SUBCHAPTER 14
HEATING AND COMBUSTION EQUIPMENT

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ARTICLE 1 GENERAL

§[C26-1400.1] 27-787 Scope. -This subchapter shall establish the minimum safety requirements for, and control the design, construction, installation, alteration, and use of heating, combustion, fuel storage, and related equipment. In addition, within special flood hazard areas, and below the regulatory flood datum, as described in article ten of subchapter four of this chapter, heating, combustion, fuel storage and related equipment shall meet the requirements of the applicable provisions of reference standard RS 4-5.

§[C26-1400.2] 27-788 Standards. -The provisions of reference standard RS-14 shall be a part of this subchapter.

§[C26-1400.3] 27-789 Definitions. -For definitions to be used in the interpretation of this subchapter, see subchapter two of this chapter.

§[C26-1400.4] 27-790 Plans. -For the requirements governing the filing of plans and the work to be shown on plans, see subchapter one of this chapter.

§[C26-1400.5] 27-791 Permits. -For the requirements governing equipment work permits and equipment use permits, see subchapter one of this chapter.

§[C26-1400.6] 27-792 General requirements.-
All heating, combustion, and cooking equipment shall be installed with adequate clearances from combustible †contruction in accordance with the provisions of this subchapter. Either the equipment shall be provided with insulation or the building construction shall be fire protected, so that during continued or intermittent operation the surface of combustible construction materials will not be raised to a temperature higher than one hundred seventy degrees Fahrenheit. Such equipment shall be located, arranged, and protected so that the means of access to them for ordinary operation and maintenance will not be hazardous. They shall not be located in exits, hoistways, nor in the same space with other equipment or materials when the proximity to the other equipment or materials would create a hazardous condition. All piping shall be installed so as to provide for adequate expansion and contraction.

†*As enacted but "construction" probably intended.*

ARTICLE 2 INSPECTIONS AND TESTS FOR EQUIPMENT USE PERMITS

***§[C26-1401.1] 27-793 Boilers**. -
(a) Acceptance tests. -Boilers shall not be placed in operation upon completion of construction until they have been inspected and tested and an equipment use permit has been issued by the commissioner. All final inspections and tests for boilers shall be subject to the provisions for controlled inspection as provided in subchapter one of this chapter, except that such inspections and tests shall be made by a qualified boiler inspector in the employ of the department or a duly authorized insurance company as provided in section two hundred four of the labor law. Equipment having a Btu input of not more than three hundred fifty thousand Btu per hour shall be exempt from this requirement.
(b) Periodic boiler inspections.-
(1) Except as provided in paragraph two of this subdivision, all boilers, as defined in section two hundred four of the labor law, excepting those boilers listed in subdivision five of such section of the labor law, shall be inspected at least once a year by duly authorized insurance companies or other qualified inspectors in the manner set forth in rules and regulations promulgated by the commissioner. Such inspections shall also include the chimney connectors described in article three of subchapter fifteen of this chapter. All boiler inspectors who perform periodic inspections pursuant to this subdivision shall be qualified under section two hundred four of the labor law and rules and regulations promulgated by the commissioner of labor.
(2) Each owner of a high-pressure boiler, as defined in sections 26-160 and 27-795 of this code, may choose to have the annual boiler inspection conducted by the department or by a duly authorized insurance company.
(c) Owner's annual statement. -
(1) The owner of each boiler that is subject to periodic inspection shall file an annual written statement with the commissioner, specifying:
a. The location of each boiler.
b. Whether or not the owner, agent, or lessee has had the boiler inspected by a duly authorized insurance company or other qualified inspector in accordance with the requirements of subdivision (b) of this section, setting forth the name and address of the insurance

company or other qualified inspector, the date of inspection, and the policy number covering the boiler.
(2) If the periodic boiler inspection has been performed by a duly authorized insurance company or other qualified inspector pursuant to subdivision (b) of this section, the annual statement shall be accompanied by a signed copy of the report of each boiler inspection, on such forms and in such manner as required by the commissioner.
(3) The statement shall be filed within thirty days after installation of a boiler. Thereafter, it shall be filed on or before the last day of December of the year of each annual inspection.
(d) Removal or discontinuance notice. -The owner of a boiler that is removed or discontinued from use shall file a written notice of such removal or discontinuance with the commissioner within thirty days of the date of removal or discontinuance.
(e) Failure to file statements and notices. -If an owner of a boiler shall fail to file any statement or notice required under this section, such owner shall be liable for a civil penalty pursuant to section 26-125 of this code.
(f) Additional inspections.- In addition to the inspections required by subdivisions (a) and (b) of this section, the commissioner may make such additional inspections as required to enforce the provisions of this code. No fee shall be charged for such additional inspections.
(g) Fees. -Every owner of a boiler in use and inspected by a duly authorized insurance company shall pay to the department an annual fee for each boiler in the amount prescribed by section 26-213 of title twenty-six of the administrative code to cover the city's administrative and supervisory costs involved. The fee shall be payable at the time of the filing of the statement required by this subdivision.
******Local Law 62-1991.***

§[C26-1401.2] 27-794 Fuel burning and fuel storage installations. -
(a) Field tests. -
(1) All liquid fuel piping and fuel oil storage tanks shall be hydrostatically tested for tightness by the contractor who made the installation before the work is closed in and before the system is operated. The piping shall be tested at one and one-half times the maximum working pressure applicable to that part of the piping system but at a pressure less than the test pressure required for the storage tank. The minimum pressure for testing tanks shall be one and one-half times the maximum working pressure applicable to the tank but in no case less than twenty-five psi. The hydrostatic pressure shall be maintained until all joints and connections have been visually inspected for leaks, but in no case for less than one-half hour. The tank shall not show any permanent deformation as a result of the test. A record shall be kept of the pressure tests showing the name of the contractor and the pressures at which the piping and the tank were tested.
(2) Gas distribution piping shall be tested for tightness by the contractor who made the installation before the work is closed in and before the system is operated, in accordance with the requirements of section 27-922 of article seven of subchapter sixteen of this chapter. For gas storage tanks see chapter four of this title.
(b) Inspections. -Fuel burning equipment shall be inspected in accordance with the requirements for controlled inspections in subchapter one, except that the inspections may be made by an architect or engineer who need not be in the employ of the owner or by a representative of the commissioner.
(c) Temporary use permit. -A temporary equipment use permit, as provided in subchapter one, may be issued by the commissioner upon receipt of a statement signed by the contractor who made the installation, certifying that:
(1) The portions of the work completed conform with all provisions of the code listing at the same any items still to be completed.
(2) All required pressure tests have been successfully completed on the portion of the work installed and giving the pressure at which the tests were made.
(d) Instruction cards. -For oil burning systems, cards giving complete instructions for the care and operation of the system shall be furnished and shall be permanently located in an easily visible and accessible location near the equipment.
(e) Exceptions. -An equipment use permit shall not be required for any installation for which a work permit is not required as provided in section 27-189 of article eighteen of subchapter one of this chapter.

ARTICLE 3 LICENSES AND CERTIFICATES

§[C26-1402.1] 27-795 High pressure boiler operating engineer license. -If a boiler produces steam or vapor or has a safety valve setting of more than fifteen psi and rated in excess of ten hp or if such boiler produces hot water at a pressure of more than one hundred sixty psi or at a temperature over two hundred fifty degrees Fahrenheit, such boiler shall be operated by a high-pressure boiler operator licensed in accordance with the requirements of subchapter two of title twenty-six of the administrative code.

§[C26-1402.2] 27-796 Oil burning equipment installer license.- All oil burning installations, including storage equipment, shall be made by, or under, the direct supervision of a licensed oil burning equipment installer, in accordance with requirements of subchapter two of title twenty-six of the administrative code.

§[C26-1402.3] 27-797 Certificates. -No oil burning equipment hereafter installed shall be operated until an equipment use permit has been issued by the commissioner,

the requirements of the air pollution control code have been met as provided in section 27-799 of article four of this chapter, and until approval for the storage of fuel oil has been given by the fire commissioner, except that temporary operation may be permitted as provided in section 27-188 of article eighteen of subchapter one of this chapter.
(a) Every oil burning installation that is not fully automatic or requires preheating shall be operated by, or under, the direct supervision of a person holding a certificate of fitness issued by the fire commissioner. Such person shall be in the building at all times while the burners are in operation, and shall be present in the boiler room during the starting of the operation of a boiler.

§[C26-1402.4] 27-798 Operator's inspection after repairs.- After any repairs are made to a boiler or fuel burning equipment for which licensed or qualified operators are required, such operators shall check the repairs, together with the functioning of all control [*sic*] devices and the positioning of all valves. These licensed or qualified operators also shall be present during the starting of the operation of the equipment and shall be responsible for the proper and safe operation of such equipment.

ARTICLE 4 ABATEMENT OF AIR CONTAMINANTS

§[C26-1403.1] 27-799 General requirements.- All heating and combustion equipment that is fired with solid, liquid, or gas fuels and that is subject to the provisions of this code, including all rubbish burners and incinerators, shall comply with the requirements of the air pollution control code.

ARTICLE 5 EQUIPMENT STANDARDS

§[C26-1404.1] 27-800 Standards for gas and oil burning equipment. -Gas burning and fuel oil burning equipment and accessory equipment or devices shall be accepted for use in accordance with the provisions of this subchapter when they comply with the test and installation standards of reference standard RS-14 as applicable, or have been approved by the board. Both methods shall be subject to the requirements of section 27-135 of article eight of subchapter one of this chapter.

ARTICLE 6 EQUIPMENT CLASSIFICATION

§[C26-1405.1] 27-801 Low temperature equipment. -Equipment whose products of combustion at the point of leaving the equipment have a temperature of six hundred degrees Fahrenheit or less under normal operating conditions shall be classified as low temperature equipment.

§[C26-1405.2] 27-802 Medium temperature equipment.- Equipment whose products of combustion at the point of leaving the equipment have a temperature of between six hundred degrees and one thousand degrees Fahrenheit under normal operating conditions shall be classified as medium temperature equipment.

§[C26-1405.3] 27-803 High temperature equipment.- Equipment whose products of combustion at the point of leaving the equipment have a temperature of one thousand degrees Fahrenheit or greater under normal operating conditions shall be classified as high temperature equipment.

ARTICLE 7 EQUIPMENT FOUNDATION MOUNTINGS

§[C26-1406.1] 27-804 General requirements. -All floor mounted combustion or heating equipment shall be mounted on noncombustible construction as provided in reference standard RS 14-17 or on combustible construction if such construction is protected as required in reference standard RS 14-17, provided the following conditions are met:
(a) All clearances shall comply with the requirements specified in section 27-792 of article one of this subchapter.
(b) Heating and combustion equipment which has been tested in accordance with applicable standards listed in reference standard RS-14, shall be installed with the clearances determined by such tests.
(c) Equipment which has been approved, as provided in section 27-135 of article eight of subchapter one of this chapter, shall be installed in accordance with the conditions of such approval.
(d) When mounted above combustible construction, the equipment is arranged so that flame or gaseous products of combustion do not impinge upon the base of the equipment.

ARTICLE 8 EQUIPMENT CLEARANCES

§[C26-1407.1] 27-805 General requirements.- Clearances from combustible construction in walls, partitions and ceilings adjacent to combustion or heating equipment shall not be less than that tabulated in reference standard RS 14-15, provided the following conditions are met:
(a) All clearances shall comply with the requirements specified in section 27-792 of article one of this subchapter.
(b) Heating and combustion equipment which has been tested in accordance with the applicable standards listed in reference standard RS-14, shall be installed with the clearances determined by such tests.
(c) Equipment which has been approved, as provided in section 27-135 of article eight of subchapter one of this chapter, shall be installed in accordance with the conditions of such approval.

§[C26-1407.2] 27-806 Reduction of clearances. -The clearances required in section 27-805 of this article may be reduced when the exposed combustible construction is

protected with noncombustible material in accordance with the forms of protection listed in reference standard RS 14-16.

ARTICLE 9 COMBUSTION AIR

§[C26-1408.1] 27-807 Air supply. -
(a) Oil fuels. -The air supply for equipment burning fuel oil shall comply with the requirements in applicable standards in reference standard RS-14. Ventilation shall be capable of providing at least thirty-six cfm of air for each gallon of oil per hour required to fire the equipment to gross output.
(b) Gas fuels. -The air supply for equipment burning gas shall comply with the requirements of article sixteen of this subchapter.
(c) Solid Fuels. -The air supply for equipment burning solid fuels shall comply with those required for burning fuel oil based on Btu equivalent of the solid fuel.
(d) Mechanical ventilation. -If the ventilation for the purpose of combustion is supplied mechanically, the ventilating system shall be electrically interlocked with the burner so that when the burner is in operation the ventilating system shall maintain the room in which the equipment is located at a pressure not less than the outdoor atmospheric pressure.

§[C26-1408.2] 27-808 Flue dampers. -Dampers in flues shall be constructed so that they cannot completely cut off the passage of flue gases at any time. Tight-closing dampers may be installed with approved automatic draft and combustion controls.

ARTICLE 10 PIPING CONTAINING STEAM, HOT WATER OR OTHER FLUIDS

§[C26-1409.1] 27-809 Insulation and clearances. - All accessible piping in habitable and occupiable rooms carrying steam, water, or other fluids at temperatures exceeding one hundred sixty-five degrees Fahrenheit shall be insulated to prevent the temperature at the outer surface of the insulation from exceeding sixty degrees Fahrenheit above the ambient temperature. The openings for insulated piping through combustible floors, walls, partitions, ceilings and other combustible construction shall include clearance and insulation adequate to satisfy the requirements of section 27-792 of article one of this subchapter. Where accessible piping carries a fluid not exceeding two hundred fifty degrees Fahrenheit and insulation would interfere with the functioning of the system, such piping may be uninsulated provided sufficient clearance is maintained from the combustible construction so that the temperature limitation of section 27-792 of article one of this subchapter is not exceeded, and all uninsulated piping shall be provided with at least one-half inch clearance from combustible materials.

§[C26-1409.2] 27-810 Firestopping. -
For requirements governing firestopping around piping passing through floors, roofs, or fire separations, see subchapter five of this chapter.

§[C26-1409.3] 27-811 Insulation materials.-
All insulations shall be of noncombustible materials. All coverings, vapor barriers and adhesives shall have a flame spread rating no higher than twenty-five and a smoke developed rating no higher than fifty. Adhesives and mastic finishes shall be tested in sufficient bulk to produce maximum burning, and shall be tested in accordance with reference standard RS 14-11.

ARTICLE 11 RESIDENCE-TYPE WARM AIR HEATING SYSTEMS

§[C26-1410.1] 27-812 General requirements. -
Residence-type warm air heating systems shall be designed and installed in accordance with the applicable requirements of reference standard RS-14.

ARTICLE 12 UNIT HEATERS

§[C26-1411.1] 27-813 General requirements.-
All gas or oil burning unit heaters shall conform to the requirements of article five of this subchapter.

§[C26-1411.2] 27-814 Supports.- All suspended type direct-fired unit heaters shall be adequately supported by metal hangers, brackets, or other noncombustible supports with the clearances required in reference standard RS 14-15.

§[C26-1411.3] 27-815 Recessed heaters.- Recessed heaters shall be of an approved type, and shall be installed only in accordance with the conditions of approval.

§[C26-1411.4] 27-816 Fireplace heaters.- Gas-fired heaters, approved for use in fireplace recesses only, shall not be used elsewhere.

ARTICLE 13 FLOOR FURNACES

§[C26-1412.1] 27-817 Location. -Floor furnaces shall be located so as to be accessible and shall not be installed in the floor of any corridor or passageway, nor in any exit in a place of assembly.

§[C26-1412.2] 27-818 Enclosures. -Enclosures of floor furnaces shall be constructed entirely of noncombustible materials with a fire resistance rating of at least one hour and the enclosure shall be provided with adequate outdoor air in accordance with the requirements of article nine of this subchapter to ensure proper

combustion. The enclosure shall be provided with adequate means of access for servicing the furnace.

§[C26-1412.3] 27-819 Furnace supports. –
Floor furnaces shall be installed only in floors of noncombustible construction having at least a two hour fire resistance rating, except as provided for one- and two-family dwellings in section 27-823 of this article. Floor furnaces shall have the following clearances:
(a) Pit clearances. -Floor furnaces, when other than gas-fired, shall be mounted independently of the floor grille with a six inch clearance at the bottom and a twelve inch clearance at the sides except that the clearance on the control side shall be at least eighteen inches.
(b) Pit waterproofing. -When there is likelihood of water rising above the bottom clearance of the unit, the pit shall be constructed with a watertight enclosure with the sides extending at least four inches above the ground level.

§[C26-1412.4] 27-820 Pit access openings. -The access foundation wall opening or floor trap door shall be at least eighteen inches by twenty-four inches and the under floor passage to the furnace shall be at least twenty-four inches by twenty-four inches in cross-section.

§[C26-1412.5] 27-821 Duct temperature. -The outlet duct temperature of warm air heating furnaces shall not be greater than two hundred fifty degrees Fahrenheit.

§[C26-1412.6] 27-822 Pressure regulator. -
In gas-fired furnaces, a gas pressure regulator shall be provided so that the gas input does not exceed the manufacturer's rating. Pressure regulators shall comply with the requirements of article five of this subchapter.

§[C26-1412.7] 27-823 One-and two-family dwellings.-
Floor furnace enclosures shall be constructed of noncombustible materials with a fire resistance rating of at least one hour. Means shall be provided for supporting the furnace when the floor grille is removed. Clearances shall be as provided in reference standards RS 14-15 and 14-16.

ARTICLE 14 BOILERS

§[C26-1413.1] 27-824 General requirements. -The construction, installation, maintenance, and operation of boilers shall comply with the applicable requirements of reference standard RS 14-5.

ARTICLE 15 UNFIRED PRESSURE VESSELS

§[C26-1414.1] 27-825 General requirements. -The minimum clearance and fire protection requirements for unfired pressure vessels shall be the same as required for boilers designed for the same operating temperatures. The construction, maintenance, installation, and operation of unfired pressure vessels shall comply with the applicable requirements of reference standard RS 14-4.

ARTICLE 16 GAS FIRED EQUIPMENT

§[C26-1415.1] 27-826 General requirements. -The construction and installation of gas burning equipment shall comply with the applicable requirements of article five of this subchapter and reference standard RS 14-2 and RS 14-6. The installation of gas piping shall be in accordance with the provisions of subchapter sixteen of this chapter, and for the installation of chimneys and gas vents, the provisions of subchapter fifteen of this chapter.

***§27-826.01 Barbecue grilles**.- Only accepted natural gas-fired barbecues or grilles that employ an open flame for roasting or broiling and that are located in the interior of buildings, or on the exterior of buildings when against any part of an exterior wall, shall be installed. All provisions for the construction and installation of fireplaces set forth in article 19 of this subchapter shall be complied with in the construction and installation of barbecue grilles.
Local Law 80-1989.

ARTICLE 17 FUEL OIL EQUIPMENT

§[C26-1416.1] 27-827 General requirements. -For the purpose of this subchapter, fuel oil shall mean hydrocarbon oils as classified in reference standard RS 14-3 and RS 14-12 and shall have a flashpoint not lower than one hundred degrees Fahrenheit when tested in accordance with reference standards RS 14-13 and marketed under the following commercial grades: range oil or no.1 fuel oil; diesel oil or no. 2 fuel oil; no. 4 fuel oil; no. 5 fuel oil; no. 6 fuel oil. Except as provided in section 27-4056 of this title the use of crankcase refuse oil as fuel oil is prohibited. These requirements shall not apply to (1) the use and installation of portable burners not requiring a connection to a flue where such burners are of the type commonly used for household purposes such as oil stoves, oil heaters and oil lamps equipped with a woven wick; (2) portable apparatus such as blow torches, soldering pots, tar heaters, snow melters, etc.; (3) storage tanks for oils used in industrial process such as cracking, distilling, manufacture of gas, or other similar processes. For the requirements governing the storage of such oils see chapter four of this title.

§[C26-1416.2] 27-828 Fuel oil storage equipment. -
(a) General requirements for fuel oil tanks. -All tanks shall be designed and installed in accordance with the provisions for steel work in subchapter ten of this chapter or in accordance with the provisions of this subchapter.

(1) All fuel oil storage tanks shall be built of steel plates or sheets, made by the open hearth or basic oxygen process. Such steel shall be free from physical imperfections, and shall be new, in good condition, and free from rust.
(2) Tanks shall be welded, riveted and caulked, or riveted and welded. Flanges or other pipe connections may be welded. All caulking shall be placed with round nose tools and without damages to the plates. Filler of any kind between plates shall be prohibited.
(3) Tanks to be buried shall be cleaned and then coated on the outside with two coats of red lead, or equivalent. They shall be further protected by a coating of hot tar, asphalt, or equivalent rust resistive material, applied at the work site. Tanks installed inside buildings above ground shall be coated with one coat of red lead, or equivalent.
(4) All buried storage tanks shall be constructed of at least one-quarter inch thick metal and shall be designed to withstand any external loads to which the tank may be subjected.
(5) At the time of installation all storage tanks shall bear a permanently-fixed plate, spot welded or equivalent, bearing the name of the tank manufacturer, the gage [*sic*] of the material, and capacity of the tank. Shop fabricated storage tanks shall be installed without structural alteration.
(6) All openings shall be through the top of the storage tank, except that storage tanks of two hundred seventy five gallon capacity or less, located above ground but below the lowest story, may be provided with a three-quarter inch opening for gravity discharge and a one inch opening in the bottom for cleaning and protection against corrosion.
(7) Tanks for no. 1, no. 2, no. 3 and no. 4 *commerical grade oils need not have manholes. However, if manholes are used for such oils, the manhole covers shall be bolted and made gastight. Tanks for no. 5 and no. 6 commercial grade oils shall have manhole covers bolted or otherwise secured to the tanks and kept hydrostatically tight at all times.
As enacted but "commercial" probably intended.
(8) Tanks outside of buildings shall be electrically grounded in accordance with the requirements for equipment grounding of the electrical code of the city of New York.
(9) Tanks shall be located at least seven feet measured in the most direct manner, from any source of exposed flame unless protected as provided in paragraph two or three of subdivision (a) of section 27-829 of this article and at least two feet from any surface where the temperature exceeds one hundred sixty-five degrees Fahrenheit.

(b) Construction requirements, cylindrical tanks, except vertical tanks above ground outside of buildings, more than two hundred seventy-five gallon capacity. -
(1) The thickness of cylindrical tanks, including oval, elongated oval, or **obround tanks of more than two hundred seventy-five gallon capacity shall be subject to the following requirements:
As enacted but "round" probably intended.
a. Tanks thirty-six inches in diameter and less-at least 1/4 in. shell and 1/4 in. heads.
b. Tanks thirty-seven to seventy-two inches in diameter-at least 1/4 in. shell and 5/16 in. heads.
c. Tanks seventy-three to one hundred twenty inches in diameter-at least 5/16 in. shell and 3/8 in. heads.
d. Tanks over one hundred twenty inches in diameter-shall be of at least 3/8 in. steel and shall be stiffened by angle rings or equivalent members so as to retain their cylindrical form.
(2) Dished heads for such tanks shall have a curvature the radius of which is not greater than the diameter of the tank. Dished heads shall be formed with an adequate cylindrical extension rim to provide a welding or riveting surface. If flat heads are used, they shall be braced in the same manner as described for the bracing of flat sides of rectangular tanks.
(3) Riveting in single lap seams shall not exceed a pitch as follows:
a. Shell 1/4 in. thick-5/8 in. diameter rivets, 2 1/4 in. pitch.
b. Shell 5/16 in. thick-5/8 in. diameter rivets, 2 3/8 in. pitch.
c. Shell 3/8 in. thick-3/4 in. in diameter rivets, 2 1/2 in. pitch.

(c) Rectangular tanks, of more than two hundred seventy-five gallon capacity. -
(1) Plates for rectangular tanks of more than two hundred seventy-five gallon capacity shall be at least 5/16 in. thick.
(2) Corners may be made up by bending the plates or by using angles.
(3) Minimum rivet diameter in seams shall be 5/8 in., and rivets shall be spaced not more than 2 1/4 in. center-to-center.
(4) All flat surfaces of rectangular tanks shall be braced by structural members or rods.
(5) When structural members are used, the rivet pitch shall not exceed six inches.
(6) All structural members shall be designed in accordance with the requirements of subchapter ten of this chapter.
(7) Connections between bracing members and the sides of the tank shall be designed so that the connection will not fail before the member will fail.

(d) All tanks except vertical tanks above ground, two hundred seventy-five gallon or less capacity. -
(1) All oil storage tanks of two hundred seventy-five gallon capacity or less that are not buried shall have a minimum thickness of shell and head plates of no. 10 manufacturer's standard gage [*sic*] steel plate. Storage tanks of sixty gallon capacity or less shall be similarly constructed but need not be thicker than No. 14 manufacturer's standard gage [*sic*].

(e) Vertical storage tanks over one thousand gallon capacity located outside of building above ground.-
(1) Vertical storage tanks located outside of buildings above ground shall be built of steel plates of the quality required for cylindrical tanks.
(2) The minimum thickness of shell or bottom plates shall be one-quarter of an inch, and the minimum

thickness of roof plates one-eighth of an inch. The thickness of shell plates shall be determined in accordance with the following formula:

$$t = \frac{P \times R \times F}{T \times E}$$

where: t = thickness of shell plate in inches.
P = head pressure at bottom of ring under consideration in psi.
R = radius of shell, in inches.
F = factor of safety (taken as five).
T = tensile strength of plate, in psi as verified by mill test certificate.
E = efficiency of vertical joint in ring under consideration. E shall in no case be taken greater than one.

(3) Roof plates shall have single lap-riveted or welded watertight seams, and the roof shall be built to shed water. Bottom plates shall have single lap riveted or welded seams. Shell plate seams shall be designed to develop the full strength of the plate.

(f) Storage containers of six gallons or less. -

(1) Oil storage containers used with burners or oil burning heaters and having a capacity of six gallons or less used in connection with burners or oil-burning heaters shall be designed so as to withstand a hydrostatic pressure test of at least five psi without permanent deformation, rupture, or leakage, and shall be approved.

(2) All storage containers used with burners or oil burning heaters shall be installed with rigid metal fasteners for wall, floor, or stand type installations, and shall be protected against mechanical damage.

(3) Portable containers may be filled by a pump mounted on a storage tank, provided that the pump is approved.

§[C26-1416.3] 27-829 Location of tanks. -

(a) Inside of buildings, above ground on the lowest floor.-

(1) TANK CAPACITY OF FIVE HUNDRED FIFTY GALLONS OR LESS.- Storage tanks having a capacity of five hundred fifty gallons or less may be installed above ground on the lowest floor of a building, provided that such tanks are mounted on adequate noncombustible supports, with the tank anchored thereto. No more than five hundred fifty gallons of total storage capacity may be connected to one burner or may be installed without the protection provided in paragraph two or three of this subdivision.

(2) TANK CAPACITY MORE THAN FIVE HUNDRED FIFTY GALLONS BUT LESS THAN ELEVEN HUNDRED GALLONS.- Storage tanks having a capacity of more than five hundred fifty gallons but less than eleven hundred gallons may be installed above ground on the lowest floor of a building, provided that all portions of such tanks above the floor are completely enclosed with noncombustible construction having at least a two hour fire resistance rating. Weep holes one inch in diameter shall be provided at least every three feet along the bottom of the enclosure unless at least fifteen inches of clearance, together with access door, is provided between the tank and the enclosure.

(3) TANK CAPACITY ELEVEN HUNDRED GALLONS OR MORE.- Storage tanks having a capacity of eleven hundred gallons or more may be installed above ground on the lowest floor of a building, provided that all portions of such tanks above the floor are completely enclosed with noncombustible construction having at least a three hour resistance rating. At least fifteen inches clearance shall be provided over the tanks and on all sides between the tanks and the enclosure. A noncombustible access door, constructed so as to preserve the integrity of the fire resistive enclosure, shall be installed in the enclosure above the point where the capacity of the enclosure below the door sill would be equal to the capacity of the largest tank installed. When the longest inside dimension of the enclosure exceeds thirty-five feet, access doors shall be installed at intervals not exceeding twelve feet. Columns, pipes, or similar obstructions may project into the required fifteen inches of space within the enclosure, provided that access door or doors are so arranged that all portions of the enclosure are accessible for servicing.

(4) MAXIMUM TANK SIZE.- The capacity of individual storage tanks in no case shall exceed twenty thousand gallons.

(b) Inside of building above the lowest floor. -

(1) Fuel oil storage tanks having a capacity of two hundred seventy-five gallons or less may be installed inside of buildings above the lowest story when provided with a four inch thick concrete or masonry curb, or with a metal pan of gage [*sic*] equal to the gage [*sic*] of the tank, completely surrounding the tank and of sufficient height to contain two times the capacity of the tank. The number of such oil storage tanks shall be limited to one per story.

(2) Storage tanks having a capacity of two hundred seventy-five gallons or less, installed above the lowest floor inside a building shall be filled by means of a transfer pump supplied from a primary storage tank located and installed as otherwise required by this subchapter. A separate transfer pump and piping circuit shall be provided for each storage tank installed above the lowest floor. No intermediate pumping stations shall be provided between the storage tank and the transfer pump. Appropriate devices shall be provided for the automatic and manual starting and stopping of the transfer pumps so as to prevent the overflow of oil from these storage tanks.

(3) A float switch shall be provided with the curb or pan around the storage tank and shall be arranged so as to sound an alarm and stop the transfer pump in case of failure of the tank or the control in the tank. The operation of the float switch shall be tested at least once each week. An alarm bell shall be located in the same

room with the tank and a visual and audible alarm shall be located in a maintenance office. The enclosing and sealing of switches and wiring shall conform to the requirements of the electrical code of the city of New York for devices located in an atmosphere of flammable vapors.

(c) Inside of buildings, below ground. -

(1) Storage tanks having a capacity greater than two hundred seventy-five gallons may be buried inside a building provided that the top of the tank is at least two feet below floor level. In lieu of two feet of earth over the tank, the tank may be covered by concrete flooring having the same thickness as the basement floor, but not less than four inch concrete meeting the requirement of subchapter ten of this chapter and reinforced with two inch by two inch mesh of at least no. 20 U.S. standard gage [*sic*] steel wire. Tanks shall be placed in firm soil and shall be surrounded by clean sand or well-tamped earth, free from ashes and other corrosive substances, and free from stones that will not pass through a one inch mesh. When necessary to prevent floating, tanks shall be securely anchored.

(2) No tank shall be buried within three feet of any foundation wall or footing.

(d) Outside of building, below ground. -

(1) Storage tanks located outside of buildings and below ground shall be buried with the top of the tank at least two feet below ground. Tanks shall be placed in firm soil and shall be surrounded by clean sand or well-tamped earth, free from ashes or other corrosive substance, and free from stones that will not pass a one inch mesh. When necessary to prevent floating, tanks shall be securely anchored.

(2) No tank shall be buried within three feet of any foundation wall or footing.

(e) Outside of buildings, above ground. -

(1) Storage tanks of a capacity greater than two hundred seventy-five gallons located outside of buildings above ground shall be not less than one and one-quarter (1 1/4) tank diameters and in no case less than ten feet from the line of adjoining property, the nearest building or adjacent tank. The minimum clearance between individual tanks located outside of buildings above ground and the line of adjoining property which may be built upon shall be fixed by the following formula:

$$M.C. = 10 + 4 \left(\frac{G-275}{5000} \right)$$

where:

M.C. = minimum clearance from nearest surface of tank to adjoining property, in feet.

G = capacity of tank, in gallons.

The maximum allowable capacity of fuel oil storage tanks located outside of buildings above ground shall be one hundred thousand gallons.

(2) Tanks shall be located so as not to obstruct or interfere with any means of egress.

(3) Each storage tank shall be protected by an embankment or dike. Such protection shall have a capacity at least one and one-half times the capacity of the tank so surrounded and shall be at least four feet high, but in no case shall the protection be higher than one-quarter the height of the tank when the height of the tank exceeds sixteen feet. Embankments or dikes shall be made of earthwork with clay core, of masonry, of reinforced concrete or of steel. Earth work embankments shall be firmly and compactly built of good earth free from stones, vegetable matter, etc., and shall have a flat section of at least three feet at the top and a slope of at least one and one-half to two on all sides. Concrete, masonry or steel dikes shall be designed so as to conform safely all of the oil in the tank so surrounded. Embankments or dikes shall be continuous and unpierced, and the outside toe shall be located at least five feet inside of the property line, and no less than five feet from a driveway or parking area.

(f) Tanks located along line of subways.-

(1) No buried tank shall be placed within twenty feet of the outside line of a subway wall. Where an above ground tank within a building is located within the outer lines of the subway, or within twenty feet of the outside line of the subway wall, such tank shall be placed within a welded steel oiltight pan of not less than no. 18 manufacturer's standard gage [*sic*] metal suitably reinforced and of capacity to contain the contents of the tank.

(2) For the purpose of the foregoing requirement, a subway shall be deemed to include any subsurface railroad or rapid transit roadbed.

§[C26-1416.4] 27-830 Piping.-

(a) Installation of piping and tubing.-

(1) Exposed piping shall be protected against mechanical damage and shall be adequately supported with rigid metal fasteners or hangers. All pipes connected to buried tanks, except test well piping, shall be provided with double swing joints at the tank.

(2) Only new wrought iron, steel or bass pipe, or type K or heavier copper tubing, or aluminum alloy tubing, properly identified, may be used. Metal tubing when used for conveying oil shall be adequately protected. Such tubing may be installed at the burner without protection. Drawn tubing when used in domestic installations shall be of at least 3/8 in. inside diameter up to the shut-off valve at the burner. Soldered connections shall be prohibited.

(3) Overflow pipes, where installed, shall not be smaller in size than the supply pipe.

(b) Relief valves.-

(1) Where a shut-off valve is installed in the discharge line from an oil pump, a relief valve shall be installed in the discharge line between the pump and the first shut-off valve.

(2) A relief or pressure regulating valve shall be provided in the oil piping system on the heater side of the shut-off valves.

(3) Relief valves shall be set to discharge at not more than one and one-half times the maximum working pressure of the system. The discharge from relief valves shall be returned to the storage tank or to the supply line. There shall be no shut-off valve in the line of relief.

(c) Fuel oil heaters.-Fuel oil heaters shall not be installed within the steam or water space of a boiler. Fuel oil heaters and the connecting piping shall be arranged to prevent oil leakage from being transmitted to the boiler. This may be accomplished by any of the following methods:

(1) By discarding the condensate from the heaters.

(2) By using approved double tube or other approved heaters.
(3) By means of a secondary hot water or steam heating system where the water or steam from the boiler has no direct contact with the oil heater.
(4) By a sight tank arrangement for collecting and inspecting the condensate which is provided with a pump controlled by a hand switch for returning the condensate to the normal return system.
(5) By such other method as may be permitted by the commissioner.

(d) Vent pipe.-

(1) A vent pipe of iron or steel, without trap, draining to the tank, shall be provided for each storage tank. The lower end of the vent pipe shall not extend more than one inch through the top of the storage tank. Cross-connection between a vent pipe and fill pipe is prohibited.
(2) Where a battery of storage tanks designed to hold the same grade of oil is installed, vent pipes may be run into a main header.
(3) Vents shall be at least one and one-quarter inches in diameter for storage tanks not exceeding eleven hundred gallons capacity and at least two inches in diameter for storage tanks of eleven hundred gallons or more except that vents for storage tanks of sixty gallon capacity or less shall be at least one-half inch in diameter. Vents for tanks inside of buildings above the lowest floor shall be run into the primary storage tank vent.
(4) Vent pipes shall be provided with an approved weatherproof hood having a free area of at least the pipe size area. Vent pipes shall terminate outside the building in a nonhazardous location, at least two feet from any building opening and less than two feet nor more than twelve feet above the fill pipe terminal, unless otherwise permitted by the commissioner. If the vent pipe terminal is not visible from the fill pipe terminal location, a one inch tell-tale line shall be connected to the tank and shall parallel the fill pipe and terminate at the fill pipe terminal with an unthreaded end. Such tell-tale lines shall be provided with a check valve set to prevent flow of surface water to the storage tank.

(e) Fill pipes.-

(1) Fill pipes shall terminate outside the buildings, with the fill pipe terminal located at or above grade, at least two feet from any building opening and five feet from any subway grating at or below the level of the fill pipe terminal. No fill pipe shall be less than two inches in diameter, and no fill pipe for no. 6 oil shall be less than three inches [*sic*] in diameter. Where no. 6 oil is used, the fill pipe terminal shall be located within three feet of the curb, unless otherwise required by the department of transportation or the transit authority. Where there are facilities for the delivery tank truck to drive onto the premises, the fill terminal may be located elsewhere than at the curb, provided that the location complies with the other requirements of this subchapter.
(2) Each storage tank shall be provided with a separate fill pipe, except that where a battery of tanks is installed containing the same grade of oil, a common fill and header pipe may be installed.
(3) Where the top of the storage tank is above the fill pipe terminal, the fill pipe shall be connected to the top of the tank and provided with a shut-off valve and swing check valve both of which shall be located at the fill pipe terminal. However, the shut-off and check valves may be installed in an accessible location inside the building at or below the level of the fill pipe terminal.
(4) All fill pipe terminals shall be of an approved type, and shall be provided with lugs for embedding in concrete. In lieu of lugs, a set screw or threads to fasten the terminal to the fill pipe may be used. The outer flange of the fill pipe terminal or the seal cap shall be permanently marked "fuel oil." The fill pipe terminal shall be threaded or provided with other equivalent means to receive the seal cap. The seal cap shall be suitably slotted for receiving an opening wrench, and an oilproof gasket inserted in a groove in the fill pipe terminal shall be provided so as to make the seal cap leakproof. A strainer shall not be required but, if used, shall be of at least one-eighth inch mesh. Where a storage system for volatile flammable oil and a storage system for fuel oil are to be used in the same premises, the terminal of the fuel oil pipe shall be provided with a left-handed thread and the fill pipe fitting shall be of a different size than that required for the fill pipes to the tanks containing the volatile flammable oil.

****(f) Piping from transfer pump to equipment or to storage tanks above the lowest floor.-**

(1) The piping from a transfer pump to equipment at levels above the lowest floor or to storage tanks at levels above the lowest floor in buildings, the return piping, and vent piping shall comply with the applicable provisions of subdivisions (a) and (d) of this section and shall be enclosed in a shaft constructed of four inch concrete or masonry having a four inch clearance from all pipe or pipe covering, except that no such enclosures shall be required within the room containing the pump, tank, or equipment where such room is itself enclosed with construction and materials having at least a two hour fire resistance rating. Provision shall be made for expansion in piping without the use of expansion joints.
(2) Where it is necessary to make horizontal offsets in the supply piping and pipe shafts such piping shall be enclosed in a sleeve of other piping of at least no. 10 U.S. standard gage steel, two sizes larger and arranged to drain into the shaft. Horizontal piping offsets shall be further enclosed in construction having a two hour fire resistance rating, except that no such enclosure or pipe sleeve shall be required within the room containing the pump, tank, or equipment where such room is itself enclosed with construction and materials having at *lease a two hour fire resistance rating.

as enacted but "least" probably intended.

(3) A drain pipe shall be installed at the base of shafts enclosing the supply and overflow piping. The pipe shall lead to an open sight drain or to an open sump.
(4) Oil lines for equipment or tanks shall be steel pipe ASTM A-53 or A-106, grade B seamless, schedule 40 with welded connections up to the oil tank or equipment, except that fittings at the tank or equipment, shut off valves and other fuel oil flow and control devices may be screwed or flanged.
(5) Pipe shafts shall not be penetrated by or contain other piping or ducts.

(6) The piping shall be located and secured from movement so as to prevent undue stress on the piping and to isolate the piping from vibrations from any equipment.
(7) Pipe connections to the main header (supply or return) shall be made from the top of the header, except for systems described in paragraph (11) of this subdivision.
(8) Required air vents and vacuum breakers shall be designed for their required use.
(9) All air vents and vacuum breakers shall be hard piped to a curb or pan as provided for in subdivision (b) of section 27-829.
(10) In systems with equipment above the lowest floor where such equipment is designed to operate utilizing fuel stored above the lowest floor, piping diameters shall not exceed four inches. However, where an applicant demonstrates by the inclusion of calculations on the plans that a greater diameter is necessary to ensure the proper flow for the functioning of the system, such greater diameter may be permitted. All oil stored above the lowest floor shall be in tanks complying with subdivision (b) of section 27-829 of this code; piping shall not be used for fuel storage purposes.
(11) In systems with equipment above the lowest floor where such equipment is designed to operate utilizing fuel pumped as needed from the lowest floor and without utilizing fuel oil stored above the lowest floor, piping diameters throughout such systems shall not exceed the design flow (three times the maximum firing rate as calculated by the engineer or architect). However, piping diameters within rooms containing such equipment may exceed the calculated design flow pipe size to provide limited reservoir storage to prime equipment, provided such reservoir storage is counted toward the maximum two hundred seventy-five gallons of oil storage per story as provided for in subdivision b of section 27-829 of this code.

(g) Heating coils in storage tanks. -The heating of oil in storage tanks shall be by means of coils using low pressure hot water or steam, or by means of electric heaters approved for use in oil storage tanks.

(h) Valves and devices to control the flow of oil. -
(1) Where more than one storage tank is connected to a common supply line, a shut-off valve shall be provided in the supply line at each tank. Where more than one burner is connected to a supply line a shut-off valve shall be provided at each burner. Where a single tank and a single burner are installed, a shut-off valve shall be required in the supply line at the tank and another at the burner. Valves shall be brass or equivalent in corrosion and fire resistance, shall provide tight shut-off, and shall be rated at one hundred twenty-five psi or greater as required by the pressure in the system.
(2) Where a storage tank is located so that the top of the tank is above the oil inlet to the burner or to the fuel pump, and the storage tank capacity is greater than two hundred seventy-five gallons, the supply line to the burner shall be provided with an approved anti-syphon device. The device shall be located at the highest point in the supply line. Where an approved foot valve is used in the tank and the tank is constructed with a manhole, an anti-syphon device shall not be required. No anti-syphon device shall be required where no. 6 fuel oil is used.
(3) The pressure in oil lines to burners located above the lowest floor of a building shall not be more than is required to circulate oil to and from the burners, and all parts of the oil system shall be capable of withstanding the maximum working pressure in that part of the system.
(4) A remote control shall be provided to stop the flow of oil to any burner. Such control shall be located outside the entrance to the room in which the burner is located and as close to such entrance as practicable, except that when an outside location is impracticable, such control may be located immediately inside the room in which the burner is located, provided such location is accessible at all times. All such controls shall be permanently labeled "remote control for oil burner." On storage tanks of sixty gallon or less capacity used with manually operated burners, such remote control may be installed in the supply lines between tank and burner.
(5) Pressure in a storage tank for the purpose of discharging oil shall be prohibited.
(6) In systems where either steam or air is used for atomizing the oil, the oil and the atomizing supply shall be interlocked so that where the supply of either is interrupted, the supply of the other will be immediately cut off.

(i) Oil level indicating devices and test wells. -
(1) All tanks located inside buildings shall be provided with an oil level indicating device. Test wells shall be prohibited in tanks located inside of buildings. Unused tank openings shall be permanently sealed to prevent the removal of plugs or cover.
(2) Oil level indicating devices shall be designed and constructed of substantial materials so that there can be no leakage of oil or oil vapor.
(3) Test wells in storage tanks located outside of buildings shall be capped oil tight and kept closed when not in use.
*****Local Law 26-2004.***

§[C26-1416.5] 27-831 Controls.- With each automatic burner a set of safety controls of the electric, pneumatic, hydraulic, or mechanical type shall be installed and maintained in good working order. The proper controls for each burner shall be those that have been tested and accepted in accordance with the requirements of article five of this subchapter. The controls shall provide the following functions:
(a) Oil temperature control (no. 5 and no. 6 oil).
(b) Ignition.
(c) Stack or combustion control.
(d) High temperature or pressure control.

§[C26-1416.6] 27-832 Chimneys.- No oil burner shall be installed in any boiler, heater, range, or stove unless each boiler, heater, range, or stove is connected to a chimney complying with subchapter ten of this chapter, except for portable burners as prescribed in section 27-827 of this article.

ARTICLE 18 REFUSE DISPOSAL SYSTEMS

§[C26-1417.1] 27-833 General. -All incinerators and other refuse disposal systems in buildings shall be constructed, installed and altered in accordance with the

requirements of this subchapter**.**

§[C26-1417.2] 27-834 Compliance.- All new and existing refuse disposal systems shall be installed, altered and maintained in buildings in conformity with the applicable provisions of the administrative code, the air pollution control code and as follows:
(a) Charging chutes for refuse disposal system shall comply with applicable provisions of subchapter fifteen of this chapter.

§[C26-1417.3] 27-835 Permitted types of incinerators.- When permitted by sections 24-118 and 24-119 of title twenty-four of the administrative code, incinerators shall conform to the following:
(a) Semiautomatic incinerators.- Semiautomatic incinerators shall be limited to capacities not exceeding one million seven hundred thousand Btu/hr. in other buildings. Semiautomatic incinerators may have manually operated grates, but shall have automatically operated flue gates, gas or oil burners with temperature controls, overfire air fans and nozzle system[s]*, emission control devices, and clock controlled cycles.
(b) Automatic incinerators.- Automatic incinerators shall be required for capacities exceeding one million seven hundred thousand Btu/hr. They are optional for smaller capacities. Automatic incinerators shall have power operated grates, and automatically operated flue gates, gas or oil burners with temperature controls, overfire and underfire air fans and nozzle system, emission control devices and clock controlled cycles.
Copy in brackets not enacted but probably intended.

§[C26-1417.4] 27-836 Refuse collection rooms.-
A refuse collection room shall be provided for refuse reduction systems which utilize methods other than burning. Such rooms shall comply with the requirements of section 27-837 of this article.
a. Existing refuse rooms and incinerators rooms which have been approved for such use, may be retained as approved.
b. Existing incinerator combustion chambers may be used in whole or in part as refuse collection rooms provided the grates are removed and provided they comply with the provisions of section 27-837 of this article.
c. Floors of refuse collection rooms shall be constructed of concrete and shall be sloped to a floor drain within the room, connected to the house drain. A hose connection shall be provided within the room.
d. A hopper and cut-off door shall be provided at the bottom of the refuse chute. Where compacting equipment is used, it shall be located entirely within the enclosure of the refuse collection room except that motors, pumps, and controls may be installed in adjacent rooms.
e. Compacting equipment shall meet the criteria of the department of environmental protection and be approved. Where such equipment is installed so that the refuse flows directly into it, the compacting equipment may be used in place of the hopper and cut-off door. Compacting equipment shall be arranged to operate automatically when the level of refuse is not more than three feet below the lowest hopper door.

§[C26-1417.5] 27-837 Incinerator rooms.-
Incinerators and refuse collecting bins and spaces shall be located in rooms or compartments used for no other purpose. Such rooms or compartments shall be separated from all other occupancies by noncombustible construction having a fire resistance of at least two hours with self-closing opening protectives. Refuse collection bins and spaces shall be sprinklered in accordance with the construction provisions of subchapter seventeen of this chapter.

§[C26-1417.6] 27-838 Ventilation.-Fixed ventilation for combustion air to the incinerator room shall be provided by a louvered opening in a wall to outdoor air. When ducts are used, they shall be sized and installed so as to provide the amount of air required for combustion, taking into consideration head loss. Fans may be installed to deliver air to the incinerator room, provided they are in operation whenever the incinerator is in use. Louvers, ducts, and fans shall be sized to deliver at least two and one-half cfm of air for each pound per hour of refuse while burning is taking place. All duct work shall be installed in accordance with the requirements of subchapter thirteen of this chapter.

§[C26-1417.7] 27-839 Draft control.-If a manual damper or automatic draft controller, is provided in the incinerator flue, it shall be capable of closing off not more than ninety-five percent of the flue area, and the damper or controller shall be made of such materials and in such a manner so as to prevent warping, binding, cracking, corrosion, and distortion when exposed to operating temperatures. If an automatic draft controller is used, means shall be provided for temporary manual operation.

§[C26-1417.8] 27-840 Charging chutes and exhaust flues.-
All incinerators shall be constructed with a flue within a chimney to exhaust the products of combustion and a refuse charging chute which shall be separate from the flue. Refuse charging chutes shall not discharge directly into incinerators, except in buildings classified in residential occupancy group J and in accordance with the requirements of this subchapter and subchapter fifteen of this chapter.
(a) Flues for existing incinerators and existing refuse chutes may be used as refuse charging chutes provided they are in good condition and comply with the requirements of subchapter fifteen of this chapter.

§[C26-1417.9] 27-841 Charging gates.-Charging gates, when provided, shall be power operated. Gates and guide rails shall be of such materials and construction so as to withstand a temperature of two thousand degrees Fahrenheit, without distortion, warping, binding, cracking, or corrosion, and also to withstand impact by heavy falling objects.

§[C26-1417.10] 27-842 Auxiliary heat. -Burners or other sources of heat shall be provided for all incinerators. Such heat sources shall be capable of maintaining a temperature of at least fifteen hundred degrees **Farenheit at the discharge from the combustion chamber, and shall be equipped with safety devices to shut off the fuel in cases of ignition failure, flame failure, or insufficient draft.
As enacted but "Fahrenheit" probably intended.

§[C26-1417.11] 27-843 Construction of incinerators.- Incinerators shall be constructed so as to be gas tight and shall be lined or protected with heat resistive materials suitable for the services required, as follows:

(a) Masonry incinerators.- When the combined hearth and grate area is twenty square feet or less, or the number of habitable rooms served is one hundred or less, combustion chambers, separation chambers, and connecting gas passages shall be constructed of eight inch common brick thick and lined with four and one-half inch of refractory material with an intervening air space of one inch. When the combined hearth and grate area is more than twenty square feet, or the number of habitable rooms served is more than one hundred, combustion chambers, separation chambers, and connecting gas passages shall be constructed of common brick eight inches thick and lined with nine inches of refractory material with an intervening air space of one inch.

(1) TIES. -Noncorroding metal ties shall be used at least every fifth course of common-brick. Structural steel angles, straps, and tiebacks shall be installed on all masonry incinerators having more than one hundred twenty-five cubic feet of combustion chamber volume.

(2) INTERIOR CONSTRUCTION. -Interior walls, curtain walls, bridge walls, or baffles shall, in every case, be of refractory brick, at least nine inches thick.

(3) ARCHES. -Sprung arches may be used if the span is less than four feet. [*sic*] Flat suspended type arches shall have a minimum of five inches of refractory material between the furnace heat and the hangers. Flat suspended arches shall have an insulated block roof of at least two and one-half inches thick.

(4) ISOLATION. -No structural supports for the vertical building flues or other parts of the building shall rest upon the incinerator; nor shall any metal guides, hangers, or structural steel parts of the incinerator be exposed to direct heat of combustion.

(5) THERMAL BLOCK INSULATION.- High temperature block insulation shall be at least equal to type 3 specified in reference standard RS 14-10.

(6) REFRACTORY.- Refractory material shall be firebrick or hydraulic setting castable refractory.

a. Firebrick.- Firebrick shall be high duty, spall resistant and conform to type A reference standard RS 14-7.

b. Castable refractories.- Castable refractories shall conform to reference standard RS 14-8 (Class F).

c. Mortar.- Mortar for firebrick shall be air setting high temperature cement conforming to reference standard RS 14-14.

(b) Steel-cased incinerators. -In lieu of the eight inch common brick outer wall and one inch air space required in subdivision (a) of this section, the outside enclosure of incinerators may be of no. 12 manufacturer's standard gage [*sic*] steel casing that is welded, riveted, or bolted to be gastight, with at least two thicknesses of two and one-half inches high high-temperature block insulation applied with staggered joints.

(c) Other constructions. -Other forms of incinerator construction, equivalent in terms of structural strength, insulating value, and temperature and erosion resistance, may be used, subject to approval by the commissioner.

§[C26-1417.12] 27-844 Construction of chimneys and charging chutes.- For requirements governing the construction of chimneys and charging chutes, see article four of subchapter fifteen of this chapter.

§[C26-1417.14] 27-845 Cleanouts.- Openings shall be provided so that all parts of the incinerator can be cleaned, including the ash pit, the combustion chamber, the passes of separation chambers, and the incinerator flue. Cleanouts shall be closed by tight fitting doors or covers, securely latched or otherwise held in a closed position. Ash pit and combustion chamber closures and frames shall be of cast iron or equivalent, with the frames securely attached to the incinerator.

§[C26-1417.15] 27-846 Accessibility. -Sufficient space shall be provided around the incinerator and its appurtenances to facilitate cleaning, repair, and servicing. Clearance shall be provided to allow the cleanout doors to be completely opened so that all parts of the combustion chamber, ash pit, separation chambers, etc., may be reached and so implements used for this purpose can be freely manipulated. All dampers, gates, burners, valves, levers, etc., shall be accessible for repair and adjustment or replacement. No construction shall be located closer than sixteen inches to any part of an incinerator, except that noncombustible structural members two feet wide or less parallel to the incinerator, may be located as close as six inches to the incinerator, provided such members do not reduce accessibility to any moving parts of the incinerator.

§[C26-1417.16] 27-847 Cabinets and control wiring.- All control equipment shall be installed in dustproof, noncombustible cabinets. Such cabinets shall not be mounted on the incinerator. Conduits carrying control wiring for the incinerator shall not be fastened to the incinerator. All electrical work shall comply with the electrical code of the city of New York.

§[C26-1417.17] 27-848 Posting. -

(a) Operating and maintenance instructions shall be permanently and conspicuously mounted under transparent protective covers in the incinerator room, together with the equipment use permit. The instructions shall include complete procedures for operating and maintaining fuel burners, dampers, and other devices, and shall state quantities and kinds of materials that may be burned.

(b) On every door that opens into a space in which a service opening into a refuse chute is located, or on the wall directly over the service opening into the chute, the following sign shall be permanently and conspicuously posted:

"THROWING LIGHTED MATCHES, CIGARS OR CIGARETTES CARPET SWEEPINGS, NAPHTHALENE, CAMPHOR BALLS OR FLAKES, FLOOR SCRAPINGS, OIL SOAKED RAGS, EMPTY PAINT CANS, AEROSOL CONTAINERS, OR ANY OTHER FLAMMABLE OR HIGHLY COMBUSTIBLE OR EXPLOSIVE SUBSTANCE INTO THIS CHUTE IS UNLAWFUL AND SUBJECTS THE OFFENDER TO A PENALTY."

Such signs shall be designed as follows:

(1) Signs on doors leading to the service openings and on walls over service openings shall be at least eight inches wide and three inches high, with lettering at least one-quarter inch high. The signs shall be located on the hall side approximately five feet above the floor.

(2) The lettering of the signs shall be of bold type, and shall be properly spaced to provide good legibility. The lettering and the background shall be of contrasting colors.

(3) Signs shall be durable and shall be securely attached to the door or wall.

(4) Sufficient lighting shall be provided so that the signs are easily readable at all times.

*ARTICLE 19 SOLID FUEL FIREPLACES, FIREPLACE STOVES AND ROOM HEATERS

Local Law 80-1989.

§27-848.01 General.- The construction, installation, alteration and operation of all fireplaces, fireplace stoves and room heaters used for space heating shall be subject to the provisions of this article. This article shall not be construed to apply to a central heater with hot air distribution, a central boiler with either hot water or steam heat distribution or a water tank, water heaters, furnaces or cooking stoves.

§27-848.02 Reference standards.- The applicable reference standards shall be as follows:

(a) Fireplaces and wood burning appliances. Reference standard RS 14-18.

(b) Factory-built fireplaces. Reference standard RS 14-19.

(c) Fireplace stoves. Reference standard RS 14-20.

(d) Room heaters. Reference standard RS 14-21.

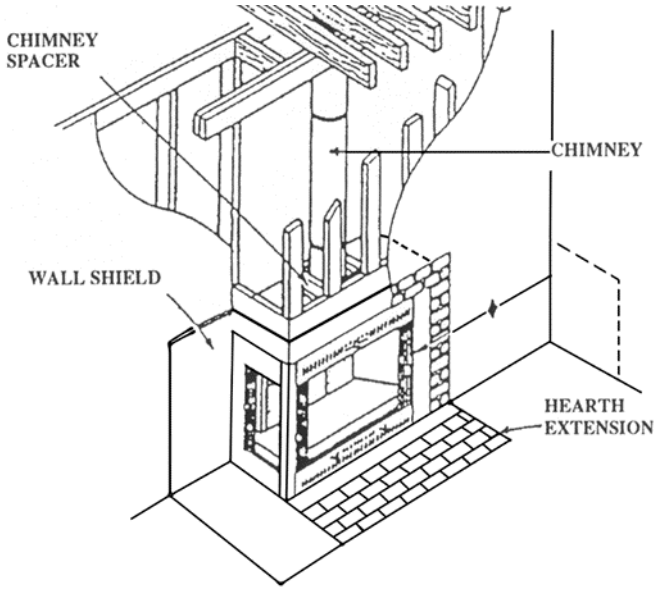
§27-848.03 Definitions. -As used in this article, the following terms shall have the following meaning:

Accessories, factory-built. Such devices as fireplace heater inserts, heat exchangers circulating air or water or other devices which may alter the combustion or heating characteristics of the fireplace.

Appliance. A device which utilizes fuel or other forms of energy to produce light, heat, power, refrigeration or air conditioning. This definition shall also include wood burning appliances and vented decorative appliances.

Fireplace, factory-built. A fireplace composed of factory-built components assembled in accordance with the terms of the listing and acceptance to form the completed fireplace and provided with a chimney complying with subchapter fifteen of this chapter (see figure 14-1).

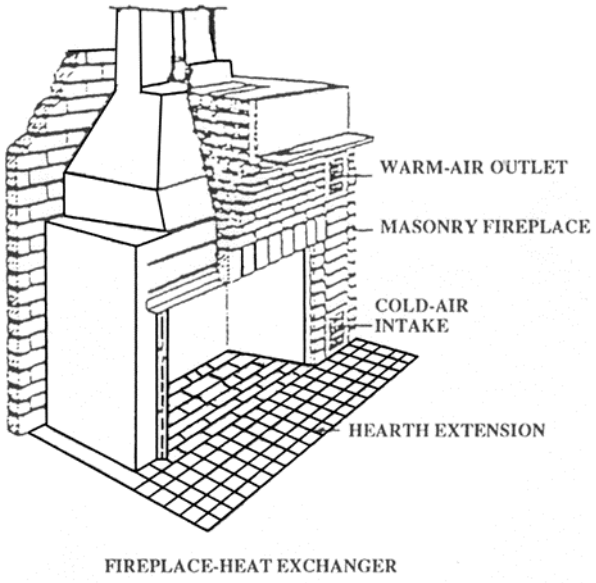
Fireplace, masonry. A hearth and fire chamber made of solid masonry units such as bricks, stones, or reinforced concrete and provided with a chimney complying with subchapter fifteen of this chapter.



Factory-Built Fireplace

Figure 14-1

Fireplace heat exchangers. Metal heat circulators designed for installation wholly within a masonry fireplace built in accordance with this code. Fireplace heat exchangers extract heat from the firebox of masonry fireplaces and return it to the area to be heated (see figure 14-2).

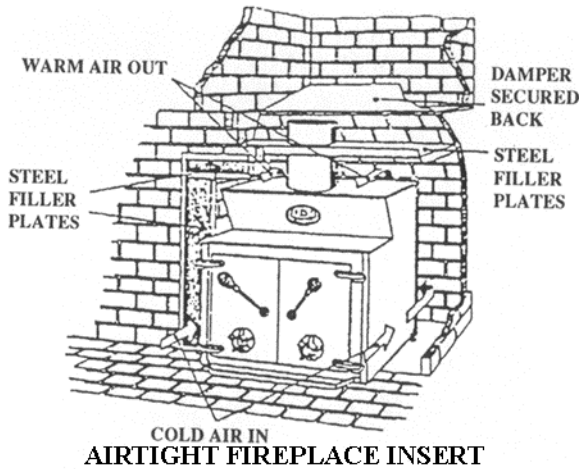


FIREPLACE-HEAT EXCHANGER

Figure 14-2

Fireplace inserts. Solid-fuel burning appliances located partially within a complying masonry fireplace. Stove and room heaters may be used as inserts for installation in masonry fireplaces (see figure 14-3).

Fireplace stoves. Freestanding assemblies having firechambers intended to be operated open to the room or



AIRTIGHT FIREPLACE INSERT
Figure 14-3

if equipped with doors to be operated with doors either open or closed and provided with a chimney complying with subchapter fifteen of this chapter (see figure 14-4).

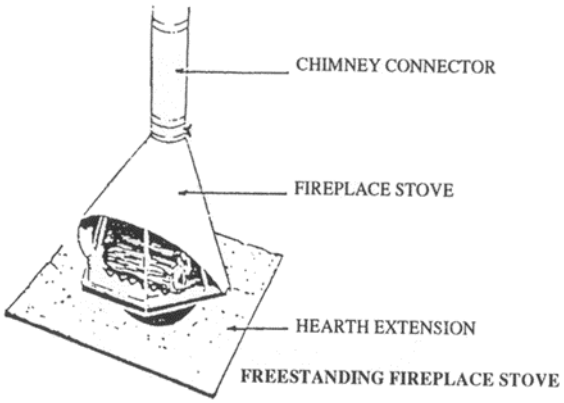


Figure 14-4

Room heater. A solid fuel burning freestanding firechamber assembly designed to be operated with the firechamber closed except for fueling and provided with a chimney complying with subchapter fifteen of this chapter (see figure 14-5).

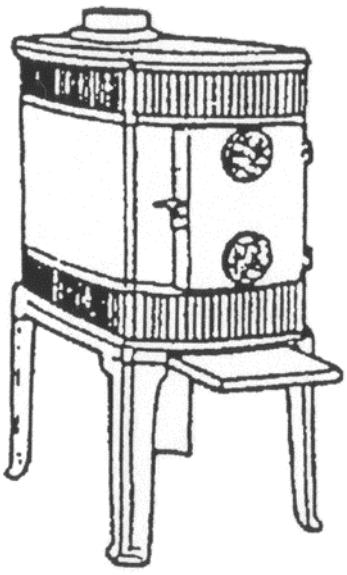
Hearth extension. The noncombustible surfacing applied to the floor area beneath, and extending beyond the front, back and sides of a heating appliance.

Listed and listings. Terms referring to equipment which is shown in a list published by an accepted nationally recognized testing laboratory qualified and equipped for experimental testing and maintaining an adequate periodic inspection of current production and whose listing shows that the equipment complies with nationally recognized safety standards.

Manufacturer's installation instructions. Printed instructions included with equipment as part of the conditions of the listing.

Solid fuel. A material such as natural wood which will ignite and burn when subjected to fire.

§27-848.04 Installations.-
(a) Application.
(1) An application for the installation of a fireplace or stove equipment shall be filed by a registered architect or licensed professional engineer at the borough office of the department. The application shall describe the equipment in question and its installation.
(2) The applicant, prior to the filing of the application, shall make an inspection to determine the adequacy of the air supply for combustion and ventilation and the ability of the equipment to be installed to comply with code requirements.
(b) Qualifications of installer.-
(1) Installation shall be made only by persons authorized by the manufacturer to install the specific equipment in question.
(2) The installer shall certify to the registered architect or licensed professional engineer who has filed the application that the installation is in full compliance with the terms of the listing, acceptance and the manufacturer's instructions.
(3) For retrofit installations in occupied residential dwellings, the installer shall have a home improvement contractor's license from the department of consumer affairs.
(c) Controlled inspection. -Installation shall be subject to controlled inspection to ensure that the installation is in accordance with:
(1) the structural elements shown on the approved plans,
(2) the fire protection requirements, and
(3) the listing, acceptance and the manufacturer's installation recommendations.
(d) Environmental requirements.- All solid fuel burning appliances shall comply with the requirements of the air pollution control law, chapter one of title twenty-four of this code.
(a) **State energy conservation code**. - The requirements of the New York State energy conservation construction code concerning the combustion air supply shall be complied with.



AIRTIGHT ROOM HEATER
Figure 14-5

§27-848.05 Structural adequacy.- The registered architect or licensed professional engineer filing the application for the installation shall certify on the application as to the adequacy of the structural supports and chimney bracing to sustain the loadings when in operation**.**

§27-848.06 Chimneys.- Fireplace, fireplace stove and room heater chimneys shall meet the requirements of subchapter fifteen of this chapter. Separate flues shall be provided for every fireplace, fireplace stove and room heater.

§27-848.07 Masonry fireplaces. –

(a) Construction.

(1) Masonry fireplaces shall be constructed of solid masonry units of reinforced portland or refractory cement concrete. Masonry fireplaces shall be supported on foundations of masonry or reinforced portland or refractory cement concrete, or on other noncombustible construction having a fire resistance rating of not less than three hours. Such supports shall be designed to support the loadings.

(2) Where a lining of low-duty fire clay refractory brick at least two inches thick laid in medium-duty fireclay refractory mortar, or the equivalent two inches thick soapstone, three-sixteenths inch thick steel or cast iron, or equivalent material capable of withstanding a temperature of 2000 degrees Fahrenheit without cracking or spalling or other accepted lining is provided, the total thickness of back and sides, including the lining, shall be not less than eight inches.

(3) Where such lining is not provided, the thickness of the back and sides shall be not less than twelve inches.

(4) Where the masonry supporting a fireplace is designed to support vertical loads from the building and corbels are used to support beams or girders, corbeling shall be as described in reference standard RS 14-18 as recommended for masonry chimneys. The lintel spanning the fireplace shall be designed and constructed to support the additional load transferred by the member.

(5) Masonry fireplaces shall be provided with chimneys designed and constructed in accordance with the requirements of subchapter fifteen of this chapter for construction of masonry chimneys or, where permitted by the individual listing, shall be provided with accepted factory-built chimneys having accepted adapters in accordance with the requirements for factory-built chimneys of subchapter fifteen of this chapter.

(b) Steel fireplace units.

(1) Steel fireplace units incorporating a firebox liner of not less than one quarter inch thick steel and an air chamber shall be installed with masonry to provide a total thickness at the back and sides of not less than eight inches, of which not less than four inches shall be solid masonry. Listed firebox liners shall be installed in accordance with the terms of the listing.

(2) Warm air ducts employed with steel fireplace units of the circulating air type shall be constructed of metal in accordance with reference standard RS 14-22, or of masonry.

(c) Clearance.

(1) All wood beams, joists, studs and other combustible material shall have a clearance of not less than two inches from the front faces and sides of masonry fireplaces, and not less than four inches from the back faces of masonry fireplaces. Headers of combustible material supporting masonry trimmer arches or concrete hearth extensions shall be located not less than twenty inches from the face of the chimney breast.

(2) Spaces between headers or trimmers of combustible material and masonry fireplaces shall be firestopped [*sic*] with noncombustible material. The material used for firestopping shall be galvanized sheet metal of at least no. 14 U.S. standard gage [*sic*] thickness, mineral board at least one quarter inch thick or equivalent rigid noncombustible sheet material not less than one half inch thick or other accepted noncombustible material.

(3) Woodwork, such as wood trim and mantels, or other combustible material shall not be placed within six inches of a fireplace opening. Combustible material above and projecting more than one and one-half inches from a fireplace opening shall not be placed less than twelve inches from the top of the fireplace opening.

(4) Clearances specified in reference standard RS 14-18 shall apply if greater than those specified in this subdivision.

(d) Hearth extensions.

(1) Masonry fireplaces shall have hearth extensions of brick, concrete, stone, tile or other accepted noncombustible materials. Such hearths shall be supported on trimmer arches of brick, stone, tile or concrete at least four inches thick, or of other equivalent materials and with noncombustible material against the underside thereof. Wooden forms or centers used during the construction of the hearth and hearth extension shall be removed when the construction is completed.

(2) Where the fireplace opening is less than six square feet, the hearth extension shall extend at least sixteen inches in front of the facing material and at least eight inches beyond each side of the fireplace opening.

(3) Where the fireplace opening is six square feet or larger, the hearth extension shall extend at least twenty inches in front of the facing material, and at least twelve inches beyond each side of the fireplace opening.

(4) Where a fireplace is elevated above or overhangs a floor, the hearth extension shall also extend over the area under the fireplace.

(e) Fireplace dampers. Every fireplace shall be equipped with a damper able to withstand distortion, binding, cracking or corrosion when exposed to the fireplace operating temperature.

(f) Accessories. Factory-built accessories shall be listed and accepted and shall be installed in accordance with the terms of their listing and acceptance.

§27-848.08 Wood burning appliances: Installation. -
(a) Scope. Wood burning appliances include factory-built fireplaces, fireplace stoves, room heaters, and fireplace inserts.
(b) Listing. Wood burning appliances shall be listed and accepted and shall be installed in accordance with the terms of their listing and acceptance.
(c) Location of appliances.
(1) Every appliance shall be located with respect to building construction and other equipment so as to permit access to the appliance. Sufficient clearance shall be maintained to permit cleaning of surfaces, the replacement of air filters, blowers, motors, controls and chimney connectors, and the lubrication and servicing of moving parts.
(2) Wood burning appliances shall not be installed in confined spaces or alcoves. The minimum size of the space or room in which the appliance is located shall be three hundred cubic feet. There shall be at least one openable window serving such space or room.
(3) Wood burning appliances shall not be installed in any location where gasoline or any other flammable liquids, vapors or gases are present or likely to be present.
(4) Wood burning appliances shall not be installed in any garage.
(d) Air for combustion and ventilation. Wood burning appliances shall be installed in a location in which the facilities for ventilation permit proper chimney draft and maintenance of safe temperature under conditions of use and provide sufficient air to prevent carbon monoxide from entering the dwelling space. Appliances shall be located so as not to interfere with proper circulation of air within the heated space. Where buildings are so tightly sealed that normal infiltration does not provide the necessary air, outside air shall be introduced.
(e) Mounting for residential type appliances.
(1) Residential type wood burning appliances that are tested and listed by an accepted national testing laboratory for installation on floors constructed of combustible materials shall be placed on such floors in accordance with the requirements of the listing and the conditions of acceptance. Such appliances which are not listed for installation on combustible floors by an accepted national testing laboratory shall be provided with floor protection in accordance with the provisions of subdivision (g) of this section. Residential type wood burning appliances are permitted to be placed without floor protection in any of the following manners:
a. on concrete bases adequately supported on compacted soil, crushed rock or gravel;
b. on concrete slabs or masonry arches that do not have combustible materials attached to the underside; or
c. on accepted assemblies constructed entirely of non-combustible materials, and having a fire resistance rating of not less than two hours, with floors constructed of noncombustible materials.
(2) Any floor assembly, slab or arch shall extend not less than eighteen inches beyond the appliance on all sides.
(3) In lieu of the requirements for floor protection specified herein, a floor protector listed by a recognized testing laboratory and installed in accordance with the installation instructions may be used.
(4) Appliances shall be supported by concrete bases, concrete slabs, masonry arches and floor ceiling assemblies and their supports which are designed and constructed to support the appliance.
(f) Mounting for fireplace stoves and room heaters.
(1) Fireplace stoves and room heaters which are set on legs or pedestals that provide not less than six inches of ventilated open space beneath the fire chamber or base of the appliance may be placed on floors of combustible construction, provided the floor under the appliance is protected with closely spaced solid masonry units not less than two inches in thickness. The top surface of the masonry shall be covered with sheet metal not less than 24 gage [*sic*] (0.024 inches). The floor protection shall extend not less than eighteen inches beyond the appliance on all sides.
(2) Fireplace stoves and room heaters [*sic*] which are set on legs or pedestals providing two to six inches of ventilated open space beneath the fire chamber or base of the appliance may be placed on floors of combustible construction, provided the floor under the appliance is protected with one course of hollow masonry units not less than four inches in thickness. The masonry units shall be laid with ends unsealed and joints matched in such a way as to provide a free circulation of air through the core spaces of the masonry. The top surface of the masonry shall be covered with sheet metal not less than 24 gage [*sic*] (0.024 inches). The floor protection shall extend not less than eighteen inches beyond the appliance on all sides.
(3) Fireplace stoves and room heaters with legs or pedestals that provide less than two inches of ventilated open space beneath the fire chamber or base of the appliance shall not be placed on floors of combustible construction.
(g) Clearances. Woodburning appliances shall be installed with the following minimum clearances to combustible construction: Above the top of appliance-thirty-six inches; from front-thirty-six inches; from back-thirty-six inches; from sides-thirty-six inches. The minimum clearance to noncombustible construction shall be six inches when table 14-1 herein is used except that forty-eight inches shall be maintained where the fuel is inserted. Accepted stoves shall be exempt from the above-mentioned clearances and shall be installed in accordance with the appropriate reference standard and clearances determined therefrom through tests specified in the reference standard.

TABLE 14-1 REDUCTION OF APPLIANCE CLEARANCE WITH SPECIFIED FORMS OF PROTECTION [1,2,3,4,5,6,7,8,9,10]

Clearance reduction system applied to and covering all combustible surfaces within the distance specified as required clearance with no protection	Maximum allowable reduction in clearance (percent)		When the required clearance with no protection is 36 in., the clearances below are the minimum allowable clearance. For other required clearances with no protection, calculate minimum allowable clearance from maximum allowable reduction. [9,10]	
	As Wall Protector	As Ceiling Protector	As Wall Protector (in.)	As Ceiling Protector (in.)
(a) 3 ½ in. thick masonry wall without ventilated air space	33%	—	24	—
(b) ½ in. thick noncombustible insulation board over 1 in. glass fiber or mineral wool batts without ventilated air space.	50%	33%	18	24
(c) 0.024 in. (24 gage) sheet metal over 1 in. glass fiber or mineral wool batts reinforced with wire, or equivalent, on rear face with ventilated air space.	66%	50%	12	18
(d) 3 ½ in. thick masonry wall with ventilated air space.	66%	—	12	—
(e) 0.024 in (24 gage) sheet metal with ventilated air space.	66%	50%	12	18
(f) ½ in. noncombustible insulation board with ventilated air space.	66%	50%	12	18
(g) 0.024 in (24 gage) sheet metal with ventilated air space over 0.024 in (24 gage) sheet metal with ventilated air space.	66%	50%	12	18
(h) 1 in. glass fiber or mineral wool batts sandwiched between two sheets 0.024 in. (24 gage) sheet metal with ventilated air space.	66%	50%	12	18

Notes for Table 14-1:

[1]Spacers and ties shall be of noncombustible material. No spacers or ties shall be used directly behind appliance or conductor.

[2]With all clearance reduction systems using a ventilated air space, adequate air circulation shall be provided. There shall be at least 2 in. between the clearance reduction system and combustible walls and ceilings for clearance reduction systems using a ventilated air space.

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

[4]Insulation material used as part of clearance reduction system shall have a thermal conductivity of 1.0(BTU-In.)/(Sq ft-Hr -°F) or less. Insulation board shall be formed of noncombustible material.

[5]If a single wall connector passes through a masonry wall used as a wall shield, there shall be at least 1/2 in. of open, ventilated air space between the connector and the masonry.

[6]There shall be at least 2 in. between the appliance and the protector. In no case shall the clearance between the appliance and the wall surface be reduced below that allowed in the table.

[7]Clearances in front of the loading door and/or ash removal door of the appliance shall not be reduced from those in Section 8-6.

[8]All clearances and thicknesses are minimums: larger clearances and thicknesses are acceptable. Clearances are not to be less than 12 in. from appliances.

[9]To calculate the minimum allowable clearance, the following formula may be used: $Cx_{pr} = C_{un}$ x (1-R/100). C_{pr} is the minimum allowable clearance. C_{un} is the required clearance with no protection, and R is the maximum allowable reduction in clearance.

[10]Refer to Figures 14-11 and 14-12 for other reduced clearances using materials (a) through (h).

(h) Reduction of clearances from wood burning appliances.

(1) Clearances from listed and unlisted wood burning appliances to combustible material may be reduced if the combustible material is protected as described in table 14-1 herein and as shown in figures 14-6 to 14-10 herein.

(2) Clearances from wood burning appliances to combustible material may be reduced by the use of materials or products listed for the purpose of reducing such clearances. Materials and products listed for such purpose shall be installed in accordance with the conditions of the listing and the manufacturer's instructions.

(3) For clearance reduction systems using an air space between a combustible wall and wall protector, adequate air circulation shall be provided by one of the following methods as shown in figure 14-10 herein:

a. Adequate air circulation may be provided by leaving all edges of the wall open with an air gap of at least two inches.

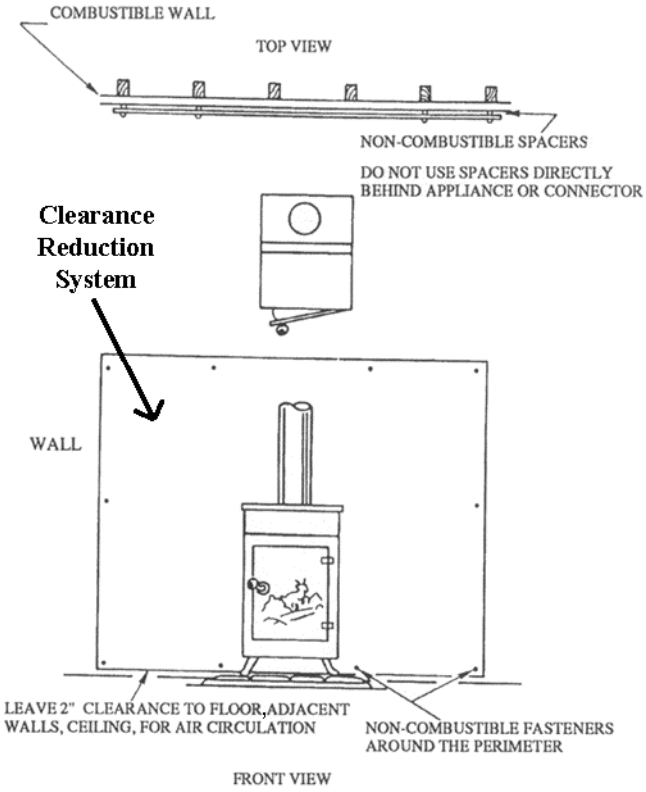


Figure 14-6

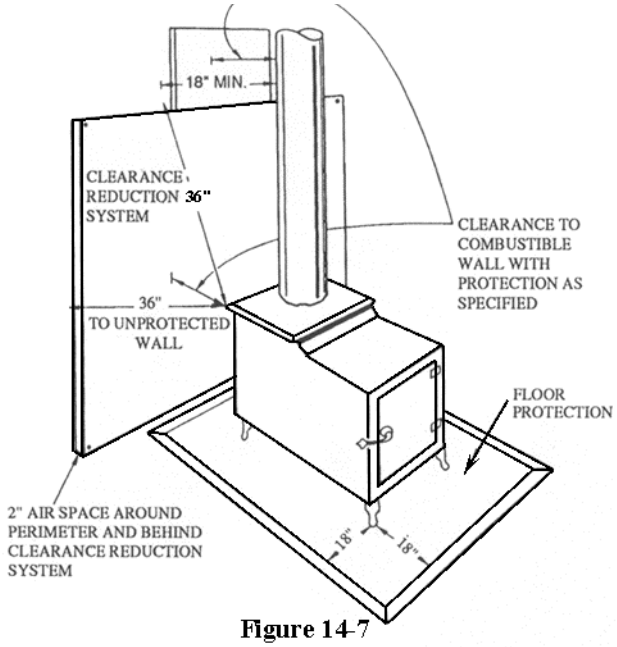


Figure 14-7

b. If the wall protector is mounted on a single flat wall away from corners, adequate air circulation may be provided by leaving only the bottom and top edges or

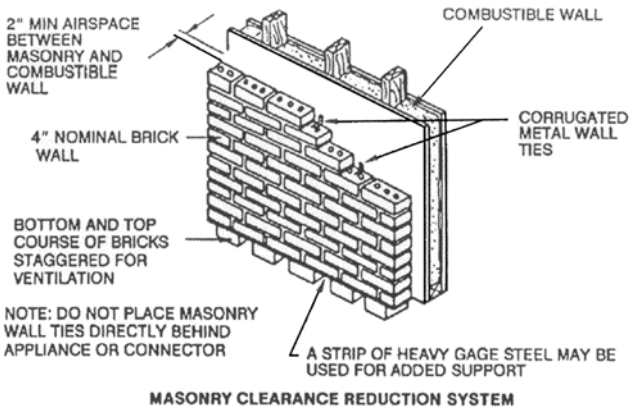


Figure 14-8

only the side and top edges open with an air gap of at least two inches.

c. Wall protectors that cover two walls in a corner shall be open at the bottom and top edges with an air gap of at least two inches.

(4) All clearances shall be measured from the outer surface of the combustible materials to the nearest point on the surface of the wood burning appliance, disregarding any intervening protection applied to the combustible materials.

(5) All clearances provided between wood burning appliances and combustible materials shall be large enough so as to maintain sufficient clearance between chimney connectors and combustible materials as required in subchapter fifteen of this chapter.

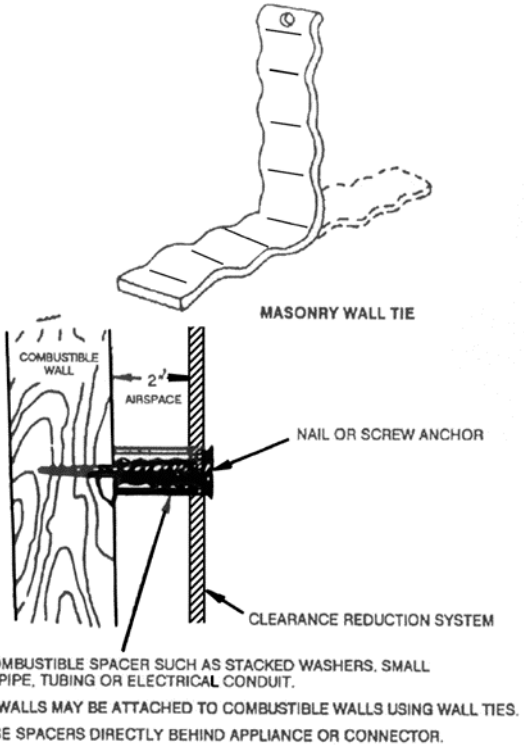


Figure 14-9

(i) Accessories. Factory-built accessories for wood burning appliances such as heat exchangers, stove mats,

floor pads and protection shields shall be listed and accepted, and shall be installed in accordance with the terms of their listing and acceptance.

§27-848.09 Factory-built fireplaces, fireplace stoves and room heaters. -

(a) Acceptance. Factory-built fireplaces, fireplace stoves and room heaters shall be listed and accepted for use as wood burning appliances.

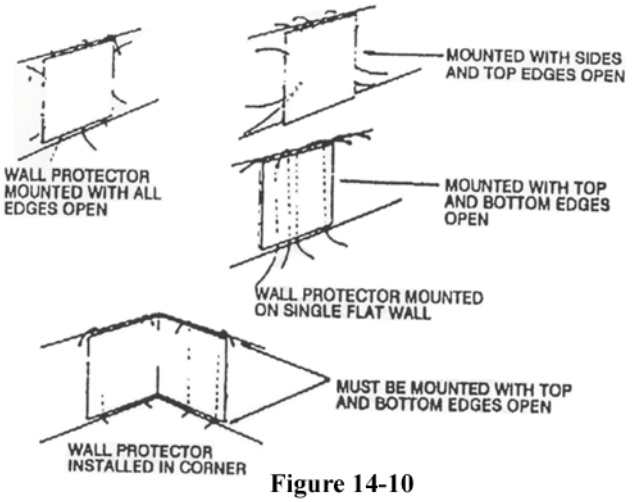


Figure 14-10

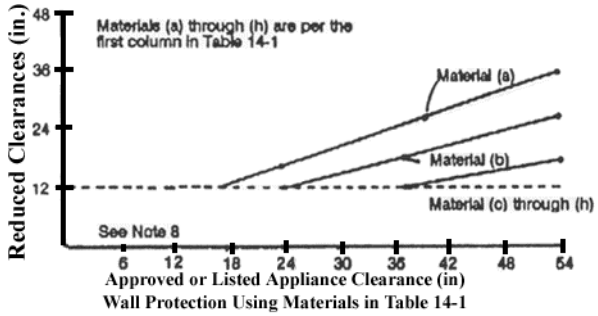


Figure 14-11

(b) Occupancy group limitations. Factory-built fireplaces, fireplace stoves and room heaters shall not be permitted in buildings other than those in residential occupancy group classifications J-2 and J-3, except that installations within other occupancy groups may be authorized by the commissioner pursuant to rules and regulations promulgated by the department.

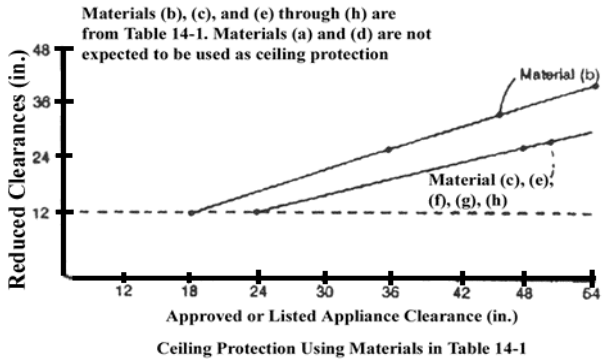


Figure 14-12

(c) Chimney requirements.

(1) The chimney systems of factory-built fireplaces, fireplace stoves and room heaters shall be constructed in accordance with section 27-869.01.

(2) No chimney shall serve more than one factory-built fireplace, fireplace stove or room heater or be pierced to serve any other appliance.

(d) Additional limitations. Factory-built fireplaces, fireplace stoves or room heaters shall be:

(1) located only in exterior rooms, and

(2) limited to space heating of the room within which they are located.

(e) Chimney connectors.

(1) Stovepipe.

a. The stovepipe (or chimney connector) connecting a factory-built fireplace, fireplace stove or room heater to a chimney may contain no more than two elbows. The total length of the connecting pipe should be kept as short as possible while maintaining the required minimum spacing between the factory-built fireplace, fireplace stove or room heater and combustible materials. See subdivision (h) of section 27-848.08 of this code.

b. The connector pipe shall be as large as the flue collars (where the connector pipe joins the factory-built fireplace, fireplace stove or room heater), and shall be fabricated from steel coated with a high temperature rust inhibitor.

c. The pipe's horizontal section shall rise one-quarter inch for each foot of pipe, with the highest point being at the chimney inlet, and shall not be longer than three quarters of the chimney height.

d. When joining sections of pipe, the joints shall overlap at least two inches, with the crimped (male) end pointing down to prevent creosote drip or leak. Each joint shall be secured with three sheet metal screws. All fits shall be snug.

e. The thimble shall be cemented with high temperature cement at the flue inlet. The pipe shall not project into the flue itself.

f. Connector pipe clearance to combustible materials shall be at least three times the pipe diameter (e.g. eighteen inches for six inch pipe), but not less than eighteen inches.

g. Stovepipes shall not pass through floors, ceilings or closets. Stovepipes shall not pass through exterior walls unless directly connected with a thimble to the chimney as noted in subparagraph h of this paragraph.

h. Alternately, a listed and accepted noncombustible thimble larger in diameter than the connector pipe, or a burned fireclay or metal thimble surrounded by not less than twelve inches of brickwork may be used for protection.

i. Connectors and chimneys for factory-built fireplaces, fireplace stoves and room heaters shall be designed, located and installed to permit ready access for internal inspection and cleaning, in compliance with the requirements of subchapter fifteen of this chapter.

(2) Connection to masonry fireplace flue. A factory-built fireplace stove or room heater or insert may use a masonry fireplace flue when the following conditions are met:
a. There is a connector which extends from the fireplace stove or room heater to the flue liner.
b. The cross-sectional area of the flue is no more than three times the cross-sectional area of the flue collar of the factory-built fireplace, fireplace stove or room heater.
c. There is a noncombustible seal below the entry point of the connector if the appliance vents directly through the chimney wall above the smoke chamber.
d. The chimney system can be inspected and cleaned.
e. Air from the habitable space is not used to dilute combustion products in the chimney flue.
f. Hearth extensions are provided in accordance with the manufacturer's instructions or are of masonry of noncombustible construction in accordance with subdivision (d) of section 27-848.07.

§27-848.10 Fireplace heat exchangers and fireplace inserts.- Fireplace heat exchangers and fireplace inserts shall not be inserted into or connected to factory-built fireplaces unless listed by a nationally recognized testing laboratory and accepted for use in the specific fireplace.

§27-848.11 Imitation fireplaces.- Only natural gas-fired fireplace heaters accepted in accordance with the provisions of article twelve of subchapter thirteen of this chapter shall be used with imitation fireplaces and shall be installed in accordance with the conditions of the acceptance.

§27-848.12 Precautionary requirements. -
(a) Smoke detecting devices. Smoke detecting devices, complying with article six of subchapter seventeen of this chapter, are required where fireplaces, fireplace stoves or room heaters are installed. At least one device shall be in the same room as the installation or in an adjacent room.
(b) Fire extinguisher. A fire extinguisher rated for class "A" fires shall be available in the vicinity of a fireplace, fireplace stove or room heater.
(c) Latching. The fireplace stove fuel door shall be latched to prevent burning wood from falling out or an overfired fire from occurring due to an oversupply of air.
(d) Fireplace screens. Fireplace stoves shall be equipped with fireplace screens to minimize spark emission.
(e) Warnings. Warnings on fireplace stoves shall be as required by the United States Consumer Product Safety Commission [*sic*] and reference standard RS 14-20.
(f) Floor protection. Floor protection for fireplace stoves required by section 27-848.08(f) shall extend a minimum of twenty-six inches beyond the stove at the front or side where the ashes are removed and at least eight inches on the other sides.

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