

SECTION 3—TERMS AND DEFINITIONS

For the purposes of this document, the following terms and definitions apply.

3.1

annular plate

A bottom plate welded to the shell that has butt-welded, substantially radial joints and is required by 5.5.1, 5.11.2.3, E.6.2.1.1.3, M.4.1, S.3.1.3, or X.3.2. See 5.5 for dimensional requirements. Also called an “annular bottom plate” or “bottom annular plate.”

3.2

annular ring

The complete collection of annular plates positioned around the perimeter of a tank bottom, whose radial lengths are substantially equal.

3.3

centerline-stacked

The mid-thickness centerlines of plates in all shell courses coincide.

3.4

coating

A term that includes protective materials applied to or bonded to tank surfaces, including paint, protective metals (e.g. galvanizing or cadmium plating), adhered plastic or polyolefin materials. Coatings are used for atmospheric, immersion, or vapor-space service.

3.5

contract

The commercial instrument, including all attachments, used to procure a tank.

3.6

corroded thickness

A design condition equal to the nominal thickness less any specified corrosion allowance.

3.7

corrosion allowance

Any additional thickness specified by the Purchaser for corrosion during the tank service life. Refer to 5.3.2.

3.8

design metal temperature

The lowest temperature considered in the design, which, unless experience or special local conditions justify another assumption, shall be assumed to be 8 °C (15 °F) above the lowest one-day mean ambient temperature of the locality where the tank is to be installed. Isothermal lines of lowest one-day mean temperature are shown in Figure 4.2. The temperatures are not related to refrigerated-tank temperatures (see 1.1.1).

3.9

design specific gravity

The maximum specific gravity of the stored liquid(s) at designated temperatures. The greatest value of all products when tanks are to be designed for multiple products.

3.10**design thickness**

The thickness necessary to satisfy tension and compression strength requirements by this standard or, in the absence of such expressions, by good and acceptable engineering practice for specified design conditions, without regard to construction limitations or corrosion allowances.

3.11**double-deck floating roof**

The entire roof is constructed of closed-top flotation compartments.

3.12**examiner**

A person who performs Nondestructive Examinations (NDE) and is qualified and certified as required in Section 8 for the NDE method performed.

3.13**floating suction line**

Internal piping assembly that allows operator to withdraw product from the upper levels of the tank.

3.14**flush-stacked on the inside**

The inside surfaces of plates in all shell courses coincide.

3.15**inlet diffusers**

Internal fill line piping with impingement plate, baffles, slots, or lateral openings. Diffusers limit splashing and misting of product, prevent product impingement on internal components, and disperse gases introduced into the tank.

3.16**insert plate**

A steel plate that replaces part of a shell plate, with a nominal thickness that is equivalent to, or no more than 3 mm ($1/8$ in.) greater than the nominal thickness of the adjoining material. When an insert plate is equal to the full height of a shell ring, it is considered to be a shell plate.

3.17**inspector**

A representative of an organization who ensures compliance with this standard and is responsible for various quality control and assurance functions, as outlined in this standard.

3.18**liner**

A protective material used as a barrier but not adhered, nor bonded, to the protected surface. Typically used (1) inside a tank to protect steel, (2) under a tank for leak detection (as a "release prevention barrier"), (3) in a dike yard, or (4) on the dikes as secondary containment. Common examples are sheeting made from lead, rubber, plastic, polyolefin, or geosynthetic clay (bentonite). A liner is not a coating.

3.19**lining**

An internal coating that consists of an applied liquid material which dries and adheres to the substrate, or a sheet material that is bonded to the substrate. It is designed for immersion service or vapor-space service. A lining can be reinforced or unreinforced.

3.20**mandatory**

Required sections of the standard become mandatory if the standard has been adopted by a Legal Jurisdiction or if the Purchaser and the Manufacturer choose to make reference to this standard on the nameplate or in the Manufacturer's certification.

3.21**Manufacturer**

The party having the primary responsibility to construct the tank (see 1.3 and 10.2).

3.22**maximum design temperature**

The highest temperature considered in the design, equal to or greater than the highest expected operating temperature during the service life of the tank.

3.23**mechanically-anchored tank**

Tanks that have anchor bolts, straps, or other mechanical devices to anchor the tank to the foundation.

3.24**minimum design specific gravity for floating roof design**

The lowest specific gravity of the stored liquid(s) at designated temperatures. The lowest value of all products when tanks are to be designed for multiple products.

3.25**nominal thickness**

The ordered thickness of the material. This thickness includes any corrosion allowance and is used for determination of PWHT requirements, weld spacing, minimum and maximum thickness limitations, etc.

NOTE The thickness used in the final structure is the nominal thickness plus or minus any tolerance allowed by this standard.

3.26**Purchaser**

The owner or the owner's designated agent, such as an engineering contractor.

3.27**Purchaser's option**

A choice to be selected by the Purchaser and indicated on the Data Sheet. When the Purchaser specifies an option covered by an Annex, the Annex then becomes a requirement.

3.28**recommendation**

The criteria provide a good acceptable design and may be used at the option of the Purchaser and the Manufacturer.

3.29**requirement**

The criteria must be used unless the Purchaser and the Manufacturer agree upon a more stringent alternative design.

3.30**self-anchored tank**

Tanks that use the inherent stability of the self-weight of the tank and the stored product to resist overturning forces.

3.31**single-deck pontoon floating roof**

The outer periphery of the roof consists of closed-top pontoon compartments, with the inner section of the roof constructed of a single deck without flotation means.

3.32**thickened insert plate**

A steel plate that replaces part of a shell plate, with a nominal thickness that is greater than the nominal thickness of the adjoining material by more than 3 mm ($1/8$ in.).

3.33**Welding Terms**

The terms defined in 3.33.1 through 3.33.21 are commonly used welding terms mentioned in this standard. See 5.1.5.2 for descriptions of fusion-welded joints.

3.33.1**automatic welding**

Welding with equipment which performs the welding operation without adjustment of the controls by a welding operator. The equipment may or may not perform the loading and unloading of the work.

3.33.2**backing**

The material—metal, weld metal, carbon, granular flux, and so forth—that backs up the joint during welding to facilitate obtaining a sound weld at the root.

3.33.3**base metal**

The metal or alloy that is welded or cut.

3.33.4**depth of fusion**

The distance that fusion extends into the base metal from the surface melted during welding.

3.33.5**filler metal**

Metal or alloy to be added in making a weld.

3.33.6**fusion**

The melting together of filler metal and base metal, or the melting of base metal only, which results in coalescence.

3.33.7**heat-affected zone**

The portion of the base metal that has not been melted but whose mechanical properties or microstructures have been altered by the heat of welding or cutting.

3.33.8**joint penetration**

The minimum depth a groove weld extends from its face into a joint, exclusive of reinforcement.

3.33.9**lap joint**

A joint between two overlapping members. An overlap is the protrusion of weld metal beyond the bond at the toe of the weld.

3.33.10**machine welding**

Welding with equipment that performs the welding operation under constant observation and control of a welding operator. The equipment may or may not perform the loading and unloading of the work.

3.33.11**manual welding**

Welding wherein the entire welding operation is performed and controlled by hand.

3.33.12**oxygen cutting**

A group of cutting processes wherein the severing of metals is effected by means of the chemical reaction of oxygen with the base metal at elevated temperatures. In case of oxidation-resistant metals, the reaction is facilitated by the use of a flux.

3.33.13**porosity**

The existence of gas pockets or voids in metal.

3.33.14**reinforcement of weld**

Weld metal on the face of a groove weld in excess of the metal necessary for the specified weld size.

3.33.15**semiautomatic arc welding**

Arc welding with equipment that controls only the filler metal feed. The advance of the welding is manually controlled.

3.33.16**slag inclusion**

Nonmetallic solid material entrapped in weld metal or between weld metal and base metal.

3.33.17**undercut**

A groove melted into the base metal adjacent to the toe of a weld and left unfilled by weld metal.

3.33.18**weld metal**

The portion of a weld that has been melted during welding.

3.33.19**welded joint**

A union of two or more members produced by the application of a welding process.

3.33.20**welder**

One who performs manual or semiautomatic welding.

3.33.21**welding operator**

One who operates automatic or machine welding equipment.