



Ohio Administrative Code

Rule 3745-51-193 Containment and detection of releases - tank systems.

Effective: June 12, 2023

(A) Secondary containment systems shall be:

(1) Designed, installed, and operated to prevent any migration of materials or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

[Comment: If the collected material is a hazardous waste under Chapter 3745-51 of the Administrative Code, the collected material is subject to management as a hazardous waste in accordance with all applicable requirements of Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code. If the collected material is discharged through a point source to waters of the United States, the collected material is subject to the requirements of Section 301, Section 304, and Section 402 of the Clean Water Act. If discharged to a publicly owned treatment works (POTW), the collected material is subject to the requirements of Section 307 of the Clean Water Act. If the collected material is released to the environment, the collected material may be subject to the reporting requirements of 40 CFR Part 302.]

(B) To meet the requirements of paragraph (A) of this rule, secondary containment systems shall be, at a minimum:

(1) Constructed of or lined with materials that are compatible with the materials to be placed in the tank system and shall have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the material to which the tank system is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);



(2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the tank system, and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak-detection system that is designed and operated so that the leak detection system will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous secondary material or accumulated liquid in the secondary containment system at the earliest practicable time; and

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked material and accumulated precipitation shall be removed from the secondary containment system within twenty-four hours, or in as timely a manner as is possible to prevent harm to human health and the environment.

(C) Secondary containment for tanks shall include one or more of the following devices:

(1) A liner (external to the tank);

(2) A vault; or

(3) A double-walled tank.

(D) In addition to the requirements of paragraphs (A), (B), and (C) of this rule, secondary containment systems shall satisfy the following requirements:

(1) External liner systems shall be:

(a) Designed or operated to contain one hundred per cent of the capacity of the largest tank within the boundary of the external liner system;

(b) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or



infiltration. Such additional capacity shall be sufficient to contain precipitation from a twenty-five-year, twenty-four-hour rainfall event;

(c) Free of cracks or gaps; and

(d) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the material if the material is released from the tanks (i.e., capable of preventing lateral as well as vertical migration of the material).

(2) Vault systems shall be:

(a) Designed or operated to contain one hundred per cent of the capacity of the largest tank within the boundary of the vault system;

(b) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity shall be sufficient to contain precipitation from a twenty-five-year, twenty-four-hour rainfall event;

(c) Constructed with chemical-resistant water stops in place at all joints (if any);

(d) Provided with an impermeable interior coating or lining that is compatible with the stored material and that will prevent migration of material into the concrete;

(e) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the material being stored or treated is ignitable or reactive; and

(f) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks shall be:

(a) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell)



so that any release from the inner tank is contained by the outer shell;

(b) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

(c) Provided with a built-in continuous leak detection system capable of detecting a release within twenty-four hours, or at the earliest practicable time.

[Comment: The provisions outlined in the steel tank institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.]

(E) [Reserved.]

(F) Ancillary equipment shall be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraph (A) and (B) of this rule except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves that are visually inspected for leaks on a daily basis; and

(4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]