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Performance Requirements for Stack Air Admittance Valves for Sanitary Drainage Systems

Section I

1.0 General

1.1 Application

Stack Air Admittance Valves (AAVs) for Sanitary Drainage Systems (herein referred to as “device”) are devices used in plumbing drainage systems to prevent the siphonage of water trap seals. These devices do not relieve back pressure; they only allow air to enter the system. These devices are designed to be installed on stacks where branches on multiple floors are connected. When these devices are installed in a building, there shall be at least one (1) open vent terminal to relieve positive pressure which extends to the atmosphere outside of the building serving the building drain on which these devices are installed.

1.2 Scope

1.2.1 Description

These devices consist of a one-way valve designed to allow air to enter the plumbing drainage system when a pressure less than atmospheric develops. The device closes and seals by gravity under zero (0) differential pressure (static condition) and under positive pressure. These devices prevent sewer gases from entering a building. The device consists of a hooded or shielded body which contains a movable sealing assembly which seats and seals air flow when closed and allows air to enter when open.

1.2.2 Temperature Range

These devices shall function at temperatures from -40.0°F to 150.0°F (-40.0°C to 65.6°C).

1.2.3 Rating

These devices shall, at a minimum, pass the required volume of air according to Table 1 at -1.0 inch (-25.4 mm) water column.

Table 1

Stack AAV Capacity Requirements at 1.0 Inch (25.4 mm) of Water					
Drainage Stack Pipe Size		Minimum Airflow Requirement		Maximum DFU's	
IPS inches	DN mm	CFM	L/s	Total for stack of 3 branch intervals or less	Total for stack greater than 3 branch intervals
1½	40	4.0	1.9	4	8
2	50	8.0	3.8	10	24
2½	65	12.0	5.7	20	42
3.0	75	23.0	10.9	48	72
4.0	100	47.0	22.2	240	500