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Barrier Type Floor Drain Trap Seal Protection Devices

Section I

1.0 General

1.1 Application

This standard establishes physical requirements, performance requirements, and test procedures for barrier type floor drain trap seal protection devices (herein referred to as the “device”). These devices are designed to help protect the floor drain trap seal of floor drains that comply with ANSI/ASME A112.6.3 by minimizing evaporation.

The purpose of this device is to minimize the evaporation of the trap seal for the floor drain. The device will open to allow the flow of drainage and close when there is no flow.

1.2 Scope

1.2.1 Description

The device shall consist of a membrane that allows the flow of drainage to enter the plumbing drainage system. The device shall close when there is no flow.

1.2.2 Size

The device shall be sized according to the outlet size of the floor drain. Sizes shall include 1½ NPS through 6 NPS (40 DN through 150 DN).

1.2.3 Flow Capacity

The device shall permit the flow of drainage as stipulated in Table 1 of this standard.

Table 1
Minimum Flow Rate Through Floor Drains

Floor Drain Size		Flow Rate	
NPS	DN	GPM	L/m
1 ½	40	6.0	22.7
2	50	12.0	45.4
3	80	34.0	128.7
4	100	73.0	276.4
5	125	132.0	499.8
6	150	215.0	814.0

Note: The minimum flow rates are based on drainage piping flowing one half full flow with a roughness coefficient (n) of 0.011 and a pitch of 1/4 inch per foot using the Manning Formula.

1.2.4 Rating

The device shall be rated for the type of floor or floor finish in which the floor drain can be installed. Devices intended for use in floor drains receiving the discharge of grease-laden waste shall be rated for grease-laden waste.

1.3 Construction

1.3.1 Function

The device shall open when there is a maximum of 4 ounces (113.4 g) of water on the inlet to the device, and shall close when there is no flow of wastewater into the device.

1.3.2 Evaporation

The device shall pass the evaporation test described in Section 3.2 of this standard.

1.3.3 Obstruction of Flow

To prevent the collection of waste solids, the opening passageway in the device shall not have any sharp edges or protrusions which will obstruct the flow to the drainage system or result in stoppages. The device shall not obstruct access to the interior of the floor drain trap.

1.3.4 Connections Within Floor Drain

The device shall connect within a floor drain that conforms to ANSI/ASME A112.6.3.

1.4 Reference Documents

Referenced industry standards shall be to the latest edition.