



SUBCHAPTER 15
CHIMNEYS AND GAS VENTS

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ARTICLE 1 GENERAL

§[1500.1] 27-849 Scope. -This subchapter shall establish the minimum safety requirements for, and control the design, construction, installation, alteration, and use of chimneys and gas vents.

§[1500.2] 27-850 Standards. - The provisions of reference standard RS-15 shall be a part of this subchapter.

§[1500.3] 27-851 Definitions. -For definitions to be used in the interpretation of this subchapter, see subchapter two of this chapter.

§[1500.4] 27-852 Plans. -For the requirements governing the filing of plans and the work to be shown on plans, see subchapter one of this chapter.

§[1500.5] 27-853 Permits. -For the requirements governing equipment work permits and equipment use permits, see subchapter one of this chapter.

§[1500.6] 27-854 General requirements. —Chimneys or gas vents shall be designed and constructed so as to provide the necessary draft and capacity to completely exhaust the products of combustion to the outside air, and to satisfy the following conditions:

(a) Temperature. -The temperature on adjacent combustible surfaces shall not be raised above one hundred sixty degrees Fahrenheit.

(b) Condensation. -The condensation shall not be developed to an extent that can cause rapid deterioration of chimney or vent.

*§[1500.7] 27-855 Factory-built chimneys and gas vents.

(a) Factory-built chimneys. -Factory-built chimneys and chimney units shall be listed and accepted in accordance with the applicable reference standard and shall be installed in accordance with the temperature conditions and height limitations of the listing and acceptance, the manufacturer's instructions or this article, whichever is the most restrictive. Flue gas temperatures in the chimney shall not exceed the limits and durations employed during listing tests and as required by this code.

(b) Gas vents. -Type B and Type BW gas vents shall be listed and accepted in accordance with the conditions of the acceptance and applicable provisions of this code.

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ARTICLE 2 CHIMNEYS

§[1501.1] 27-856 General requirements. -

(a) Equipment requiring chimneys. - All gas-burning equipment that produces flue gas temperatures in excess of five hundred fifty degrees Fahrenheit or four hundred eighty degrees Fahrenheit above room temperature, and all solid and liquid fuel-burning equipment, shall be connected to chimneys that conform to the requirements of this subchapter.

***(b) Chimney construction.** -Unlisted chimneys shall be constructed of steel, brick, masonry units, concrete, concrete units, or equivalent materials. Chimneys shall be

of adequate structural strength, with resistance suitable for the temperatures to which they may be subjected and resistive to the corrosive action of gases. For structural requirements, see subchapters ten and eleven of this chapter.

(c) Separation of flues. -Whenever more than one flue is installed within a chimney, the lining of each flue shall be separated, one from the other, as follows:

(1) In low temperature chimneys with fire clay flue linings: by a wythe of cement grout at least one inch thick or other equivalent method.

(2) In medium temperature and high temperature chimneys: by a division wall of brick or concrete at least three and three-quarters inches thick or other equivalent method.

The separation between flue linings thus established shall in all cases be adequate to give stability for the chimney construction as required by subchapter ten of this article.

(d) Test run. -All new chimneys shall be test run by the applicant under operating conditions to demonstrate fire safety and the complete exhausting of smoke and the products of combustion to the outer air. The results of such test run shall be certified as correct by the applicant and shall be submitted in writing to the department.

(e) Requirement of a smoke test. -Whenever required by the commissioner after an inspection has been made of the chimney, a smoke test shall be made as outlined in section 27-868 of this article. Any faults or leaks found shall be corrected. Such smoke test shall be witnessed by a representative of the commissioner. In lieu thereof, the commissioner may accept the test report of an architect or engineer in which case the test shall be subject to the provisions for controlled [sic] inspection except that the architect or engineer may be retained by the contractor.

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§[1501.2] 27-857 Classification of chimneys. -

Chimneys shall be classified as follows:

(a) Low temperature chimneys. -Chimneys designed and constructed to exhaust the products of combustion from low temperature equipment as defined in subchapter fourteen of this chapter.

(b) Medium temperature chimneys. - Chimneys designed and constructed to exhaust the products of combustion from medium temperature equipment as defined in subchapter fourteen of this chapter.

(c) High temperature chimneys. -Chimneys designed and constructed to exhaust the products of combustion from high temperature equipment as defined in subchapter fourteen of this chapter.

§[1501.3] 27-858 Cleanouts and maintenance. -

Whenever a new chimney is completed or an existing chimney is altered, it shall be cleaned and left smooth on the inside. Cleanouts with a gas tight door shall be provided at the base of all chimneys.

§[1501.4] 27-859 Chimney heights and locations. -

(a) Low temperature chimneys. -Low temperature chimneys shall extend at least three feet above the highest construction, such as a roof ridge, parapet wall, or penthouse, within ten feet of the chimney outlet, whether the construction

is on the same building as the chimney or on another building. However, such constructions do not include other chimneys, vents, or open structural framing. Any chimney located beyond ten feet from such construction, but not more than the distance determined in subdivision (d) of this section, shall be at least as high as the construction.

(b) Medium temperature chimneys. -Medium temperature chimneys shall extend at least ten feet above the highest construction, such as a roof ridge, or parapet wall or penthouse within twenty feet of the chimney outlet, whether the construction is on the same building as the chimney or on another building. However, such constructions do not include other chimneys, and vents. Any chimney located beyond twenty feet from such constructions but not more than the distance determined in subdivision (d) of this section, shall be at least as high as the construction.

(c) High temperature chimneys. -High temperature chimneys shall extend at least twenty feet above the highest construction, such as roof ridge, parapet wall, penthouse, or other obstruction within fifty feet of the chimney outlet, whether the construction is on the same building as the chimney or in another building. However, such constructions do not include other chimneys, vents, or open structural framing. Any chimney located beyond fifty feet from such construction but not more than the distance determined in subdivision (d) of this section, shall be at least as high as the construction.

(d) Formula. -The following formula shall be used for determining the distances referred to in subdivisions (a), (b) and (c) of this section:

$$D = F \sqrt{A}$$

where:

D = Distance, in ft., measured from the center of the chimney outlet to the nearest edge of the construction.

F = Value determined from table 15-1.

A = Free area, in sq. in., of chimney flue space.

TABLE 15-1 "F" FACTOR FOR DETERMINING CHIMNEY DISTANCES

Type of Fuel	"F" Factor		
	Low	Medium	High
	Temp.	Temp.	Temp.
Chimney	Chimney	Chimney	Chimney
Gas.....	2	2	3
No. 2 Fuel Oils.....	2.5	2.5	3
No. 3, No. 6 Fuel Oils, Solid Fuels and Incinerators.....	3	3	3

§[1501.5] 27-860 Adjoining Chimneys. -

(a) Responsibility of owner of taller building. - Whenever a building is erected, enlarged, or increased in height so that any portion of such building, except chimneys or vents, extends higher than the top of any previously constructed chimneys within one hundred feet, the owner of such new or altered building shall have the responsibility of altering such chimneys to make them conform with the requirements of section 27-859 of this

article. A chimney that is no longer connected with a fireplace or combustion or other equipment for which a chimney was required, shall be exempt from this requirement. Such alterations shall be accomplished by one of the following means or a combination thereof:

- (1) Carry up the previously constructed chimneys to the height required in section 27-859 of this article.
- (2) Offset such chimneys to a distance beyond that required in section 27-859 of this article from the new or altered building, provided that the new location of the outlet of the offset chimney shall otherwise comply with the requirements of this subchapter.

(b) Protection of draft. -After the alteration of a chimney as required by subdivision (a) of this section, it shall be the responsibility of the owner of the new or altered building to provide any mechanical equipment or devices necessary to maintain the proper draft in the equipment.

(c) Written notification. -The owner of the new or altered building shall notify the owner of the building affected in writing at least forty-five days before starting the work required and request written consent to do such work. Such notice shall be accompanied by plans indicating the manner in which the proposed alterations are to be made.

(d) Approval. -The plans and method of alteration shall be subject to the approval of the commissioner.

(e) Refusal of consent. -If consent is not granted by the owner of the previously constructed building to do the alteration work required by subdivisions (a) and (b) of this section, such owner shall signify his or her refusal in writing to the owner of the new or altered building and to the commissioner; and the owner of the new or altered building has submitted plans that conform to the requirements of this section, he or she shall thereupon be released from any responsibility for the proper operation of the equipment due to loss of draft and for any health hazard or nuisance that may occur as a result of the new or altered building. Such responsibilities shall then be assumed by the owner of the previously constructed building. Likewise, should such owner neglect to grant consent within forty-five days from the date of written request or fail to signify his or her refusal, he or she shall then assume all responsibilities as prescribed above.

(f) Procedure. -It shall be the obligation of the owner of the new or altered building to:

- (1) Schedule this work so as to create a minimum of disturbance to the occupants of the affected building.
- (2) Provide such essential services as are normally supplied by the equipment while it is out of service.
- (3) Where necessary, support such extended chimneys and equipment from this building or to carry up such chimneys within his or her building.
- (4) Provide for the maintenance, repair, and/or replacement of such extensions and added equipment.

(5) Make such alterations of the same material as the original chimney so as to maintain the same quality and appearance, except where the owner of the chimney affected shall give his or her consent to do otherwise. All work shall be done in such fashion as to maintain the architectural esthetics of the existing building.

(g) **Existing violations.** -Any existing violations on the previously constructed equipment shall be corrected by the owner of the equipment before any equipment is added or alterations made at the expense of the owner of the new or altered building.

(h) The commissioner may grant a variance in accordance with the provisions of section 27-107 of article one of subchapter one of this chapter.

§[1501.6] 27-861 Metal chimneys. -

(a) **Exterior metal chimneys.** - Exterior metal chimneys constructed of steel shall be of adequate thickness to resist all applied loads specified in subchapter nine of this chapter, but shall not be less than the thickness required in table 15-4.

(b) **Clearances for exterior metal chimneys.** -Metal chimneys erected on the exterior of a building shall have sufficient clearance from a wall or frame of combustible construction to satisfy the requirements of table 15-2 and to permit inspection and maintenance operations on the chimney, and shall comply with the following minimum requirements:

(1) Exterior metal chimneys over eighteen inches in diameter, for equipment of any operating temperature, shall have a clearance of at least four inches, and those eighteen inches or less in diameter shall have a clearance of at least two inches from a building wall of any combustible construction.

(2) No portion of an exterior metal chimney shall be nearer than twenty-four inches to any door or window or to any exit, or located where it would be readily accessible to the public, unless it is insulated or shielded to avoid injury to any person in contact with the chimney.

TABLE 15-2 MINIMUM CLEARANCES REQUIRED FROM ANY COMBUSTIBLE MATERIALS

Classification of Equipment		
Low Temperature	Medium Temperature	High Temperature
6"	24"	24"

**Bracket not enacted but probably intended.*

(c) Enclosure of interior metal chimneys. -

(1) Every interior metal chimney or part thereof erected within buildings shall be enclosed with non-combustible construction having a fire resistance rating of not less than that prescribed in table 15-3 in all stories above the one in which the equipment served thereby is located. Where the metal chimney passes through a combustible roof, it shall be guarded by a non-combustible ventilating thimble of galvanized metal or equivalent non-combustible material

that extends at least nine inches below and above the roof construction. The thimbles shall be of a size to provide clearances on all sides of the metal chimney of at least six inches for low temperature equipment and at least eighteen inches for medium and high temperature equipment as defined in subchapter fourteen of this chapter. However, if the metal chimney is insulated and protected to prevent a temperature of more than two hundred fifty degrees Fahrenheit on its exterior surface the thimble clearance may be reduced by fifty percent.

(2) The enclosure around a metal chimney shall provide a space on all sides of the chimney to permit inspection and repair for the entire chimney height. When metal chimneys have a minimum dimension of twenty-four inches in diameter and are completely jacketed with noncombustible insulating material within the required enclosure, access to permit inspection and repair shall not be required.

(3) The enclosing construction shall be of non-combustible materials and shall have a fire resistance rating as required in table 15-3 and shall be without openings, except access openings equipped with opening protectives constructed in accordance with the requirements of subchapter five of this chapter, at floor levels where necessary for complete inspection purposes.

(4) The required fire resistance ratings of table 15-3 for the enclosure of a medium or high temperature metal chimney may be reduced by one hour if the chimney is insulated with an insulation adequate for the temperature of the chimney and having at least a one hour fire resistance rating at all sections of the insulation.

**** TABLE 15-3 REQUIRED FIRE RESISTANCE RATINGS OF ENCLOSURES FOR METAL CHIMNEYS**

Chimney Classification	Required Fire Resistance Rating of Enclosure
Low Temperature	1 Hr. for buildings under 5 stories
	2 Hr. for buildings 5 stories or more
Medium Temperature	2 Hr.
High Temperature	3 Hr.

Note for Table 15-3:

Table 3-4 of section 27-271 shall also be complied with in the construction of enclosures for metal chimneys.

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(d) **Prohibited location.** -No interior metal chimney shall be carried up inside a ventilating duct unless such duct is constructed as required by this subchapter for metal chimneys, and only when such duct is used solely for exhaust venting the room or space in which the equipment served by the metal chimney is located. Metal chimneys shall not be installed in air supply ducts.

**(e) Unlisted metal chimneys serving residential type or low heat appliances and producing flue gas having a temperature below 350°F at the entrance to the chimney at

full load or partial load shall be lined with acid and condensate resistant refractory material, or constructed of suitable stainless steel, or otherwise protected so as to minimize or prevent condensation or corrosion damage as required in reference standard RS 15-14.

**Steel chimneys for exterior use shall be insulated and weather sheathed to maintain flue surface temperatures above the acid dew point in all parts of the system in accordance with subdivision (b) of section 27-854.

**(g) Steel chimneys for interior use shall be insulated to ensure enclosure temperatures not in excess of 160°F on combustible materials in accordance with subdivision (a) of section 27-854.

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§[1501.7] 27-862 Materials other than metal for construction of chimneys. -Materials other than metal for the construction of chimneys shall include the following:

(a) Clay, concrete, or shale bricks, laid in a full bed of mortar.

(b) One hundred percent solid masonry units, or hollow masonry units having the cores filled with mortar or grout, laid in spread mortar covering the entire cross-sectional area of the unit.

(c) Concrete cast in place and adequately reinforced where required. (d) Natural stones that have been sawed, dressed, or have a tooled finish, laid in spread mortar. (e) Perforated radial brick. Such brick shall be laid in spread mortar equal to type M, of reference standard RS 15-3, and shall be shaped to the circular and radial lines of the various sections so as to form even joints.

(f) Other equivalent materials or combination of materials.

TABLE 15-4 LOW TEMPERATURE CHIMNEY CONSTRUCTIONS

Material	Thickness	Lining Required	Type of Lining	Thickness	Air Space
Steel ^a (for exterior chimneys) ^b	1/8 in. for areas up to 7 sq. ft., 3/16 in. for areas up to 12.5 sq. ft., 1/4 in. for larger.	Not required	....	....	....
Steel ^a (for interior chimneys)	No. 16 U.S. gage for areas up to 155 sq. in., No. 14 U.S. gage up to 200 sq. in., No. 12 U.S. gage up to 255 sq. in., No. 10 U.S. gage for greater areas.	Not required	....	....	....
Brick, masonry units, or stone	8 inches ^c	Full height from chimney base to 4 in. above chimney walls.	Clay flue lining meeting requirements of Reference Standard RS 15-4, with fire clay mortar or cement mortar equal to that of Type M of Ref. Std. RS 15-3, or a heat-proof and acid-proof flue lining joint cement.	Not less than 5/8 in.	Not less than 1/4 in. nor more than 3/4 in. between chimney walls and flue lining.
Concrete	6 inches ^c	ditto	ditto	ditto	ditto
Radial brick	7 1/2 inches	Full height from chimney base to 4 in. above chimney wall.	Firebrick Type G, RS 15-6, laid in medium refractory mortar, RS 15-7, or acid resistant brick Type H or L, Ref. Std. RS 15-8.	4 1/2 inches	....
Brick type H or L, RS 15-7	8 inches	Not required	....	....	....

Notes for Table 15-4:

^aMetal chimneys shall be of riveted, bolted or welded construction and made gas tight.

^bExterior metal chimneys shall be galvanized, or painted on the exterior surface with a heat resisting paint or be constructed of equal corrosion resistive alloys.

^cIn buildings in residential occupancy group J3, of four stories or less, and in other buildings not over two stories high and not in high hazard occupancy group A, providing the flue areas are not more than 200 sq. in. the walls of masonry or concrete chimneys may be reduced to 4 in. with fire clay flue lining. Flue linings shall be set ahead of chimney walls, and carefully bedded in fire clay mortar or in cement mortar.

Chimney walls shall be provided with mortar spacer ties every 10 ft. of height. Mortar ties shall not be continuous around the flue linings.

***TABLE 15-5 MEDIUM TEMPERATURE CHIMNEY CONSTRUCTIONS**

Material	Thickness	Lining Required	Type of Lining	Thickness	Air Space
Steel	Same as for low temp. chimney	Lining is required for full height of chimney.	Incinerators only- Castable refractory Cl. A, RS 15-5	2 in.	None required
			Medium-duty fireclay refractory brick (ASTM C64) or the equivalent laid in medium-duty refractory mortar (ASTM C105) or the equivalent, RS 15-6.	The lining shall be at least 2 $\frac{1}{2}$ in. thick for chimneys having a diameter or greatest cross-section dimension of 18 in. or less. The lining shall have a thickness of not less than 4 $\frac{1}{2}$ in. laid on a full bed for chimneys having a diameter or greatest cross- section dimension greater than 18 in.	
Brick or masonry units	8 inches	Full height from chimney base to 4 in. above chimney wall.	Firebrick Type G, RS 15-6 laid in medium refractory mortar, RS 15-7, or acid resistant brick Type H or L, Ref. Std. RS 15-8.	4 $\frac{1}{2}$ inches	None required
Concrete	6 inches	ditto	ditto	ditto	ditto
Stone	12 inches	ditto	ditto	ditto	ditto
Radial brick	7 $\frac{1}{2}$ inches	Full height from chimney base to 4 in. above chimney wall.	ditto	ditto	ditto
Brick masonry units, stone, or concrete	Double wall construction, each wall 8 inches thick	From 2 feet below to a height of 25 feet above the point of entry if connector, the inner wall shall be lined.	Fire clay flue lining, as required for low temperature masonry chimneys.	5/8 inch	2 in. air space between each 8 in wall, fire-stopped at each floor with non-combustible material.

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***§[1501.8] 27-863 Chimney construction for low, medium, and high temperature equipment.-**

- (a) Unlisted chimneys for low temperature equipment shall be constructed in accordance with table 15-4.
- (b) Unlisted chimneys for medium temperature equipment shall be constructed in accordance with table 15-5.
- (c) Unlisted chimneys for high temperature equipment shall be constructed in accordance with table 15-6.

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***§27-863.01 Chimney limitations and tests.-**

No solid fuel fireplace, fireplace stove or room heater shall be installed or altered unless connected to a chimney which complies with the limitations and testing requirements set forth in table 15-6.1.

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§[1501.9] 27-864 Chimney supports.-

- (a) Chimneys shall not be supported by the equipment they serve unless such equipment has been specifically designed for such loads.
- (b) An exterior metal chimney shall be supported on an independent substantial masonry or concrete foundation designed in accordance with the provisions of subchapters ten and eleven of this chapter. Interior metal chimneys may be supported on noncombustible construction at intermediate levels.
- (c) Masonry and concrete chimneys may be designed and constructed as free standing, or as constituting an integral part of a wall, or may be enclosed within a structure without constituting a component part thereof.

***TABLE 15-6 HIGH TEMPERATURE CHIMNEY CONSTRUCTIONS**

Material	Thickness	Lining Required	Type of Lining	Thickness	Air Space
Steel	Same as for low temp. chimney	For full height of chimney	High-duty fireclay refractory brick (ASTM C64) or the equivalent not less than 4 $\frac{1}{2}$ in. thick laid on a full width bed in high-duty refractory mortar (ASTM C105) or the equivalent, RS 15-6.	4 $\frac{1}{2}$ inches	None required
Brick masonry or concrete	Double wall construction with each wall 8 inches thick and an intervening air space	Inner course of inner wall shall be a firebrick, form 2 feet below connector to full height of chimney	Firebrick same as above for steel chimneys, except no castable refractory permitted.	4 $\frac{1}{2}$ inches	2 in. air space required between the two 8 in. walls, fire-stopped as for medium temperature chimneys.
Steel and masonry, or concrete single wall. (Steel on inside of chimney)	Steel as above, with a single 8 in. masonry or 6 in. concrete wall and an intervening air space.	For full height of chimney	Firebrick and castable refractory, same as above for steel chimneys.	4 $\frac{1}{2}$ inches 2 inches	2 in. air space required between the steel and the masonry or concrete wall, fire-stopped as per medium temperature chimneys.
Radial Brick	7 $\frac{1}{2}$ inches	For full height from chimney base to 4 in. above chimney wall.	Firebrick as above for steel chimneys except no castable refractory permitted	4 $\frac{1}{2}$ inches	None required

***TABLE 15-6.1 CHIMNEY LIMITATIONS AND TESTS FOR SOLID FUEL FIREPLACES, FIREPLACE STOVES AND ROOM HEATERS**

Occupancy	Reference Standard	Test Standard	Temperature	Number of Tests
J-2 & J-3 limited to 40 feet and three stories	RS 15-15	UL 127, as Modified	1700°F	1 test
J-2 & J-3 limited to 75 feet	RS 15-9 RS 15-12	UL 103HT ULC 629M	2100°F —10 min. 2100°F —30 min.	3 tests 3 tests
All other occupancies and all buildings greater than 75 feet in height	RS 15-10 Table 15-6 of subdivision (c) of section 27-863 and Section 27-861	UL 959 No Standard	2100°F to Equilibrium and 2300—30 min. Unlisted High Temp. Chimney with Required Thickness listed in Table 15-6	1 test 3 tests No test

Notes for Table 15-6.1:

Chimneys accepted pursuant to reference standard RS 14-10 or Table 15-6 may be used in lieu of chimneys accepted pursuant to reference standards RS 15-9, RS 15-12, and RS 15-15.

Chimneys accepted pursuant to reference standards RS 15-9 or RS 15-12 may be used in lieu of chimneys accepted pursuant to reference standard RS 15-15.

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(d) Masonry and concrete chimneys shall be wholly supported on noncombustible construction that shall conform to the requirements of subchapters ten and eleven of this chapter, and shall not be required to support any direct load other than the weight of the chimney. No supports shall project into the chimney flue or flue lining.

*(e) Supports for listed chimneys shall be listed and installed in accordance with the listing and acceptance.

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§[1501.10] 27-865 Chimney caps. - All masonry chimneys shall be capped with concrete, cement wash, terra cotta tile, or other equivalent material.

§[1501.11] 27-866 Corbelling of chimneys. -Walls less than twelve inches thick shall not be corbelled. The maximum horizontal projection in any corbel shall be one inch for each two inches of vertical projection and in all cases the total projection shall not be greater than one-third of the minimum thickness of the wall to be corbelled. In no case shall the total projection be more than six inches. No masonry chimney shall be corbelled from hollow or cavity wall masonry units.

***§[1501.12] 27-867 Clearances from masonry and concrete chimneys.** -

(a) All wood beams, joists, and studs shall be framed away from chimneys. Headers, beams, joists, and studs shall be at least two inches from the outside face of a chimney or from masonry enclosing a flue. Trimmers shall be not less than five inches from the inside face of the concrete or masonry chimney wall. Finished flooring shall have at least one-half inch clearance from chimney walls.

(b) A clearance of at least four inches shall be provided between the exterior surfaces of masonry or concrete chimneys for commercial and industrial type incinerators and combustible material.

(c) A clearance of at least two inches shall be provided between the exterior surfaces of interior masonry or concrete chimneys for all wood burning appliances.

(d) No combustible lathing, furring, or plaster grounds shall be placed against a chimney at any point more than one and one-half inches from the corner of the chimney; but this shall not prevent plastering directly on masonry or on metal lath and metal furring nor shall it prevent placing chimneys for low temperature equipment entirely on the exterior of a building against the sheathing.

(e) All spaces between chimneys and wood joists, beams, or headers shall be firestopped in accordance with the provisions of subchapter five of this chapter.

(f) No change in the size or shape of a chimney shall be made within six inches of the roof framing through which it passes.

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§[1501.13] 27-868 Smoke test. -

(a) **General.** -When required by the commissioner to determine the tightness of chimney constructions, a smoke test shall be made in accordance with the following conditions and requirements:

(1) The equipment, materials, power and labor necessary for such test shall be furnished by, and at the expense of, the owner or holder of the work permit.

(2) If the test shows any evidence of leakage or other defects, such defects shall be corrected in accordance with the requirement of this subchapter and the test shall be repeated until the results are satisfactory.

(b) Method of test. -The chimney shall be filled with a thick penetrating smoke produced by one or more smoke machines, or smoke bombs, or other equivalent method. As the smoke appears at the stack opening on the roof, such opening shall be tightly closed and a pressure equivalent to a one-half inch column of water measured at the base of the stack, shall be applied. The test shall be applied for a length of time sufficient to permit the inspection of the chimney.

§[1501.14] 27-869 Exhaust gases from internal combustion engines. -

(a) **Exhaust pipe construction.** -The exhaust pipe from internal combustion engines shall be constructed in accordance with the requirements for metal chimneys based on the temperature of the gases entering the exhaust pipe, and in accordance with the following:

(1) The requirements for at least a medium temperature chimney shall apply.

(2) The exhaust pipe shall be constructed of at least three-sixteenths inch steel, or of other equivalent metal of similar strength and resistance to the temperature and corrosive action of the exhaust gases.

(3) No lining shall be required.

(4) Where the exhaust pipe runs inside a building, it shall be insulated with an insulation adequate for the temperature of the pipe, so that the surface temperature shall not be more than two hundred degrees Fahrenheit.

(5) All joints shall be constructed so as to be gastight under all operating conditions. No threaded joints shall be permitted in pipe sizes over four inches or in pipe of a thickness less than that of schedule 40 steel pipe.

(b) Location of discharge opening. -The location of the discharge opening of the exhaust pipe shall comply with the requirements of subdivision (d) of section 27-776 of article one of subchapter thirteen of this chapter, and, in addition, the opening shall be located or arranged so that it cannot cause condensate leaving the outlet to come in contact with people. The exhaust pipe may be connected to a chimney used for other equipment, provided that the operation of the engine does not adversely affect the operation of the other equipment so as to cause a fire or health hazard, or to cause the emissions from the chimney to be in violation of the air pollution control code.

§27-869.01 Factory-built chimneys. -

(a) **Residential occupancy.** In residential occupancy groups J-2 and J-3:

(1) Factory-built chimneys servicing liquid or gas fueled appliances shall be listed and accepted in accordance with reference standard RS 15-8[A].^{**}

***Copy in brackets not enacted but probably intended.*

(2) Factory-built chimneys servicing wood burning fireplaces or stoves and inserts shall be listed and accepted in accordance with reference standards RS 15-9, RS 15-10, RS 15-12 or RS 15-15.

(3) Factory-built chimneys servicing factory-built fireplaces shall be listed and accepted in accordance with reference standard RS 15-15.

(b) Other occupancies. In all other occupancy groups:
 (1) Factory-built chimneys servicing liquid or gas fueled appliances shall be listed and accepted in accordance with reference standard RS 15-10 or RS 15-11.
 (2) Factory-built chimneys servicing wood burning appliances of any type shall be listed and accepted in accordance with reference standard RS 15-10.

(c) Enclosures. All factory-built chimneys shall be enclosed in accordance with the requirements of table 15-3.

(d) Height limitation: Every chimney servicing a factory-built fireplace or wood burning stove in a building of more than seventy-five feet in height shall be listed and accepted in accordance with reference standard RS 15-10, unless such chimney is an unlisted high temperature chimney constructed in accordance with the requirements of section 27-861 and of table 15-6 of subdivision (c) of section 27-863, and is installed to serve the appliance.

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***§27-869.02 Changes in appliance fuels. -**

(a) Conversion from gas to fuel oil or wood for heating appliances shall be made only if:

(1) the chimney design meets the requirements of this subchapter for the conversion fuel; and
 (2) the chimney size is adequate to vent the combustion products from the new fuel.

(b) Conversion from solid or liquid fuels to natural gas fuels for heating appliances shall be made only if:

(1) the chimney design meets the requirements of this subchapter for the conversion fuel;
 (2) the chimney is thoroughly cleaned prior to the conversion to remove collected flue deposits, which can spall off when gas is used as a fuel;
 (3) the chimney size is recalculated for the new fuel;
 (4) drains are installed to remove condensed water; and
 (5) gas vents are installed within the chimney for venting purposes if required by the appliance listing.

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***§27-869.03 Reduction in flue size. -**Conversion from one fuel to another or the use of an existing chimney to service a fireplace or wood burning appliance may require a flue size change for proper operation. This may be done if the redesigned flue meets the criteria for the fuel and chimney type to be used as set forth in this subchapter.

(a) Individual fireclay flue linings, in conformance with reference standard RS 15-14 or the equivalent not less than five-eighths inch thick, may be used but shall be carefully bedded one on the other in medium-duty fireclay refractory mortar in conformance with reference standard RS 15-6 or the equivalent as determined by the commissioner, with close fitting joints left smooth on the inside. Linings shall be separate from the chimney

wall and the space between the liner and masonry shall not be filled; only enough mortar shall be used to make a good joint and hold the liners in position.

(b) Cast in place chimney linings. -

(1) Cast in place linings shall be installed in accordance with reference standard RS 15-16 and with their listing and acceptance.

(2) The applicant prior to the installation of the lining shall verify that the chimney meets the requirements of reference standard RS 15-4 and is in a sound and uncracked condition, that spalling has been removed and that there are no carbon or creosote deposits.

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ARTICLE 3 CHIMNEY CONNECTORS

§[1502.1] 27-870 Chimney connector construction.-Chimney connectors except those serving incinerators shall be constructed of galvanized steel of thickness conforming to the requirements listed in subdivision (a) of this section or of equivalent materials. Cleanout doors of the same material as the connector or other equivalent means shall be provided for the cleaning of connectors. Tile pipe shall not be used as a chimney connector.

(a) Thickness of metal. -The thickness of galvanized steel for chimney connectors shall be not less than that given in table 15-7.

(b) General. -All chimney connectors shall be as short and as straight as possible consistent with their use and the required draft conditions. No chimney connector shall pass through a floor or ceiling construction.

TABLE 15-7 REQUIRED THICKNESS OF GALVANIZED STEEL FOR CONNECTORS

Galvanized Sheet Gage [sic]	No. Area of Connector Sq. In.
24	less than 79
22	80 to 154
20	155 to 200
16	Over 200

§[1502.2] 27-871 Chimney connection. -In entering a flue in a masonry or metal chimney, the chimney connector shall be installed above the extreme bottom to avoid stoppage and in such manner or by such means as to prevent the chimney connector from entering so far as to restrict the space between its end and the opposite wall of the chimney. The chimney connector shall be firmly attached or inserted into a thimble or slip joint to prevent it from falling out of place. All connectors shall fit tightly. Chimney connections to any flue shall be limited to one floor. Two or more chimney connectors may be joined to a single connection provided that the chimney connectors are on one floor level and the flue is of sufficient size to serve all of the equipment thus connected. Chimney connectors shall be inspected at the time of the initial installation by the commissioner or by a duly authorized insurance company as provided in section two hundred four of the labor law.

§[1502.3] 27-872 Chimney connector clearances. -

(a) **From combustible construction.** -The minimum distance between the chimney connector and any combustible material or construction shall be:

(1) eighteen inches for chimney connectors from low temperature equipment.

(2) thirty-six inches for chimney connectors from medium temperature and high temperature equipment.

(b) **Reduced clearances.** -The above clearances may be reduced as outlined in table 15-8 in accordance with the type of protection applied to the combustible material or construction.

***TABLE 15-8 REDUCED CLEARANCES FOR CHIMNEY CONNECTORS WITH SPECIFIED FORM OF PROTECTION^{1, 2, 3, 4}**

Type of protection	Where the required clearance with no protection is:			
	36 in.	18 in.	9 in.	6 in.
Applied to the combustible material and covering all surfaces within the distance specified as the required clearance with no protection. Thicknesses are minimum				
(a) 0.027 in. (23 gage) [sic] sheet metal spaced out 1 in.	36 in.	18 in.	9 in.	6 in.
(b) 3 1/2 in. thick masonry wall spaced out 1 in. and adequately tied to the wall being protected. (see Note 4.)	18 in.	9 in.	4 in.	2 in.
(c) 0.027 in. (23 gage) [sic] sheet metal on 1 in. mineral wool batts reinforced with wire or equivalent spaced out in 1 in.	12 in.	3 in.	2 in.	2 in.

Notes for Table 15-8:

¹Spacers and ties shall be of noncombustible material.

²All methods of protection require adequate ventilation between protective material and adjacent combustible walls and ceilings.

³Mineral wool batts (blanket or board) shall have a minimum density of 8 lb. per cu. ft. and a minimum melting point of 1500°F.

⁴If a single wall connector passes through the masonry wall there shall be at least 1/2 in. open ventilated airspace between the connector and the masonry.

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§[1502.4] 27-873 Underground chimney connectors. -Underground chimney connectors shall be covered with at least twelve inches of solid masonry or an equivalent insulation. Each cleanout opening shall be provided with double iron doors or covers, and the doors or covers shall be twelve inches apart with the intervening space filled with insulating material. The doors or covers shall be not less than 10 manufacturer's standard gage [sic]. No combustible flooring shall be permitted over such connectors.

§[1502.5] 27-874 Annual inspection of chimney connectors. -Chimney connectors for boilers subject to section two hundred four of the labor law shall be inspected at least once a year by the commissioner or by a duly authorized insurance company, as provided in subdivision (b) of section 27-793 of article two of subchapter fourteen of this chapter and shall be subject to procedures listed therein.

ARTICLE 4 INCINERATOR CHIMNEYS AND REFUSE CHARGING CHUTES

§[1503.1] 27-875 Charging chutes for refuse reduction. -Charging chutes shall be constructed in accordance with the following requirements:

(a) **Directly connected.** -When directly connected to the combustion chamber of an incinerator, the chutes shall be gas tight with smooth linings and shall conform to the following:

- (1) They shall be constructed in accordance with the requirements for medium temperature chimneys.
- (2) They shall extend through the building roof and be open to the outer air. The opening shall be equal to the required chute size at the top floor.
- (3) If a roof damper is used it shall be constructed to open automatically under conditions of excessive pressure or temperature. The roof damper shall be electrically interlocked with the auxiliary burners.
- (4) Each charging chute shall be provided with a spark arrester of corrosion resistive, noncombustible construction in which the maximum size of mesh opening shall not exceed three-quarters of an inch. The cross-sectional free area of such arrester shall be not less than that of the inside of the chute to which it is attached. The height of the spark arrester shall be such that there will be a minimum of twenty-four square feet of total free area provided for a chute height to sixty feet; thirty-six square feet for a chute height from sixty-one feet to one hundred twenty feet; and forty-four square feet for chute heights over one hundred twenty feet. In no case, however, shall the height of the spark arrester be less than one foot.
- (5) Provisions shall be made for sterilizing the charging chute by heating or purging at a temperature of at least four hundred degrees Fahrenheit but not higher than one thousand degrees Fahrenheit.
- (b) **Not directly connected.** -When not directly connected to a building service incinerator, the chutes shall be gas tight with smooth linings and shall conform to the following:

(1) They shall be constructed in accordance with the applicable requirements for shafts in table 3-5** and subchapter five of this chapter.

**As enacted but "3-4" probably intended.

(2) They shall extend through the building roof and be open to the air. The opening shall be equal to at least one square foot.

(3) If a roof damper is used it shall be constructed to open automatically under conditions of excessive pressure or temperature.

(4) Provisions shall be made for sterilizing the chute by spraying, washing, or other equivalent means.

(5) Bins, containers, or rooms for receiving rubbish shall be constructed as required by section 27-837 of article eighteen of subchapter fourteen of this chapter and sprinklers shall be provided as required by the construction provisions of subchapter seventeen of this chapter.

(c) Sizes. -

(1) The sizes of chutes directly connected to the incinerators in buildings shall conform to table 15-9.

(2) Charging chutes not directly connected to the incinerator shall have a cross-sectional free area adequate for the service intended.

(d) Charging doors. -Charging doors, service openings, or hopper doors for chutes may be located in separate rooms or compartments enclosed in non-combustible walls or partitions, floors, and ceilings having a fire resistance rating of at least one hour and a self-closing fire door with a three-quarter-hour fire-protection rating. Service openings shall, in no case, have a free area of more than one-third of the cross-sectional free area of the chute to which they give access. All such openings shall be substantially constructed of steel or the equivalent metal of sufficient thickness to prevent distortion or other damage in normal usage. The door shall be provided with counterweights, door checks, or other equivalent means for automatically closing after use and where the chute is connected directly to the combustion chamber of an incinerator, the door shall be so constructed that the chute is closed off while the hopper is being loaded. No part of the door shall project into the chute at any time. The minimum height of charging door openings shall be eleven inches, and the minimum width shall be thirteen inches.

(e) When charging chutes are located in multiple dwellings, in addition to the requirements of this subchapter, the chutes shall be constructed in accordance with the requirements for noise control of chutes in subchapter twelve of this chapter.

TABLE 15-9 MINIMUM SIZE OF CHARGING CHUTES

Building Height	Location	If Square	If Round
7 stories or less	All 7 stories	22 1/2"	x 22 1/2" 24" dia.
8 to 30 stories	Top 7 stories	22 1/2"	x 22 1/2" 24" dia.
	8 th to 30 th from the top	27"	x 27" 30" dia.
31 stories and over	Top 7 stories	22 1/2"	x 22 1/2" 24" dia.
	8 th to 30 th from the top	27"	x 27" 30" dia.
	Remaining lower	32"	x 32" 36" dia.

§[1503.2] 27-876 Chimneys for building service incinerators. - Chimneys for building service incinerators

shall be constructed in accordance with the requirements of this subchapter for high or medium temperature chimneys, based upon the temperature of the flue gases leaving the equipment, except that no reduction of flue gas temperature shall be recognized if such reduction is the result of using water scrubbers or barometric dampers. In addition, such chimneys shall comply with the following:

(a) Chimneys shall extend through the roof and be open to the air.

(b) Chimneys shall be provided with a spark arrester as required in paragraph four of subdivision (a) of section 27-875 of this article.

(c) Incinerators may discharge into chimneys serving other equipment provided such combined chimney is of adequate size for both uses, conforms to construction required for the highest temperature, and adequate draft control equipment is provided for each device connected to the combined chimney.

§[1503.3] 27-877 Chimneys for industrial or municipal incinerator plants. - Chimneys for central incinerator plants shall be constructed in accordance with the requirements for:

(a) Medium temperature chimneys if the incinerator is provided with a heat recovery unit or other means to assure a flue gas temperature not in excess of one thousand degrees Fahrenheit at the base of the stack.

(b) High temperature chimneys if the incinerator has no heat recovery unit or other means to assure a flue gas temperature less than one thousand degrees Fahrenheit.

§[1503.4] 27-878 Incinerator chimney connectors. -

(a) The chimney connector from the combustion chamber of an auxiliary fuel-fired incinerator shall be constructed of metal at least as heavy as no. 16 manufacturers standard gage [sic] when twelve inches or less in diameter or greater dimension, and of metal at least as heavy as no. 12 manufacturers standard gage [sic] when they exceed twelve inches in diameter or greater dimension.

(b) Chimney connectors from auxiliary fuel-fired incinerators shall be lined with firebrick, laid in fire clay mortar, at least two and one-half inches thick when they are between twelve inches and eighteen inches in diameter or greater dimension and at least four and one-half inches thick when they are larger; where no flue gas temperature reduction is effected the chimney connectors shall be equipped with a guillotine or horizontal sliding damper or butterfly damper interlocked with the fuel firing controls so that operation of the incinerator occurs when the damper is open. If chimney connectors from auxiliary fuel-fired incinerators lead into and combine with chimney connectors from other equipment, the connectors from the other equipment shall also be lined as required for direct flue connections unless the cross-sectional area of the connector into which they lead is at least four times their required cross-sectional area.

(c) Chimney connectors for an auxiliary fuel-fired incinerator to a boiler stack or chimney for [sic] high temperature heating equipment shall be permitted when the cross-sectional area of such stack or chimney is at least four times that of the incinerator chimney connector.

(d) The clearance of incinerator chimney connectors from combustible material or construction shall be at least thirty-six inches. This clearance may be reduced as outlined in

table 15-8 in accordance with the type of protection applied to the combustible material or construction.

ARTICLE 5 GAS VENT SYSTEMS

†§[1504.1] 27-879 General. -

- (a) Vent systems of gas-fired equipment shall be so designed and constructed as to completely exhaust the products of combustion to the outdoor air.
- (b) When required by the commissioner, gas vents shall be tested to determine fire safety and the adequate exhausting of the products of combustion.
- (c) Vents shall be installed if required, in accordance with the applicable standards for gas-fired equipment. See reference standard RS 15-2 for a tabulation of these standards.

†*Local Law 80-1989.*

†§[1504.2] 27-880 Equipment not required to be vented. -

- (a) Ranges for which a vent is not required by reference standard RS 15-2.
- (b) Built-in domestic cooking units for which a vent is not required by reference standard RS 15-2.
- (c) Hot plates and laundry stoves.
- (d) Type 1 clothes dryers.
- (*e) Water heaters with inputs not over five thousand Btu/hr. (See note below.)
- (*f) Automatically controlled instantaneous water heaters that supply water to a single faucet which is attached to and made a part of the equipment.
- (*g) A single booster type (automatic instantaneous) water heater when designed and used solely for the sanitizing rinse requirements of a national sanitation foundation class one, two or three dishwashing machine, provided that the input is limited to fifty thousand Btu/hr. The storage capacity is limited to twelve and one-half gallons and the heater is installed in a commercial kitchen having a mechanical exhaust system.
- (*h) Refrigerators.
- (*i) Counter equipment.
- (*j) Room heaters for which a vent is not required by reference standard RS 15-0.
- (*k) Other equipment for which a vent is not required and which are not provided with flue collars.
- (*l) Specialized equipment of limited input such as laboratory burners or gas lights.

*See notes at end of Section 27-880.

†*Local Law 80-1989.*

Notes:

When any, or all, of the equipment marked with an asterisk (*) is installed so that the aggregate input rating exceeds thirty Btu/hr. per cubic foot of room or space in which it is installed, one or more pieces of the equipment shall be provided with a venting system or other equivalent means for removing the vent gases to the outdoor air so that the aggregate input rating of the remaining unvented equipment does not exceed the thirty Btu/hr. per cubic foot figure. When the room or space in which such equipment is installed is directly connected to another room or space by a doorway, archway, or other opening of comparable size, which cannot be closed, the volume of such adjacent room or space may be included in the calculations.

†§[1504.3] 27-881 Draft hoods. -

- (a) All vented equipment, except dual oven type combination ranges, equipment with sealed combustion

chambers, and units designed for power burners or forced venting, shall be installed with a draft hood or with a barometric damper.

- (b) The draft hood supplied with, or forming a part of, vented equipment shall be installed in accordance with the requirements of the applicable standard in reference standard RS 15-2. The draft hood shall be located in the same room as the combustion air opening of the equipment.

†*Local Law 80-1989.*

§[1504.4] 27-882 Chimneys for venting gas-fired equipment. -

When venting of gas-fired equipment is provided for by the use of chimneys, such chimneys shall be constructed in accordance with the requirements of this subchapter.

§[1504.5] 27-883 Gas equipment connected to chimneys. -

Automatically controlled gas-fired equipment connected to a chimney that also serves equipment for the combustion of solid or liquid fuel shall be equipped with an automatic pilot. A gas-fired equipment vent connector and a chimney connector from equipment burning another fuel, located on the same floor, may be connected into the same chimney through separate openings, or may be connected through a single opening if joined by a suitable fitting located as close as practicable to the chimney. If two or more openings are provided into one chimney, they shall be at different levels.

§[1504.6] 27-884 Types of gas vents. -

- †(a) **Type B gas vents.** -Type B gas vents conforming to the requirements of section 27-855 of article one of this subchapter may be used to vent gas-fired equipment. Type B gas vents may be used for single-story or multi-story installations when they conform to the requirements of section 27-855 of article one of this subchapter and the gas equipment used in multi-story installations shall be accepted for such use. Type B gas vents shall be used to vent only listed gas appliances with draft hoods and other gas appliances listed for use with Type B gas vents. However, Type B gas vents shall not be used for venting:
 - (1) vented wall furnaces listed for use with Type BW gas vents only;
 - (2) incinerators;
 - (3) appliances which may be converted readily to the use of solid or liquid fuels;
 - (4) combination gas-oil burning appliances;
 - (5) appliances listed for use with chimneys only.

†*Local Law 80-1989.*

- †(b) **Type B-W gas vents.** -Type B-W gas vents conforming to the requirements of section 27-855 of article one of this subchapter shall be used to vent gas-fired vented recessed heaters. Type B-W gas vents may be used with single-story or multi-story installations when they conform to the requirements of section 27-855 of article one of this subchapter and the gas equipment used in multi-story installations shall be accepted for such use. Type BW vents shall be used with listed vented gas wall furnaces having a capacity not greater than that of the listed Type BW gas vent.

†*Local Law 80-1989.*

- †(c) **Single-wall metal vents.** -Single-wall metal vents may be used to vent gas-fired equipment and shall be constructed of not less than 16 oz. sheet copper, or No. 20 galvanized sheet gage [sic] steel, or of other

equivalent noncombustible corrosion-resistant material. Single-wall metal gas vents may pass through the roof or exterior wall to the outdoor air, but shall not pass through any attic or other concealed space nor through any intermediate floor construction.

(d) Connection to a common vent. -Connection of gas-fired equipment on more than one floor level to a common vent, except as provided for in subdivisions (a) and (b) of this section, shall be prohibited.

(e) Ventilating hoods. -Ventilating hoods and exhaust systems may be used to vent kitchen, laboratory, and commercial [sic] equipment.

§[1504.7] 27-885 Labeling gas vents. -Gas vents for use with gas-fired equipment, and which are not designed for use with solid or liquid fuel-fired equipment, shall be plainly and permanently identified by a metal label etched or embossed to read: "This gas vent is for equipment which burns gas only. Do not connect to incinerator or solid or liquid fuel-burning equipment." This label shall be attached to the vent at a point near where the gas vent system enters the wall, ceiling, or chimney.

§[1504.8] 27-886 Special venting arrangements. -

(a) Equipment with sealed combustion chambers. -The vent requirements contained in this subchapter do not apply to equipment having sealed combustion chambers and which are so constructed and installed that all air for combustion is derived from outside the space being heated and all flue gases are discharged by integral vent to the outdoors. Such equipment, having integral venting, shall be installed in accordance with the conditions of the applicable standard governing their use.

(b) Gas-vent exhausters and chimney exhausters. -Gas-vent exhausters and chimney exhausters may be used with gas appliances in lieu of natural draft vents. Where an exhauster is used with gas-burning equipment requiring venting, provisions shall be made to prevent the flow of gas to the main burner in the event of failure of the exhaust system. A vent connector serving gas equipment vented by natural draft shall not be connected into the discharge side of a power exhauster.

(c) Ventilating hoods and exhaust systems. -

Ventilating hoods and exhaust systems may be used to vent gas equipment installed in commercial applications. When automatically operated equipment, such as water heaters, are vented through natural-draft ventilating hoods, dampers shall not be installed in the ventilating system. When the ventilating hood or exhaust system is equipped with a power-driven exhaust fan, the equipment control system shall be so interlocked as to permit equipment operation only when the power exhaust is in operation. When used, ventilating hoods shall be built and installed in accordance with the provisions of subchapter thirteen of this chapter.

§[1504.9] 27-887 Installation requirements. -

(a) The gas vent connected to equipment with a single vent shall not be less than the size of the draft hood outlet, and in no case less than two inches in diameter.

(b) When more than one piece of equipment is connected to a gas vent, the area shall be not less than the area of the largest vent connector plus fifty percent of the areas of

additional vent connectors or in accordance with the provisions of reference standard RS 15-1.

(c) Where two or more vent connectors enter a common vertical gas vent or chimney, the smaller connector shall enter at the highest level consistent with available headroom or clearance to combustible material. Two or more items of gas equipment may be vented through a common vent connector or manifold located at the highest level consistent with available headroom or clearance to combustible material. The manifold, all junction fittings, and the common vent connector shall be of a size adequate for the combined volume of the vent gases.

(d) Gas vents shall be enclosed as provided in subdivision (c) of section 27-861 of article two of this chapter.

§[1504.10] 27-888 Gas vent height and locations. -Gas vents shall extend at least two feet above the highest construction, such as a roof ridge, parapet wall, or penthouse, within ten feet of the vent outlet whether the construction is on the same building as the chimney or on another building. However, such constructions do not include chimneys or other vents, or open structural framing. The vent shall be as high as such construction which is located beyond ten feet from the vent and up to and including the distance determined by the following formula:

$$D = 2 \sqrt{A}$$

where:

D = Distance in ft., measured from the center of the vent outlet to the nearest edge of the construction.

A = Free area, in sq. in., of vent flue space.

Vents shall be subject to the following additional requirements:

(a) No gas vent shall terminate less than five feet in vertical height above the highest connected equipment draft hood outlet or flue collar.

(b) No type B-W gas vent serving a vented recessed heater shall terminate less than twelve feet in vertical height above the bottom of the heater.

(c) All gas vents shall terminate in an approved vent or cowl, which shall prevent down drafts and prevent rain and debris from entering the vent.

§[1504.11] 27-889 Adjoining gas vents. -

(a) Responsibility of owner of taller building. -Whenever a building is erected, enlarged, or increased in height so that any portion of such building, except chimneys or vents, extends above the top of a previously constructed gas vent within fifty feet, the owner of the new or altered building shall have the responsibility of altering such gas vents that have their outlets within fifty feet measured horizontally, of any part of the newly erected building. Such alterations shall be at the expense of the owner of the new or altered building and shall be accomplished by one of the following means or a combination thereof:

(1) Carry up such previously constructed vents from gas-fired equipment to the height required in section 27-888 of this article.

(2) Offset such gas vents to a distance of more than fifty feet from the new or altered building, provided that

the new location of the outlet of the offset gas vent shall comply with the requirements of this subchapter.

(b) Protection of draft. -After the alteration of a gas vent as described in subdivision (a) of this section, it shall be the responsibility of the owner of the new or altered building to provide any mechanical devices or equipment necessary to maintain the proper draft in the equipment.

(c) Written notification. -The owner of the new or altered building shall notify the owner of the building affected in writing at least forty-five days before starting the work and request written consent to do such work. Such notice shall be accompanied by a written description or a plan showing how the proposed alterations are to be made.

(d) Approval. -The method of correction shall be subject to the approval of the commissioner.

(e) Refusal of consent. -If consent is not granted by the owner of the previously constructed or altered building to do the alteration work required by paragraph one of subdivision (a) of this section, such owner shall signify his or her refusal in writing to the owner of the new or altered building and to the commissioner, and the owner of the new or altered building has submitted plans that conform to the requirements of this section, he or she shall thereupon be released from any responsibility for the operation of his or her equipment and for any health hazard or nuisance that may occur as a result of the newly erected or modified building. Such responsibilities shall then be assumed by the owner of the previously constructed building. Likewise, should such owner neglect to grant consent within forty-five days from the date of written request or fail to signify his or her refusal, he or she shall then assume all responsibilities as prescribed above.

(f) Procedures. -It shall be the obligation of the owner of the new or altered building to:

- (1) Schedule this work so as to create a minimum of disturbance to the occupants of the affected building.
- (2) Provide such essential services as are normally supplied by the equipment while it is out of service.
- (3) Where necessary, support such extended gas vents from his or her building or carry up such vents within his or her building.
- (4) Provide for the maintenance, repair, and/or replacement of such alterations.

(5) Make such alterations of the same material as the original gas vent except where the owner of the vent affected shall give his or her consent to do otherwise. All work shall be done in such fashion as to maintain the architectural esthetics of the existing building.

(g) Existing violations. -Any existing violations on the previously constructed equipment shall be corrected by the owner of the equipment before any equipment is added or alterations made at the expense of the owner of the new or altered building.

(h) The commissioner may grant a variance in accordance with the provisions of section 27-107 of article one of subchapter one of this chapter.

§[1504.12] 27-890 Support of gas vents. -All portions of gas vents shall be adequately supported for the weight of the material used and for the applied loads on the vent.

§[1504.13] 27-891 Prohibited termination. -Gas vents extending through outside walls shall not terminate below eaves or parapets.

ARTICLE 6 GAS VENT CONNECTORS

§[1505.1] 27-892 Construction. -Vent connectors for conversion burners without draft hoods, or other gas-fired equipment without draft hoods, shall be constructed of materials having resistance to corrosion and temperature not less than that of no. 24 galvanized sheet gage [*sic*] steel.

(a) Vent connectors used for gas-fired equipment having draft hoods and for conversion burners having draft hoods, shall be constructed of Type B gas vent material or materials having resistance to corrosion and temperature not less than that of no. 26 galvanized sheet gage [*sic*] steel.

(b) The vent connector between the equipment and the vertical gas vent or chimney shall have the greatest possible initial rise consistent with the headroom available in the equipment area and with the required clearance to combustible material. The horizontal run of the vent connector shall be as short as possible and the equipment shall be located as near the gas vent or chimney as practicable. The maximum length of an uninsulated horizontal run of vent connector shall not exceed seventy-five percent of the height of the gas vent or chimney.

(c) No vent connector shall pass through floor or ceiling construction.

§[1505.2] 27-893 Clearances. -

(a) Minimum clearances. -Minimum clearances at vent connectors to combustible materials shall not be less than those listed in table 15-10.

(b) Reduced clearances. -These clearances may be reduced when the combustible construction is protected as provided in table 15-11.

§[1505.3] 27-894 Thimbles. -

(a) When passing through combustible constructions, vent connectors constructed of type B gas vent material shall be installed so that the clearances required by the standard are maintained.

(b) Vent connections made of single-wall metal pipe shall not pass through any combustible walls or partitions unless they are guarded at the point of passage by ventilated metal thimbles not smaller than the following:

- (1) For equipment conforming to standards-four inches larger in diameter than the vent connector.
- (2) For equipment having draft hoods-six inches larger in diameter than the vent connector.
- (3) For equipment without draft hoods-twelve inches larger in diameter than the vent connector.

§[1505.4] 27-895 Size of connectors. -The vent connector shall not be smaller than the size of the flue collar or the draft hood outlet of the gas-fired equipment. Where a single item of equipment has more than one draft hood outlet, the vent connector shall equal the combined area of the draft hood outlets for which it acts as a common connector to the gas vent or chimney.

TABLE 15-10 VENT CONNECTOR CLEARANCE[S]* FOR GAS-FIRED EQUIPMENT

	Minimum Distances from Combustible Materials (in.)	
	Type B Gas Vent Material	Other Than Type B Materials
Boiler	As required by Std.	6
Warm air furnace	As required by Std.	6
Water heater	As required by Std.	6
Room Heater	As required by Std.	6
Floor furnace	As required by Std.	6
Conversion burner (with draft hood)	6	9
Equipment with draft hoods	6	9
Equipment without draft hoods	Not Permitted	18

**Copy in brackets not enacted but probably intended.*

TABLE 15-11 REDUCED CLEARANCES FOR VENT CONNECTORS WITH SPECIFIED FORMS OF PROTECTION^a

Specified Form of Protection ^b	Reduced Clearances Where the Required Clearance with No Protection is:		
	18 in.	9 in.	6 in.
(a) 1/4 in. asbestos millboard spaced out 1 in. ^c	12	6	3
(b) 28 gage [sic] sheet metal on 1/4 in. asbestos mill board	12	4	2
(c) 28 gage [sic] sheet metal spaced out 1 in. ^c	9	4	2
(d) 28 gage [sic] sheet metal on 1/8 in. asbestos millboard spaced out 1 in. ^c	9	4	2
(e) 1 1/2 in. asbestos cement covering on heating appliance	18	9	6
(f) 1/4 in. asbestos millboard on 1 in. mineral fiber bats reinforced with wire mesh or equivalent	6	4	2
(g) 22 gage [sic] sheet metal on 1 in. mineral fiber bats reinforced with wire or equivalent	3	2	2
(h) 1/4 in. asbestos cement board or 1/4 in. asbestos millboard	18	9	4
(i) 1/4 in. cellular asbestos	18	9	3

Notes for Table 15-11:

^aExcept for the protection described in (e) above, all clearances should be measured from the outer surface of the appliance to the combustible material disregarding any intervening protection applied to the combustible material.

^bApplied to the combustible material unless otherwise specified and covering all surfaces within the distance specified as the required clearance with no protection. Thicknesses are minimum.

^cSpacers shall be on** noncombustible material.

***As enacted but "of" probably intended.*

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