



U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C. 20207
March 21, 2002

Raul Rodriquez, AIA, Chair
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4440 Ponce De Leon Boulevard
Coral Gables, FL 33148

Dear Mr. Rodriquez:

The staff of the U. S. Consumer Product Safety Commission (CPSC) has received several inquiries regarding the use of atmospheric vent piping to relieve suction entrapment. We are concerned that the atmospheric vent arrangement referenced on the National Spa and Pool Institute (NSPI) web-site (www.nspi.org), with reference to Region VII (Florida www.fpsaonline.org), may have been accepted without consideration of all possible applications. For example, there is no mention of the pool water depth at the drain location. The CPSC staff is concerned that in wading pools, where small children have access to the main drain, or in deep pools this particular vent arrangement may not provide protection from suction entrapment.

The CPSC staff has worked closely with NSPI in developing standards, promoting pool and spa safety, and disseminating information relating to pool hazards. The CPSC supports layers of protection to address pool hazards. For suction entrapment, these layers would include hydraulically balanced multiple main drains, certified main drain covers, and a safety vacuum release system (SVRS) that either vents to atmosphere, shuts off the pump or both. The CPSC staff has been active with the ASTM International F15.51 subcommittee on SVRS, which includes representatives from NSPI and manufacturers, to develop a test protocol for manufactured SVRS. The objective of the standard is to provide criteria and procedures that can be applied uniformly to any manufactured SVRS within the scope of the standard. This means that manufactured vent systems can be considered for suction relief provided they are correctly designed and tested under various conditions with acceptable results. In the case of field-fabricated SVRS/vent systems, the conditions are site specific and not necessarily repeatable or appropriate at other sites (e.g. diving well vs. wading pool).

CPSC staff has also learned of drawings depicting the main drain fitted with an insert kit and plumbed to the pool skimmer. We have two concerns with this approach. First, the kit is intended to provide entrapment relief in the case of a missing main drain cover. The special drain cover holds the 'flapper' in an open position until the cover is removed. Once the cover is removed, the 'flapper' covers the suction outlet and prevents suction at the main drain. The flapper does not prevent a body from becoming entrapped on the main drain while the cover is attached.

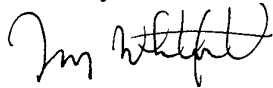
The second concern is with the proposed plumbing of the main drain line to a second suction line in the skimmer. As long as the skimmer remains operational, it may act as a second drain with a similar head to the main drain if it is plumbed as drawn.

However, skimmers are designed to catch debris and may become clogged, which would leave the main drain as the sole source of suction. If the water level drops below the skimmer, the additional suction line then becomes a vent line where the depth of the pool becomes an issue. We also question the feasibility of ensuring that the plumbing of this configuration in the field provides a hydraulically balanced dual main drain effect. Without test data to support the configuration shown in the drawing, it is not clear that the skimmer line will provide enough 'relief' to release an entrapped body from the main drain.

The CPSC staff respectfully requests that the Florida Department of Health, and/or the Florida Building Commission, reconsider the decision approving field fabricated atmospheric vent systems to address swimming pool suction entrapment. We believe that the use of the insert kit as an approved alternative to an SVRS is inappropriate without supporting test data. Similar to atmospheric vents, correct plumbing is required if the device is to provide relief.

The above discussion represents the views of the CPSC staff and has not been reviewed or approved by the Commission. Please feel free to contact me if you need additional information or would like to discuss this issue. I can be reached by e-mail at twhitfield@cpsc.gov or by phone at 301-504-0494 x1318

Sincerely,



Troy Whitfield
Mechanical Engineer
Directorate for Engineering Sciences

Cc: Jon Bednerik, Florida Pool and Spa Association
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