

# DEPARTMENT OF LABOR & ECONOMIC GROWTH DIRECTOR'S OFFICE OCCUPATIONAL HEALTH STANDARDS

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# **PART 474. SANITATION**

#### Rule 4201 Sanitation

- (1) General.
- (a) Scope. This rule applies to permanent places of employment. [1910.141(a)(1)]
  - (b) Definitions applicable to this rule.
- (i) "Lavatory" means a basin or similar vessel used exclusively for washing of the hands, arms, face, and head. [1910.141(a)(2)(i)]
- (ii) "Nonwater carriage toilet facility" means a toilet facility not connected to a sewer. [1910.141(a)(2)(ii)]
- (iii) "Number of employees" means, unless otherwise specified, the maximum number of employees present at any one time on a regular shift. [1910.141(a)(2)(iii)]
- (iv) "Personal service room" means a room used for activities not directly connected with the production or service function performed by the establishment. Such activities include, but are not limited to, first aid, medical services, dressing, showering, toilet use, washing, and eating. [1910.141(a)(2)(iv)]
- (v) "Potable water" means water which meets the quality standards prescribed in the U.S. Public Health Service Drinking Water Standards, published in 42 CFR Part 72, or water which is approved for drinking purposes by the State or local authority having jurisdiction. [1910.141(a)(2)(v)]
- (vi) "Toilet facility" means a fixture maintained within a toilet room for the purpose of defecation or urination, or both. [1910.141(a)(2)(vi)]
- (vii) "Toilet room" means a room maintained within or on the premises of any place of employment, containing toilet facilities for use by employees. [1910.141(a)(2)(vii)]
- (viii) "Toxic material" means a material in concentration or amount which exceeds the applicable limit established by a standard, such as Rules 2102, 2103, 2104, or 2105 or, in the absence of an applicable standard, which is of such toxicity so as to constitute a recognized hazard that is causing or is likely to cause death or serious physical harm. [1910.141(a)(2)(viii)]
- (ix) "Urinal" means a toilet facility maintained within a toilet room for the sole purpose of urination. [1910.141(a)(2)(ix)]
  - (x) "Water closet" means a toilet facility maintained

within a toilet room for the purpose of both defecation and urination and which is flushed with water.

[1910.141(a)(2)(x)]

- (xi) "Wet process" means any process or operation in a workroom which normally results in surfaces upon which employees may walk or stand becoming wet. [1910.141(a)(2)(xi)]
  - (c) Housekeeping.
- (i) All places of employment shall be kept clean to the extent that the nature of the work allows. [1910.141(a)(3)(i)]
- (ii) The floor of every workroom shall be maintained, so far as practicable, in a dry condition. Where wet processes are used, drainage shall be maintained and false floors, platforms, mats, or other dry standing places shall be provided, where practicable, or appropriate waterproof footgear shall be provided.

  [1910.141(a)(3)(ii)]
- (iii) To facilitate cleaning, every floor, working place, and passageway shall be kept free from protruding nails, splinters, loose boards, and unnecessary holes and openings. [1910.141(a)(3)(iii)]
  - (d) Waste disposal.
- (i) Any receptacle used for putrescible solid or liquid waste or refuse shall be so constructed that it does not leak and may be thoroughly cleaned and maintained in a sanitary condition. Such a receptacle shall be equipped with a solid tight-fitting cover, unless it can be maintained in a sanitary condition without a cover. This requirement does not prohibit the use of receptacles which are designed to permit the maintenance of a sanitary condition without regard to the aforementioned requirements. [1910.141(a)(4)(i)]
- (ii) All sweepings, solid or liquid wastes, refuse, and garbage shall be removed in such a manner as to avoid creating a menace to health and as often as necessary or appropriate to maintain the place of employment in a sanitary condition. [1910.141(a)(4)(ii)]
- (e) Vermin control. Every enclosed workplace shall be so constructed, equipped, and maintained, so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin. A continuing and effective extermination program shall be

instituted where their presence is detected. [1910.141(a)(5)]

# (2) Water supply.

- (a) Potable water.
- (i) Potable water shall be provided in all places of employment, for drinking, washing of the person, cooking, washing of foods, washing of cooking or eating utensils, washing of food preparation or processing premises, and personal service rooms. [1910.141(b)(1)(i)]
- (ii) Drinking fountain surfaces which become wet during fountain operation shall be constructed of materials impervious to water and not subject to oxidation. The nozzle of the fountain shall be at an angle and so located to prevent the return of water in the jet or bowl to the nozzle orifice. A guard shall be provided over the nozzle to prevent contact with the nozzle by the mouth or nose of persons using the drinking fountain. The drain from the bowl of the fountain shall not have a direct physical connection with a waste pipe, unless it is trapped. [1910.141(b)(1)(ii)]
- (iii) Portable drinking water dispensers shall be designed, constructed, and serviced so that sanitary conditions are maintained, shall be capable of being closed, and shall be equipped with a tap. [1910.141(b)(1)(iii)]
- (iv) Ice in contact with drinking water shall be made of potable water and maintained in a sanitary condition. [1910.141(b)(1)(iv)]
- (v) Open containers such as barrels, pails, or tanks for drinking water from which the water must be dipped or poured, whether or not they are fitted with a cover, are prohibited. [1910.141(b)(1)(v)]
- (vi) A common drinking cup and other common utensils are prohibited. [1910.141(b)(1)(vi)]
- (vii) Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided. [1910.141(b)(1)(vii)]
  - (b) Nonpotable water.
- (i) Outlets for nonpotable water, such as water for industrial or fire-fighting purposes, shall be posted or otherwise marked in a manner that will indicate clearly that the water is unsafe and is not to be used for drinking, washing of the person, cooking, washing of food, washing of cooking or eating utensils, washing of food preparation or processing premises, or personal service rooms, or for washing clothes. [1910.141(b)(2)(i)]
- (ii) Construction of nonpotable water systems or systems carrying any other nonpotable substance shall be such as to prevent backflow or backsiphonage into a potable water system. [1910.141(b)(2)(ii)]
- (iii) Nonpotable water shall not be used for washing any portion of the person, cooking or eating utensils, or clothing. Nonpotable water may be used for cleaning work premises, other than food processing and preparation premises and personal service rooms: Provided, that this nonpotable water does not contain concentrations of chemicals, fecal coliform, or other substances which could create unsanitary conditions or be harmful to employees. [1910.141(b)(2)(iii)]

- (3) Toilet facilities.
- (a) General.
- (i) Except as otherwise indicated in this subdivision (i), toilet facilities, in toilet rooms separate for each sex, shall be provided in all places of employment in accordance with Table J-1 of this rule. The number of facilities to be provided for each sex shall be based on the number of employees of that sex for whom the facilities are furnished. Where toilet rooms will be occupied by no more than one person at a time, can be locked from the inside, and contain at least one water closet, separate toilet rooms for each sex need not be provided. Where such single-occupancy rooms have more than one toilet facility, only one such facility in each toilet room shall be counted for the purposes of Table J-1. [1910.141(c)(1)(i)]

**TABLE J-1** 

Number of Employees:	Minimum Number of Water Closets <sup>1</sup>	
1 to 15	1	
16 to 35	2	
36 to 55	3	
56 to 80	4	
81 to 110	5	
111 to 150	6	
Over 150	1 additional fixture for each additional 40 employees.	

<sup>1</sup>Where toilet facilities will not be used by women, urinals may be provided instead of water closets, except that the number of water closets in such cases shall not be reduced to less than 2/3 of the minimum specified. [1910.141, Table J-1]

- (ii) The requirements of subdivision (i) of this paragraph do not apply to mobile crews or to normally unattended work locations so long as employees working at these locations have transportation immediately available to nearby toilet facilities which meet the other requirements of this paragraph. [1910.141(c)(1)(ii)]
- (iii) The sewage disposal method shall not endanger the health of employees. [1910.141(c)(1)(iii)]
- (iv) When persons other than employees are permitted the use of toilet facilities on the premise, the number of such facilities shall be appropriately increased in accordance with Table J-1 of this rule in determining the minimum number of toilet facilities required. [1910.141(c)(1)(iv)]
- (v) Toilet paper with holder shall be provided for every water closet. [1910.141(c)(1)(v)]
- (vi) Covered receptacles shall be kept in all toilet rooms used by women. [1910.141(c)(1)(vi)]
- (vii) For each three required toilet facilities at least one lavatory shall be located either in the toilet room or adjacent thereto. Where only one or two toilet facilities are provided, at least one lavatory so located shall be provided. [1910.141(c)(1)(vii)]
  - (b) Construction of toilet rooms.

- (i) Each water closet shall occupy a separate compartment with a door and walls or partitions between fixtures sufficiently high to assure privacy. [1910.141(c)(2)(i)]
- (ii) In all toilet rooms installed on or after August 31, 1971, the floor and sidewalls, including the angle formed by the floor and sidewalls, and excluding doorways and entrances, shall be watertight. The sidewalls shall be watertight to a height of at least 5 inches. [1910.141(c)(2)(ii)]
- (iii) The floors, walls, ceilings, partitions, and doors of all toilet rooms shall be of a finish that can be easily cleaned. In installations made on or after August 31, 1971, cove bases shall be provided to facilitate cleaning. [1910.141(c)(2)(iii)]
  - (c) Construction and installation of toilet facilities.
- (i) Every water carriage toilet facility shall be set entirely free and open from all enclosing structures and shall be so installed that the space around the facility can be easily cleaned. This provision does not prohibit the use of wall-hung type water closets or urinals. [1910.141(c)(3)(i)]
- (ii) Every water closet shall have a hinged seat made of substantial material having a nonabsorbent finish. Seats installed or replaced after June 4, 1973, shall be of the open-front type. [1910.141(c)(3)(ii)]
- (iii) Nonwater carriage toilet facilities and disposal systems shall be in accordance with Rule 4202. [1910.141(c)(3)(iii)]

### (4) Washing facilities.

- (a) General. Washing facilities shall be maintained in a sanitary condition. [1910.141(d)(1)]
  - (b) Lavatories.
- Lavatories shall be made available in all places of employment in accordance with the requirements for lavatories set forth in Table J-2 of this rule. In a multipleuse lavatory, 24 lineal inches of wash sink or 20 inches of a circular basin, when provided with water outlets for each space, shall be considered equivalent to one lavatory. The requirements of this paragraph do not apply to mobile crews or to normally unattended work locations if employees working at these locations have transportation readily available to nearby washing facilities which meet other requirements of this subsection. [1910.141(d)(2)(i)]

**TABLE J-2** 

IABLE 3-2		
Type of Employment	Number of Employees	Minimum Number of Lavatories
Non-industrial - Office Buildings, Public Buildings and Similar Establishments.	1-15	1
	16-35	2
	36-60	3
	61-90	4
	91-125	5
	Over 125	1 additional fixture for each additional 45 employees.
Industrial - Factories, Warehouses,	1-100	1 fixture for each 10 employees.
Loft Buildings and Similar Establishments	Over 100	1 fixture for each additional 15 employees.

[1910.141 Table J-2]

- (ii) Each lavatory shall be provided with hot and cold running water, or tepid running water. [1910.141(d)(2)(ii)]
- (iii) Hand soap or similar cleansing agents shall be provided. [1910.141(d)(2)(iii)]
- (iv) Individual hand towels or sections thereof, of cloth or paper, warm-air blowers or clean individual sections of continuous cloth toweling, convenient to the lavatories, shall be provided. [1910.141(d)(2)(iv)]
- (v) Receptacles shall be provided for disposal of used towels. [1910.141(d)(2)(v)]
- (vi) Warm-air blowers shall provide air at not less than 90°F and shall have means to automatically prevent the discharge of air exceeding 140°F. [1910.141(d)(2)(vi)]
- (vii) Electrical components of warm-air blowers shall meet the requirements of the MIOSHA occupational safety standards. [1910.141(d)(2)(vii)]
  - (c) Showers.
- (i) Whenever showers are required by a particular standard, the showers shall be provided in accordance with subdivisions (ii) through (v) of this paragraph. [1910.141(d)(3)(i)]
- (ii) One shower shall be provided for each 10 employees of each sex, or numerical fraction thereof, who are required to shower during the same shift. [1910.141(d)(3)(ii)]
- (iii) Body soap or other appropriate cleansing agents convenient to the showers shall be provided as specified in subdivision (4)(b)(iii) of this rule. [1910.141(d)(3)(iii)]
- (iv) Showers shall be provided with hot and cold water feeding a common discharge line. [1910.141(d)(3)(iv)]
- (v) Employees who use showers shall be provided with individual clean towels. [1910.141(d)(3)(v)]
  - (5) Change rooms.

Whenever employees are required by a particular rule to wear protective clothing because of the possibility of contamination with toxic materials, change rooms equipped with storage facilities for street clothes and separate storage facilities for the protective clothing shall be provided. [1910.141(e)]

#### (6) Clothes drying facilities.

Where working clothes are provided by the employer and become wet or are washed between shifts, provision shall be made to insure that such clothing, is dry before reuse. [1910.141(f)]

# (7) Consumption of food and beverages on the premises.

- (a) Application. This subsection shall apply only where employees are permitted to consume food or beverages, or both, on the premises. [1910.141(g)(1)]
- (b) Eating and drinking areas. No employee shall be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material. [1910.141(g)(2)]
- (c) Waste disposal containers. Receptacles constructed of smooth, corrosion resistant, easily cleanable, or disposable materials, shall be provided and used for the disposal of waste food. The number, size, and location of such receptacles shall encourage their use and not result in overfilling. They shall be emptied not less frequently than once each working day, unless unused, and shall be maintained in a clean and sanitary condition. Receptacles shall be provided with a solid tight-fitting cover unless sanitary conditions can be maintained without use of a cover. [1910.141(g)(3)]
- (d) Sanitary storage. No food or beverages shall be stored in toilet rooms or in an area exposed to a toxic material. [1910.141(g)(4)]

#### (8) Food handling.

- (a) All employee food service facilities and operations shall be carried out in accordance with sound hygienic principles. In all places of employment where all or part of the food service if provided, the food dispensed shall be wholesome, free from spoilage, and shall be processed, prepared, handled, and stored in such a manner as to be protected against contamination. [1910.141(h)]
- (b) All food service facilities provided for employees shall comply with the requirements of the Department of Public Health as set forth in Act 269 of the Public Acts of 1968.

## (9) Sanitary facilities in special industries.

- (a) Pulp, paper and paperboard mills covered by Rule 5001.
- (i) General incorporation of standards. Establishments subject to Rule 5001 shall comply with the following standard of the American National Standards Institute: Requirements for Sanitation in Places of Employment, Z4.1-1968. [1910.261(a)(3)(xviii)]
- (ii) Inspecting and repairing digesters. Sanitary facilities shall be provided as specified in American National Standard Z4.1-1968. [1910.261(g)(15)(vi)]
- (iii) Insofar as the processes of the sulfate and soda operations are similar to those of the sulfite processes,

- subdivision (ii) shall apply. [1910.261(g)(18)]
- (iv) Quick operating showers, bubblers, etc., shall be available for emergency use in case of caustic soda burns. [1910.261(g)(18)(i)]
  - (b) Textile processes covered by Rule 5002.

Establishments covered by Rule 5002 shall conform to the following requirement: Housekeeping. Aisles and working spaces shall be kept in good order, clean and free of obstructions in accordance with requirements of subsection (1) through (8) of this rule. [1910.262(c)(4)]

- (c) Laundry machinery and operations. (See Rule 5004)
- (i) Employers subject to Rule 5004 shall comply with the provisions of the standard referenced in subparagraph (ii) of this paragraph. In the event of any conflict between this paragraph and the MIOSHA Safety Standards applicable to laundries, the requirements of such safety standards shall apply. [1910.264(f)(2)]
- (ii) Sanitation. American National Standard Requirements for Sanitation in Places of Employment, ANSI Z4.1-1968. [1910.264(f)(2)(vi)]
  - (d) Sawmills. (See Rule 5005)
- (i) General. In operations subject to Rule 5005 the requirements of subsections (1) through (8) of this rule shall govern sanitation practices. [1910.265(h)]
- (ii) Log handling, sorting, and storage log unloading and storage areas log booms and ponds: Artificial log ponds shall be drained, cleaned, and refilled when unhealthy stagnation or pollution occurs. [1910.265(d)(2)(iii)(f)]

#### Rule 4202 Nonwater Carriage Disposal Systems

#### (1) Acceptable industrial disposal systems.

- (a) The waste disposal systems described in paragraphs (b), (c), (d), (e), (f) or (g) of this subsection may be used only where not prohibited by codes and regulations of local authorities, and where water closets are not feasible due either to the lack of an adequate water supply or to the location or temporary nature of the operation requiring the facility. The number of units required for a place of employment shall be as specified in Rules 4201 and 4301. [1910.143(a)(1)]
- (b) Privies constructed in conformity with subsection (2) of this rule may be used for the disposal of human excreta where their use will not contaminate ground or surface water because of privy location, type of soil, or ground-water table. [1910.143(a)(2)]
- (c) Chemical toilets constructed in conformity with subsection (3) of this rule may be used in place of privies or where a privy is not permitted due to possible contamination of ground and surface water. [1910.143(a)(3)]
- (d) Recirculating toilets constructed in conformity with subsection (6) of this rule may be used in place of privies or chemical toilets. [1910.143(a)(4)]
- (e) Combustion toilets constructed in conformity with subsection (5) of this rule may be used in place of privies, chemical toilets, or recirculating toilets. [1910.143(a)(5)]
  - (f) Portable toilets constructed in conformity with

subsection (7) of this rule may be used for temporary or mobile installations. Such temporary units may be: [1910.143(a)(6)]

- (i) Chemical, recirculating, or combustion toilets designed for installation in or as an integral part of a skid-mounted portable privy building, or in a separate toilet room. [1910.143(a)(6)(i)]
- (ii) Portable privies designed for installation over a manhole of a sanitary of a combined waste-water sewer system. [1910.143(a)(6)(ii)]
- (g) A seepage pit constructed in conformity with subsection (4) of this rule may be used for the disposal of waste water from culinary activity, temporary bathing facilities, and clothes-washing facilities where there is no available piped waste supply. Human excreta shall not be discharged into a seepage pit. All units described in this subsection shall comply with applicable codes and regulations of local authorities. [1910.143(a)(7)]

#### (2) Privy specifications.

- (a) A privy pit shall be separated by a minimum distance of 100 feet between the privy and a well, spring, or other source of water supply for drinking, bathing, or culinary purposes. [1910.143(b)(1)]
- (i) At no time shall the pit bottom of a privy extend into ground water, nor shall it be constructed within 100 feet of the shoreline of any open body of water. Phreatic water, such as may be found in surface soil at depths of 10 feet or less, shall not be interpreted as ground water unless there is evidence of positive directional flow through the pit. [1910.143(b)(1)(i)]
- (ii) The privy shall be so located and so constructed that no surface water may enter into the pit either as runoff or as floodwater. [1910.143(b)(1)(ii)]
- (iii) The pit shall be constructed of such material and in such a manner as to prevent rapid deterioration, provide adequate capacity, and facilitate maintenance in a satisfactory manner under ordinary conditions of usage. [1910.143(b)(1)(iii)]
- (iv) The pit and seat area shall be vented by a flue or vent pipe having not less than 7 square inches cross-sectional area, so as to provide a continuous escape of odors. [1910.143(b)(1)(iv)]
- (v) The pit shall provide a capacity of 50 cubic feet for each seat installed in the privy building. The vault within 16 inches of the surface grade shall not be counted as part of the 50 cubic foot capacity. [1910.143(b)(1)(v)]
- (vi) Pit cribbing shall fit firmly and be in uniform contact with the earth walls on all sides, and shall rise at least 6 inches above the original ground line and descend to the full depth of the pit. However, pit cribbing below the solid line may be omitted in rock formations. [1910.143(b)(1)(vi)]
- (vii) An earth plateau shall be constructed level with the top of the pit cribbing, and extend horizontally for a distance of at least 18 inches before sloping to the original ground level. [1910.143(b)(1)(vii)]
- (b) Privy building shall be firmly anchored, rigidly constructed, and free from hostile surface features, such as exposed nail points, sharp edges, rough or broken boards, etc., and shall provide privacy and protection from the

- elements. It shall be ventilated by leaving a 4-inch opening at the top of all the walls just beneath the roof. [1910.143(b)(2)]
- (i) The building shall be of fly-tight construction, doors shall be self-closing, and vent and building openings shall be screened with 16-mesh screen or durable material. The vent shall extend 12 inches above the roof. [1910.143(b)(2)(i)]
- (ii) The seat shall be so spaced as to provide a minimum clear space of 24 inches between each seat in multiple unit installations, and shall provide 12 inches clear space from the seat opening to the side wall in single and multiple units. [1910.143(b)(2)(ii)]
- (iii) The seat riser shall have an inside clearance of not less than 21 inches from the front wall and not less than 24 inches from the rear wall of the privy building. [1910.143(b)(2)(iii)]
- (iv) The seat top shall be not less than 12 inches nor more than 16 inches above the floor. [1910.143(b)(2)(iv)]
- (v) The seat opening shall be covered with an attached, movable toilet seat and lid, so constructed and installed that when closed it will limit access of insects, and which can be raised to allow sanitary use as a urinal. [1910.143(b)(2)(v)]
- (vi) The floor and riser shall be built of impervious material or tongue and groove lumber, and in a manner to deny access of insects. [1910.143(b)(2)(vi)]
- (vii) Where electricity is available, lighting shall be provided with an intensity of not less than 10 foot-candle 30 inches above the floor. [1910.143(b)(2)(vii)]
- (viii) A conveniently located receptacle or dispenser containing an adequate supply of toilet paper shall be provided for each seat in each privy building. [1910.143(b)(2)(viii)]

#### (3) Chemical toilet specifications.

- (a) Rooms, buildings, or shelters housing chemical toilets shall be of sound construction and easy to clean, and shall provide shelter and privacy. The toilet rooms shall be ventilated to the outside and adequately lighted, and all openings into the toilet room shall be covered with 16-mesh screen. The minimum requirements given in paragraphs (b) through (g) of this subsection shall apply. [1910.143(c)(1)]
- (b) Caustic receptacles shall be durable and corrosion proof, and provide a minimum capacity of 100 gallons per seat. [1910.143(c)(2)]
- (c) The caustic receptacle charge per seat shall be a minimum of 25 pounds of caustic dissolved in 10 gallons of water. [1910.143(c)(3)]
- (d) The chemical shall be drained and receptacle recharged every 6 months of continuous use, or at the beginning of each season of operation when in intermittent use, or when three-fourths full, whichever occurs first. [1910.143(c)(4)]
- (e) Each seat in the building shall be provided with a conveniently located agitator. [1910.143(c)(5)]
- (f) Receptacles shall be vented as prescribed in subdivision (2)(a)(iv) of this rule. [1910.143(c)(6)]
  - (g) The receptacle shall be equipped with a

manhole external to the privy building for cleaning and caustic removal purposes. The manhole shall be covered so as to prevent the escape of gases and odors. [1910.143(c)(7)]

# (4) Seepage pit construction.

- (a) Seepage pit construction shall conform with requirements for privy pit construction in subdivisions (2)(a)(i), (ii), (iii), (vi) and (vii) of this rule. The seepage pit may be filled with stone or rubble of not less than nominal 1-inch diameter. [1910.143(d)(1)]
- (b) Seepage pits shall be of such dimensions as to provide side wall area equal to at least 10 square feet per person served by the facility, or such greater area as may be required by the health agency having jurisdiction. [1910.143(d)(2)]
- (c) Temporary piping connections from sinks or shower platforms may be discharged beneath the floor if they have traps in accordance with the provisions of American National Standard National Plumbing Code, A 40.8-1955. [1910.143(d)(3)]
- (d) The platform covering the seepage pits shall be built of impervious material and in a manner to exclude insects. [1910.143(d)(4)]
- (e) The platform shall be provided with an opening at least 1 foot in each dimension and have a rim at least 1 inch above the floor to prevent precipitation from accumulating on the platform floor. [1910.143(d)(5)]
- (f) The platform opening shall be covered with a self-closing lid, so constructed that it can be easily opened by foot or hand, and so installed that when closed it will exclude insects and fit closely over the raised rim of the opening. [1910.143(d)(6)]

#### (5) Combustion toilet.

- (a) Combustion toilets and combustion toilet buildings, rooms, or shelters shall conform to the applicable specifications given for chemical toilets in subsection (3) of this rule. [1910.143(e)(1)]
- (b) All external surfaces, including bowl and hopper, shall be easy to clean. [1910.143(e)(2)]
- (c) The residue must be sterile and inert. [1910.143(e)(3)]
- (d) The flue effluents must be free of bacteria. [1910.143(e)(4)]
- (e) The combustion system and all fuel and electrical parts shall be safe and in compliance with applicable gas and electrical codes of local authorities. Where such codes do not exist, the installations shall comply with the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of 1968). [1910.143(e)(5)]

#### (6) Recirculating toilet specifications.

(a) Recirculating toilet buildings, rooms, or shelters shall conform to the applicable specifications given for

- chemical toilets in subsection (3) of this rule. [1910.143(f)(1)]
- (b) All materials, bowl, piping, and fittings shall be corrosion resistant. [1910.143(f)(2)]
- (c) Waste passages shall have smooth surfaces and be free of obstructions, recesses, or chambers that would permit fouling. [1910.143(f)(3)]
- (d) Flushing shall be accomplished by a single control so arranged as to be operated without special knowledge or effort. [1910.143(f)(4)]
- (e) Recirculating toilets shall conform to "Self-Contained, Electrically Operated Recirculating, Chemically Controlled Toilet." International Association of Plumbing and Mechanical Officials Trailer Standard TSC 12-65. [1910.143(f)(5)]
- (f) The unit shall be maintained and cleaned; and water, filter, and odor-controlling chemical shall be replaced in accordance with the instructions of the manufacturer. [1910.143(f)(6)]

#### (7) Portable toilet construction.

- (a) A portable toilet may comprise the seat and its treatment unit to be installed in a structure, or it may comprise an entire prefabricated, skid-mounted, or otherwise portable structure containing a seat or treatment units with seat. [1910.143(g)(1)]
- (b) No pit, tank, or other subsurface structure shall be construed as part of a portable toilet. [1910.143(g)(2)]
- (i) Portable privies must be installed over a pit conforming to paragraph (2)(a) of this rule, or a manhole that is part of a sanitary or combined waste-water disposal system. [1910.143(g)(2)(i)]
- (ii) No portable toilet shall discharge into a storm sewer. [1910.143(g)(2)(ii)]
- (c) A portable building shall be rigidly constructed, ventilated by a screened opening or a vent having a cross-sectional area of at least 1 square foot per seat, and equipped with a floor, riser, and seat meeting the requirements of paragraph (2)(b) of this rule or an equivalent individual stool and seat in prefabricated metal, fiber glass, plastic, or ceramic material. [1910.143(g)(3)]
- (i) The structure shall provide privacy and protection from the elements. [1910.143(g)(3)(i)]
- (ii) An airtight seal shall be provided between the structure base and any pit, receptacle, or manhole over which it is placed. [1910.143(g)(3)(ii)]
- (iii) Ventilation of the pit, receptacle, or manhole shall conform to subdivision (2)(a)(iv) of this rule. [1910.143(q)(3)(iii)]
- (d) A portable toilet shall be provided with facilities, requisite to its construction, for the removal of chemicals, ash, or residue. All surfaces subject to soiling shall be readily accessible and easily cleaned. [1910.143(g)(4)]



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