

CODE TOPICS

2017 FBC 6th ED, SECTION 454.2, RESIDENTIAL POOLS

SUCTION OUTLET COVERS

TOPIC BACKGROUND

There are widely varying pool drain suction outlet covers with many code related characteristics that should be considered when making a selection and decision about installations in your pool or spa.

WHAT THE CODE SAYS

ANSI/APSP/ICC-7 2013, Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins, says:

The following standards contain provisions that, through reference in this text, constitute provisions of this standard.

ANSI/APSP-16 2011, Suction fittings for swimming and wading pools, spas, hot tubs and whirlpool bathtub appliances¹

ANSI/ASME A112.19.17-2010, Manufactured safety vacuum release systems (SVRS) for residential and commercial swimming pool, spa, hot tub and wading pool suction systems²

Those two standards define the testing and listing of Suction Outlet Fitting Assemblies (SOFAs) which means at times there is more than the drain cover that is part of the suction outlet. All such products are stamped with the testing standard, and the life of the product. There is also reference to the type of sump below the SOFA that was part of the testing/listing. The listing show the approved flow stated as a “FLOOR” or “WALL” maximum flow.

ANSI 7 defines the method of determining the **maximum flow** of your system, typically done by a detailed TDH calculation.

REQUIRED AT PLAN REVIEW

The SOFA selected should be shown on the plan and or in the ANSI 7 site specific documentation, including the product sheet showing the approved flow. The ANSI 7 maximum flow of the system is to be compared to the approved product flows whether used in the floor or wall. DO NOT base compliance on the flow determined for ANSI 15 compliance. Notice that the SOFAs will have either (1) a manufactured sump body specified, (2) expect the ASME Field Build Sump to be constructed, or (3) a lessor approved sump distance from suction pipe to the cover.

REQUIRED DURING INSPECTION

- At the STEEL inspection only the suction piping may be visible, either the dual or single suction lines sized based on the ANSI 7 documentation in the permit. The manufactured sump or channel drain should be visible.
- At the DECK inspection and if not verified at STEEL, the suction outlet SUMP should be examined and compared to the ANSI 7 SOFA contained in the permit. If an ASME Field Build Sump is to be constructed, ensure the sump is deep enough for the 1.5 pipe diameter clearance from the suction cover. For example, if suction is a 3” line, the top of that pipe must be 4.5” below the cover. This may also be viewed at the pre-final safety inspection.
- At FINAL inspection, ensure the suction outlet covers expected in the permit package are installed.

If there is a change from the plan where a different cover is used or there is a sidewall suction that wasn’t on the plan, a detailed evaluation needs to be conducted to ensure suction entrapment safety.

