openings in the sidewalk, or through openings in other exterior areas that are accessible to the public, and that are protected by hinged doors or vertically lifting covers, shall conform to the following:

 - (1) The elevator shall be operated in both the up and down directions through the opening, only from the sidewalk or other exterior area. The operation shall be by means of:

 - (i) Key-operated continuous-pressure-type up and down switches; or
 - (ii) Continuous-pressure-type up-and-down operating buttons on the free end of a detachable, flexible cord 1.52 m (5 ft) or less in length.
 - (2) Key-operated switches shall be of continuous pressure spring return type, and shall be operated by a cylinder-type lock having not less than a five-pin or five disk combination with the key removable only when the switch is in the "OFF" position.
 - (3) Key-operated switches and plug receptacles for flexible cords shall be mounted in weatherproof boxes with covers installed above the sidewalk or other area on the side of the building wall, located 457 mm (18 in) or less horizontally from one side of the opening.
 - (4) Operating buttons may be provided in the elevator car and at any landing below the top landing, provided that such buttons shall operate the car only when the bow-iron or stanchions are not in contact with the doors or covers in the sidewalk of other exterior area.
 - (5) When the bow-iron or stanchions are in contact with the doors or covers at the sidewalk or other exterior area, it shall be possible to operate the car only by

means of either the key switches or the continuous-pressure type up-and-down buttons on the free end of the flexible cord specified in §8.2.14(a)(1).

(6) Flexible cords and operating keys shall not be left where they are accessible to unauthorized persons for operation of the elevator.

PART IX **MOVING WALKS**

SCOPE:

This part applies to moving walks used to transport passengers.

9.0 Add new Section 9.0 to read as follows:

SECTION 9.0 **SKIRT PANELS**

(a) The clearance on each side of the steps between step thread and the adjacent skirt panel shall be not more than 4.8 mm (0.188 in) and the edges shall be rounded.

(b) The exposed surface of the skirt panels adjacent to the thread shall be smooth.

SECTION 9.1 **PROTECTION OF FLOOR OPENINGS**

9.1 Delete Section 9.1 in its entirety.

Section 9.1 Reserved.

SECTION 9.2 **PROTECTION OF SUPPORTS AND MACHINE SPACES AGAINST FIRE**

9.2 Delete Section 9.2 in its entirety.

Section 9.2 Reserved.

SECTION 9.3 **CONSTRUCTION REQUIREMENTS**

9.3 Delete Section 9.3 in its entirety.

Section 9.3 Reserved.

SECTION 9.4 **ENTRANCE AND EGRESS ENDS**

9.4.2 Distinction Between Comb and Step.

Delete Section 9.4.2 in its entirety.

Section 9.4.2 Reserved.

SECTION 9.5
DRIVING MACHINES, MOTOR, AND BRAKE

9.5 Delete Section 9.5 in its entirety.

Section 9.5 Reserved.

SECTION 9.6
OPERATING AND SAFETY DEVICES

9.6.1 General.

Delete Section 9.6.1 in its entirety.

Section 9.6.1 Reserved.

9.6.2 Starting Switch.

Delete and revise Section 9.6.2 to read as follows:

9.6.2 Starting Devices. In every new and existing moving walk, starting devices shall be provided with the combination of a starting switch and a starting button. The escalator shall be started only after the activation of both the switch and the button.

(a) Starting Switch. Starting switches shall be of continuous pressure spring return type and shall be operated by a cylinder type lock having five-pin, five-disc or five-tumbler combination. Starting switches shall be of three-position type and shall be clearly marked as follows:

NORMAL. A central position for the key entry and spring return position.

START-UP. A right side position for starting the escalator in the upward direction.

START-DOWN. A left side position for starting the escalator in the downward direction.

(b) Starting Button. Starting buttons shall be of the constant pressure type and located within 152 mm (6 in) from the starting switch. They shall be clearly marked “Starting Button”.

(c) Cover Plate. A locked, transparent cover plate that can be opened by the starting key and clearly marked “For Start Only” shall protect the starting devices.

(d) Location of starting devices. Starting devices shall be located at top and bottom of the escalator on the right side-facing newel.

(NOTE: The starting key shall be kept on the premises at all times and may only be accessible to persons authorized to start escalators. It shall also be made available to the commissioner or the commissioner’s representative.)

9.6.3 Emergency Stop Buttons.

Delete and revise Section 9.6.3 to read as follows:

9.6.3 Emergency Stop Buttons Location. A red stop button shall be visibly located at the top and bottom landings on the right side facing the moving walk. Remote stop buttons are prohibited except that any escalator connected to an automatic fire alarm system shall gradually stop not exceeding the speed of 0.91 m/s² (3 ft per sec²) upon the activation of such system.

9.6.4 Speed Governor.

Delete Section 9.6.4 in its entirety.

Section 9.6.4 Reserved.

9.6.5 Application of an Electrically Released Brake

Delete Section 9.6.5 in its entirety.

Section 9.6.5 Reserved.

9.6.6 Broken Drive-Chain Switch

Delete Section 9.6.6 in its entirety.

Section 9.6.6 Reserved.

9.6.10 Disconnected Motor Safety Device

Delete Section 9.6.10 in its entirety.

Section 9.6.10 Reserved.

9.6.12 Add new Section 9.6.12 to read as follows:

9.6.12 Comb-Pallet Impact Devices. Devices shall be provided that will cause the opening of the power circuit to the moving walk driving-machine motor and brake if either:

- (a) A horizontal force not greater than 1 780 N (400 lbf) in the direction of travel is applied at either side, or not greater than 3 560 N (800 lbf) applied at the center of the front edge of the combplate; or
- (b) A resultant vertical force not greater than 268 N (60 lbf) in the upward direction is applied at the center of the front of the combplate. These devices shall be of the manual-reset type.

SECTION 9.7
LIGHTING AND ACCESS

9.7.2 Access to Interior.

Delete Section 9.7.2 in its entirety.

Section 9.7.2 Reserved.

PART X
PRIVATE RESIDENCE ELEVATORS

10 Delete Section 10 in its entirety.

Section 10 Reserved.

STATEMENT OF BASIS AND PURPOSE

This rule is promulgated pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043 of the New York City Charter and Section 28-103.19 of the New York City Administrative Code.

This rule adopts the uniform national reference standard ASME A17.3-2002, as modified by New York City, and incorporates various retroactive provisions from Subchapter 18 and Reference Standard RS-18 of Title 27 of the Administrative Code of the New York City (1968 NYC Building Code), thereby providing users of the New York City Construction Codes with one location in which to find all existing elevator and escalator minimum requirements.

The rule provides a reasonable degree of safety and reliable service to the public.