

Nonsewered Waste-Disposal Systems—Minimum Requirements, ANSI Z4.3–1987 (Reaffirmed 1995). MSHA and NIOSH base the definitions for the various types of toilets and components of the toilet facility on Section 2; the general requirements for auxiliary features on Sections 3.7, 3.8, and 3.9; and the specific design criteria on Section 7.

Exceptions. Although a privy is listed in ANSI Z4.3–1987 (Reaffirmed 1995),

privies are not approved for use at any coal mine because sewage could seep through the earth walls and contaminate ground water, earth walls could fail under the harsh conditions at a coal mine, and rain and run-off could flood the privy causing it to overflow and contaminate the mine. Combustion or incinerating toilets are prohibited underground because they can create a fire hazard by introducing an ignition source. Although a toilet paper holder is

required for surface mines, MSHA does not require a toilet paper holder on unenclosed sanitary toilets underground because it is impractical.

C. Types of Approved Sanitary Toilets

The following table contains excerpts from ANSI Z4.3–1987 (Reaffirmed 1995) for the types of sanitary toilets approved for use in coal mines. Sanitary toilets meeting these criteria are in compliance with the standard.¹

Definitions (ANSI Z4.3 Section 2)	Types of toilet facilities (ANSI Z4.3 Section 7)
Vault Toilet	
2.2.2 * * * A vault toilet facility is one wherein the waste is deposited without flushing in a permanently installed, watertight, below-ground container.	<p>7.1.1. The vault-toilet tank shall be durable and corrosion-resistant and shall provide a minimum capacity of 378 L (100 gal) per seat.</p> <p>7.1.2. Where a caustic chemical is used, the charge per seat shall be a minimum of 11.3 kg (25 lbs.) of caustic dissolved in 37.5 L (10 gal) of water.</p> <p>7.1.3. The chemical shall be drained and the receptacle recharged every 6 months when in continuous use, or at least at the beginning of each season of operation when in intermittent use, or when three-fourths full, whichever occurs first.</p> <p>7.1.4. Tanks shall be vented to the outside with a minimum nominal venting area of 45 cm² (7 in²).</p> <p>7.1.5. The tank shall be equipped with a manhole external to the structure for cleaning and for removal of caustic chemicals. The manhole shall be covered so as to prevent escape of gases and odors.</p>
Sealed-Bag Toilet	
2.2.3 * * * A sealed-bag toilet facility is one wherein the waste of each user is deposited, without flushing, into a bag, generally plastic, which is then sealed for later disposal. The structure housing a sealed-bag-toilet facility may be permanent or portable.	<p>7.2.1. All materials and fittings shall be corrosion resistant.</p> <p>7.2.2. The bag shall be made of material of sufficient strength so as not to leak and, once sealed, so as to retain the waste until such time as the bag is removed from the toilet for disposal.</p>
Combustion or Incinerating Toilet	
2.3 * * * A combustion- or incinerating-toilet facility is one wherein the waste is deposited, with or without flushing, into a combustion chamber, where it is incinerated. The structure housing a combustion- or incinerating-toilet facility may be permanent or portable.	<p>7.3.1. All external surfaces, including bowl and hopper, shall be easy to clean.</p> <p>7.3.2. The residue of combustion or incineration shall be sterile and inert.</p> <p>7.3.3. The flue effluents shall be free of viable bacteria.</p> <p>7.3.4. 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 installation shall comply with American National Standard National Electrical Code, ANSI/NFPA 70–1987, or with American National Standard for Gas-Fired Toilets, ANSI Z21.61–1983, and American National Standard National Fuel Gas Code, ANSI Z223.1–1984 and ANSI Z223.1a–1987.</p>
Chemical Toilet and Biological Toilet	
2.2.1 * * * A chemical-toilet facility is a nonflush-toilet facility wherein the waste is deposited directly into a container containing a solution of water and chemical. It may be housed in a permanent or portable structure.	7.4.1. Waste containers shall be fabricated from nonabsorbent, water-tight materials.
2.4 * * * A biological-toilet facility is one wherein the waste is deposited, with or without flushing, into a waste container integral to the toilet facility, where it is treated by means of biological agents or aeration.	<p>7.4.2. Portable chemical and biological toilets and urinals that are free standing and not installed in a toilet room do not require a ventilation system.</p> <p>7.4.3. Chemicals or biological agents, if used in the waste container, shall be in accordance with applicable federal, state, and local provisions.</p>

¹ MSHA prohibits the use of these toilets in underground coal mines, see § 75.1712–6(c).