

## NFPA 22 (2013) Anti-Vortex Plate Specifications

This document is intended to provide a basic reference for rainwater collection systems which may be used entirely, or in-part, for fire protection purposes. You should not rely solely on this document for the design or implementation of a water supply system for use in a fire protection or fire suppression system. The best source for official information for your system is your local fire department. Most fire departments will provide you with a written specification or standard if you request one.

*NOTICE: An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.*

### Anti-vortex Plate Assembly Specification

*From Page 42 (22-39):*

#### **14.2.13\* Anti-Vortex Plate Assembly.**

**14.2.13.1** The discharge outlet for every suction tank shall be equipped with an anti-vortex plate assembly.

**14.2.13.2\*** The assembly shall consist of a horizontal steel plate that is at least twice the diameter of the outlet on a long radius elbow fitting, where required, mounted at the outlet a distance above the bottom of the tank equal to one-half the diameter of the discharge pipe.

**14.2.13.3** The minimum distance above the bottom of the tank shall be 6 in. (152 mm).

*From Annex A Page 67 (22-64):*

**A.14.2.13** See Figure B.1(o), Figure B.1(p), and Figure B.1(q).

**A.14.2.13.2** Large, standard size anti-vortex plates [48 in. × 48 in. (1219 mm × 1219 mm)] are desirable, as they are adequate for all sizes of pump suction pipes normally used. Smaller plates may be used; however, they should comply with 14.2.13.

### Anti-vortex Plate Inspection Requirement

*From Annex A Page 60 (22-57):*

#### **17.11 Anti-Vortex Plate Inspection.**

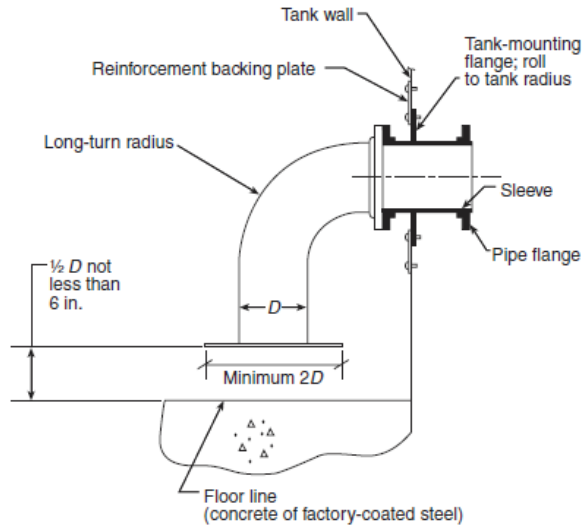
**17.11.1** After completion of the tank construction, and before filling the tank with water, the anti-vortex plate shall be inspected.

**17.11.2** The inspection shall verify that the horizontal steel plate and long radius elbow meet the requirements of 14.2.13.2 and are installed in accordance with 14.2.13.3.

**17.11.3** The inspection results shall be included in the written report specified in 17.1.2.

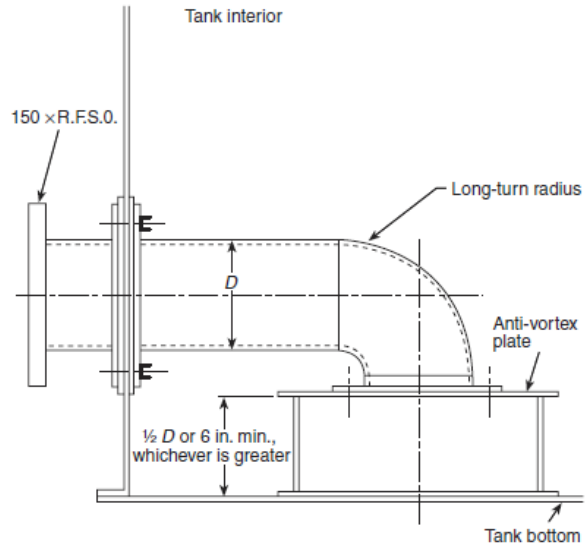
### **Anti-vortex Plate Illustration:**

*From Annex B Page 82 (22-79):*



For SI units, 1 in. = 25.4 mm.

**FIGURE B.1(p)** Typical Suction Nozzle with Anti-Vortex Plate for Lap-Jointed Bolted Tanks. (See A.14.2.13.2.)



For SI units, 1 in. = 25.4 mm.

**FIGURE B.1(q)** Typical Suction Nozzle with Anti-Vortex Plate for Flange-Jointed Bolted Steel Tanks. (See A.14.2.13.2.)