

WAC 173-360A-0310 Performance standards for new UST systems and components. Except as provided under WAC 173-360A-0330, owners and operators must ensure new UST systems and UST system components meet the performance standards of this section.

(1) **Tanks.** To prevent releases due to structural failure or corrosion, tanks must meet the performance standards in this subsection.

(a) **Metal.** Tanks made of metal must be designed and constructed in accordance with the following:

(i) The compatibility requirements in WAC 173-360A-0350;

(ii) The cathodic protection requirements in subsection (3) of this section, if applicable;

(iii) The secondary containment requirements in subsection (4) of this section, if applicable; and

(iv) A code of practice. The following codes of practice may be used to meet this requirement:

(A) Steel Tank Institute, Specification STI-P3®, "Specification and Manual for External Corrosion Protection of Underground Steel Storage Tanks";

(B) Steel Tank Institute, Standard F841, "Standard for Dual Wall Underground Steel Storage Tanks";

(C) Underwriters Laboratories, Standard 1746, "Standard for External Corrosion Protection Systems for Steel Underground Storage Tanks";

(D) Underwriters Laboratories of Canada, Standard S603, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," Standard S603.1, "Standard for External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids," and Standard S631, "Standard for Isolating Bushings for Steel Underground Tanks Protected with External Corrosion Protection Systems"; or

(E) National Association of Corrosion Engineers International, Standard Practice 0285, "External Corrosion of Underground Storage Tank Systems by Cathodic Protection," and Underwriters Laboratories, Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids."

(b) **Clad or jacketed metal.** Tanks made of metal and clad or jacketed with a noncorrodible material must be designed and constructed in accordance with the following:

(i) The compatibility requirements in WAC 173-360A-0350;

(ii) The secondary containment requirements in subsection (4) of this section, if applicable; and

(iii) A code of practice. The following codes of practice may be used to meet this requirement:

(A) Underwriters Laboratories, Standard 1746, "External Corrosion Protection Systems for Steel Underground Storage Tanks";

(B) Steel Tank Institute, Specification F894, "ACT-100® Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks";

(C) Steel Tank Institute, Specification F961, "ACT-100U® Specification for External Corrosion Protection of Composite Steel Underground Storage Tanks"; or

(D) Steel Tank Institute, Specification F922, "Steel Tank Institute Specification for Permatank®."

(c) **Fiberglass-reinforced plastic.** Tanks made of fiberglass-reinforced plastic must be designed and constructed in accordance with the following:

(i) The compatibility requirements in WAC 173-360A-0350;

(ii) The secondary containment requirements in subsection (4) of this section, if applicable; and

(iii) A code of practice. The following codes of practice may be used to meet this requirement:

(A) Underwriters Laboratories, Standard 1316, "Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures"; or

(B) Underwriters Laboratories of Canada, Standard S615, "Standard for Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids."

(d) **Other materials.** Tanks made of materials other than those specified in (a) through (c) of this subsection must be designed and constructed in accordance with the following:

(i) The compatibility requirements in WAC 173-360A-0350;

(ii) The secondary containment requirements in subsection (4) of this section, if applicable; and

(iii) The tank construction and corrosion protection are determined by the department to prevent releases in a manner that is no less protective of human health and the environment than specified in (a) through (c) of this subsection.

(2) **Piping.** To prevent releases due to structural failure or corrosion, piping must meet the performance standards in this subsection.

(a) **Metal.** Piping made of metal must be designed and constructed in accordance with the following:

(i) The compatibility requirements in WAC 173-360A-0350;

(ii) The cathodic protection requirements in subsection (3) of this section, if applicable;

(iii) The secondary containment requirements in subsection (5) of this section, if applicable; and

(iv) A code of practice. The following codes of practice may be used to meet this requirement:

(A) American Petroleum Institute, Recommended Practice 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems";

(B) Underwriters Laboratories, Standard 971A, "Outline of Investigation for Metallic Underground Fuel Pipe";

(C) Steel Tank Institute, Recommended Practice R892, "Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems";

(D) National Association of Corrosion Engineers International, Standard Practice 0169, "Control of External Corrosion on Underground or Submerged Metallic Piping Systems"; or

(E) National Association of Corrosion Engineers International, Standard Practice 0285, "External Corrosion Control of Underground Storage Tank Systems by Cathodic Protection."

(b) **Noncorrodible.** Piping made of a noncorrodible material must be designed and constructed in accordance with the following:

(i) The compatibility requirements in WAC 173-360A-0350;

(ii) The secondary containment requirements in subsection (5) of this section, if applicable; and

(iii) A code of practice. The following codes of practice may be used to meet this requirement:

(A) Underwriters Laboratories, Standard 971, "Nonmetallic Underground Piping for Flammable Liquids"; or

(B) Underwriters Laboratories of Canada, Standard S660, "Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids."

(c) **Other materials.** Piping made of materials other than those specified in (a) and (b) of this subsection must be designed and constructed in accordance with the following:

(i) The compatibility requirements in WAC 173-360A-0350;

(ii) The secondary containment requirements in subsection (5) of this section, if applicable; and

(iii) The piping construction and corrosion protection are determined by the department to prevent releases in a manner that is no less protective of human health and the environment than specified in (a) and (b) of this subsection.

(3) **Cathodic protection of metal tanks and piping.**

(a) **Applicability.** The following tanks and piping must be cathodically protected in accordance with the requirements in (b) of this subsection unless the environment is determined not to be corrosive enough in accordance with the requirements in (c) of this subsection:

(i) Any portion of a metal tank that is underground and routinely contains regulated substances; and

(ii) Any metal piping that routinely contains regulated substances and is in contact with the ground.

(b) **Performance standards.** Metal tanks and piping must be cathodically protected as follows:

(i) The tank or piping must be coated with a suitable dielectric material;

(ii) The tank or piping must be equipped with a factory-installed or field-installed cathodic protection system designed by a corrosion expert; and

(iii) The cathodic protection system must be designed to allow for the operation and maintenance of the system as specified in WAC 173-360A-0430, including testing and rectifier inspections.

(c) **Noncorrosive environment.** Metal tanks and piping do not need to be cathodically protected if:

(i) Before installation and every five years thereafter:

(A) A corrosion expert assesses the environment around the UST system and determines that it is not corrosive enough to cause the system to have a release due to corrosion during its operational life;

(B) A report documenting the assessment, including the determination and its basis, and the person who performed the assessment, including their certification type and number, is completed by the corrosion expert; and

(C) The report is submitted as follows:

(I) For assessments performed before installation, the report is submitted to the department of revenue when applying for a license in accordance with WAC 173-360A-0200(3) and 173-360A-0300 (5)(a); and

(II) For assessments performed after installation, the report is submitted to the department of ecology within thirty days of completing the assessment; and

(ii) The owners and operators maintain records demonstrating compliance with the requirements of (c)(i) of this subsection, including the reports, until the UST system is permanently closed or undergoes a change-in-service.

(4) **Secondary containment of tanks.**

(a) **Applicability.** Tanks must be secondarily contained in accordance with the requirements in (b) of this subsection if:

(i) The tank is part of a hazardous substance UST system; or

(ii) The tank is part of a petroleum UST system, and the tank is installed or replaced after October 1, 2012.

(b) **Performance standards.** Tanks must be double-walled and designed and constructed to:

(i) Contain any regulated substances leaking from the primary space (through the inner wall) within the interstitial space until they are detected and removed;

(ii) Prevent the release of regulated substances into the environment throughout the operational life of the UST system; and

(iii) Allow for interstitial monitoring.

(5) **Secondary containment of piping.**

(a) **Applicability.** Piping must be secondarily contained in accordance with the requirements in (c) of this subsection unless:

(i) The piping is part of an airport hydrant system;

(ii) The piping is part of an UST system with field-constructed tanks greater than fifty thousand gallons;

(iii) The piping is part of a petroleum UST system, and the piping was installed or replaced on or before October 1, 2012;

(iv) The piping does not routinely contain regulated substances, including suction piping meeting the standards in WAC 173-360A-0600 (1)(b)(i) through (v); or

(v) The piping replaces less than fifty percent of a single-walled piping run.

(b) **Replacement.** Unless otherwise directed by the department, if fifty percent or more of a single-walled piping run is replaced after October 1, 2012, then the entire piping run must be replaced with double-walled piping meeting the requirements in (c) of this subsection.

(c) **Performance standards.** Piping must be double-walled. Containment sumps may also be used as part of the secondary containment and interstitial monitoring system for piping.

(i) **Piping.** Double-walled piping must be designed and constructed to:

(A) Contain any regulated substances leaking from the primary space (through the inner wall) within the piping's interstitial space or a containment sump until they are detected and removed;

(B) Prevent the release of regulated substances into the environment throughout the operational life of the UST system; and

(C) Allow for interstitial monitoring within either the piping's interstitial space or a containment sump.

(ii) **Containment sumps.** Containment sumps used as part of the secondary containment and interstitial monitoring system for piping must be designed and constructed to:

(A) Meet the compatibility requirements in WAC 173-360A-0350;

(B) Be liquid-tight on its sides, bottom, and at any penetrations;

(C) Allow for visual inspection and access to the components in the sump; and

(D) Allow for interstitial monitoring of the piping. The piping's interstitial space must be exposed within the sump. Sensors must be placed within the sump where they are able to detect any leak of regulated substances.

(6) **Under-dispenser containment.**

(a) **Applicability.** UST systems connected to a dispenser must be equipped with under-dispenser containment meeting the requirements in (b) of this subsection if the dispenser, dispenser system, or underground piping connected to the dispenser system is installed or replaced after October 1, 2012.

(b) **Performance standards.** Under-dispenser containment must be:

(i) Designed and constructed to:

- (A) Meet the compatibility requirements in WAC 173-360A-0350;
 - (B) Be liquid-tight on its sides, bottom, and at any penetrations; and
 - (C) Allow for visual inspection and access to the components in the containment system; and
 - (ii) If installed or replaced after October 1, 2018, factory-built or machine-tooled, unless otherwise approved by the department.
- (7) **Spill prevention equipment.**
- (a) **Applicability.** To prevent spilling associated with product transfers, UST systems filled by transfers of more than twenty-five gallons at one time must be equipped with spill prevention equipment that:
 - (i) Meets the requirements in (b) of this subsection; or
 - (ii) Is determined by the department to be no less protective of human health and the environment.
 - (b) **Performance standards.** Spill prevention equipment must be designed and constructed to:
 - (i) Meet the compatibility requirements in WAC 173-360A-0350;
 - (ii) Prevent releases when the transfer hose is detached from the fill pipe; and
 - (iii) Be liquid-tight on its sides, bottom, and at any penetrations.
 - (8) **Overfill prevention equipment.**
 - (a) **Applicability.** To prevent overfilling associated with product transfers, UST systems filled by transfers of more than twenty-five gallons at one time must be equipped with overfill prevention equipment that:
 - (i) Meets the requirements in (b) of this subsection; or
 - (ii) Is determined by the department to be no less protective of human health and the environment.
 - (b) **Performance standards.** Overfill prevention equipment must be designed and constructed to:
 - (i) Meet the compatibility requirements in WAC 173-360A-0350; and
 - (ii) Do one of the following:
 - (A) Automatically shut off flow into the tank when the tank is no more than ninety-five percent full;
 - (B) Automatically alert the product deliverer when the tank is no more than ninety percent full by restricting flow into the tank or triggering a high-level audible alarm; or
 - (C) Automatically restrict flow into the tank thirty minutes before overfilling, automatically alert the product deliverer with a high level audible alarm one minute before overfilling, or automatically shut off flow into the tank so that none of the fittings located on top of the tank are exposed to regulated substances due to overfilling.
 - (c) **Phase out of flow restrictors.** Flow restrictors used in vent lines may not be used to comply with the requirements of this subsection when overfill prevention equipment is installed, replaced, or repaired after October 1, 2018.
- (9) **Release detection equipment.** Release detection equipment must meet the performance standards in Part 6 of this chapter.
- (10) **Codes of practice for previously deferred UST systems.** For previously deferred UST systems, in addition to the codes of practice listed in this section, military construction criteria may be used to meet the requirements of this section, such as U.S. Department of Defense, Unified Facilities Criteria 3-460-01, "Design: Petroleum Fuel Facilities."

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