



December 11, 2013

REVISED COPY

IPS CORPORATION
STUDER INCORPORATED
RONNIE SAULSBERRY
202 INDUSTRIAL PARK LANE
COLLIERVILLE TN 38017-2700

STUDOR, INC
IPS CORP.
STEVEN COLE
500 DISTRIBUTION PARKWAY
COLLIERVILLE TN 38017-2992

Re: Description: AIR ADMITTANCE VALVES, ALTERNATE PLUMBING SYSTEM
Manufacturer: STUDOR, INC
Product Name: CHEM-VENT AIR ADMITTANCE VALVE
Model Number(s): 1 1/2" or 2"
Product File No: 20110324

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters SPS 382 through 384, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an alternate approval to s. SPS 382.31 (3) (a) based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of October 2016.

This alternate approval is contingent upon compliance with the following stipulation(s):

- Prior to testing an Air Admittance Valve (AAV), the test device (manometers, joints and test stands) shall be calibrated with a minimum 6 - inch piece of pipe with a solvent welded cap connected to the testing device.
- The AAV shall be tested prior to or after installation using the following test:

The AAV shall be subjected to a pressure equal to 1 inch of water column. After observing for 1 minute, if the pressure falls .5 of an inch or less, it will be considered a passing AAV.
- AAVs that have failed the test and have been returned will be subject to re-testing by _____ or its designee, conducted under observation by NSF International, at the manufacturing facility.
- The AAV must be installed in accordance with the manufacturer's printed instructions, system approval, plan approval, and Wis. Adm. Code. If there is a conflict between the manufacturer's instructions and the plan approval, system approval or Wis. Adm. Code, the Wis. Adm. Code plan approval and system approval will take precedence.
- The AAV must be installed in the vertical position (plus or minus 15 degrees from plumb).
- The vent system being served by the AAV may have horizontal offsets located less than 36 inches above the floor on which the fixtures are installed providing the vent does not connect to another vent.
- The AAV may serve a pumped-discharge type clothes washer standpipe when the fixture drain downstream of the point of vent is at least 3 inch diameter.

- The AAV must be located:
 - a minimum of 4 inches above the top of the horizontal pipe being served (see note a),
 - no more than 20 inches below the flood rim of any fixture served by this product (see note a),
 - at least 6 inches above insulation materials (see note a),
 - in an accessible area,
 - within a ventilated space that allows air to enter the product and has an opening with an area of at least one-inch to the building air or outside air,
 - in accordance with s. SPS 382.31 (9), Wis. Adm. Code,
 - with at least one open air vent located downstream of all air admittance valves extending to outside atmosphere,
and
 - with a 3 inch or larger vent installed to the atmosphere in all systems that include air admittance valves installation

Note a: The distance is measured from termination of the vent pipe to the point noted in the stipulation.

- Branches which have fixtures served by the AAV must comply with all of the following:
 - When connected to a stack which has four (4) or more branch intervals above the branch connection, the branch must be provided with a relief vent located between most downstream fixture and the stack, and
 - The branch must not connect to any horizontal drain within 20 pipe diameters downstream of the base of a two- inch or larger drain stack.
- The AAV may only serve as a termination point for a:
 - branch vent,
 - circuit vent,
 - common vent,
 - individual vent,
 - wet vent or
 - combination drain and vent system.
- This product must be located and the system sized in accordance with Table 1.

Maximum Drainage Fixture Units Served (see note a)	Maximum Developed Distance of Vent to Connection of Air Admittance Valve		
	1-1/4" Vent Diameter	1-1/2" Vent Diameter	2" Vent Diameter
1	35	NL (see note b)	NL
3	28	140	NL
6	NP (see note c)	100	200

Notes: a: Drainage Fixture Units based on ch. SPS 382, Wis. Adm. Code
 b: NL means no limit
 c: NP means not permitted

- The AAV may not be located in any of the following areas:
 - an enclosed stairwell,
 - an area subject to positive pressure conditions for more than 12 continuous hours,
 - an area utilized as supply or return air plenum,
 - a pit, vault or depression which is below the adjacent grade or floor level, or
 - an area that subjects the valve to conditions with grease or other materials which could cause fouling of the valve's seal.

- The AAV may not serve as a vent termination point for any of the following:
 - vents installed to relief positive pressures,
 - vents serving chemical waste system,
 - vents serving POWTS holding tank or POWTS treatment tank,
 - a stack vent serving two (2) or more branch intervals,
 - a vent stack that is required in accordance with s. SPS 382.31 (4) (a),
 - a vent serving a sump, or
 - a vent system serving Bio Safety Lab (BSL) 3 or 4 laboratories.
- This AAV may not be located within the same room or enclosure as a:
 - Bio Safety Lab (BSL) 3 and 4 laboratory,
 - health care facility as defined in s. SPS 381.01 (116), Wis. Adm. Code,
 - restaurant kitchen licensed by the state or local department of health,
 - residential bedroom or
 - daycare
- Notice to Owner:
When an AAV is installed in a building, the owner shall be provided with a copy of the manufacturer's written AAV description by the contractor.
- The manufacturer of this product has indicated to this department the material's suitability for the concentrations of chemicals involved at the temperatures listed below.

CHEMICAL / MAXIMUM TEMP. in FAHRENHEIT

Acetaldehyde / 70 F
Acetamide / 70 F
Acetic Acid, 10% / 180 F
Acetic Acid, 20% / 180 F
Acetic Acid, 50% / 180 F
Acetic Acid, 80% / 70 F
Acetic Acid, Glacial / 70 F
Acetone / 70 F
Acetophenone / 70 F
Acetylene / 70 F
Adipic 105 Acid / 150 F
Alcohol Allyl / 70 F
Alcohol Amyl / 70 F
Alcohol Benzyl / 150 F
Alcohol, Butyl, Primary / 180 F
Alcohol, Butyl, Secondary / 180 F
Alcohol, Diacetone / 70 F
Alcohol, Ethyl / 180 F
Alcohol, Isopropyl / 70 F
Alcohol, Methyl / 180 F
Alcohol, Propyl / 70 F
Alum / 180 F
Alum, Ammonium / 180 F
Alum, Potassium / 180 F
Aluminum Chloride / 180 F
Aluminum Fluoride / 180 F
Aluminum Hydroxide / 180 F
Aluminum Nitrate / 180 F
Aluminum Sulfate / 180 F
Aluminum Phosphate / 180 F
Ammonia Gas, Dry / 150 F
Ammonia, Aqua, 10% / 150 F

Ammonia, Liquid / 150 F
Ammonium, Acetate / 150 F
Ammonium Carbonate / 180 F
Ammonium Chloride / 150 F
Ammonium Fluoride, 10% / 180 F
Ammonium Hydroxide / 180 F
Ammonium Nitrate / 180 F
Ammonium Phosphate / 180 F
Ammonium Sulfate / 180 F
Ammonium Sulfide / 180 F
Aniline / 150 F
Antimony Trichloride / 70 F
Arsenic Acid / 70 F
Barium Carbonate / 180 F
Barium Chloride / 180 F
Barium Hydroxide, 10% / 180 F
Barium Sulfate / 180 F
Barium Sulfide / 180 F
Beer / 180 F
Beet Sugar Liquors / 180 F
Benzaldehyde, 10% / 70 F
Benzyl Alcohol / 70 F
Bleach, 12.5%, Active Cl₂ / 70 F
Borax / 70 F
Boric Acid / 180 F
Brine Acid / 150 F
Butyl Alcohol / 70 F
Butyric Acid, 25% / 70 F
Calcium Carbonate / 180 F
Calcium Chloride / 180 F
Calcium Hydroxide, 50% / 180 F
Calcium Hypochlorite / 70 F
Calcium Nitrate / 180 F
Calcium Sulfate / 180 F
Cane Sugar Liquors / 180 F
Carbon Dioxide, Dry / 70 F
Carbon Monoxide / 150 F
Carbonic Acid / 180 F
Castor Oil / 70 F
Cellosolve / 70 F
Chloracetic Acid, Conc. / 70 F
Citric Acid / 150 F
Coconut Oil / 70 F
Copper Carbonate / 180 F
Copper Chloride / 150 F
Copper Cyanide / 150 F
Copper Fluoride / 150 F
Copper Nitrate / 150 F
Copper Salts / 150 F
Copper Sulfate / 150 F
Cottonseed Oil / 70 F
Cupric Sulfate / 70 F
Cyclohexanone / 70 F
Detergents / 150 F
Detergent Solution (Heavy Duty) / 150 F
Diacetone Alcohol / 70 F
Dimethylamine / 70 F
Dioxane / 70 F
Disodium Phosphate / 180 F

Ethyl Acetate / 70 F
Ethyl Alcohol / 150 F
Ethylene Chlorhydrin / 70 F
Ethylene Diamine / 70 F
Ethylene Glycol / 150 F
Ferric Chloride / 180 F
Ferric Nitrate / 180 F
Ferric Sulfate / 180 F
Ferrous Nitrate / 180 F
Ferrous Sulfate / 180 F
Fluoboric Acid / 70 F
Fluosilicic Acid / 70 F
Formaldehyde, 35% / 150 F
Formaldehyde, 37% / 70 F
Formaldehyde, 50% / 70 F
Formic Acid (Anhydrous) / 150 F
Formic Acid / 150 F
Freon F-12 / 70 F
Freon F-22 / 70 F
Gallic Acid / 70 F
Gelatin / 180 F
Glucose / 180 F
Glue / 70 F
Glycerine, Glycerol / 180 F
Glycols / 70 F
Green Liquor / 150 F
Hexane / 70 F
Hydrobromic Acid, 20% / 150 F
Hydrobromic Acid, 50% / 70 F
Hydrochloric Acid, 20% / 70 F
Hydrocyanic Acid / 150 F
Hydrocyanic Acid, 10% / 70 F
Hydrofluoric Acid, Dilute / 70 F
Hydrofluoric Acid, 30% / 70 F
Hydrofluoric Acid, 40% / 70 F
Hydrofluoric Acid, 50% / 70 F
Hydrofluosilicic Acid / 70 F
Hydrogen / 70 F
Hydrogen Sulfide Dry / 150 F
Hydrogen Sulfide Ag Sol / 70 F
Hypochlorous Acid, 10% / 70 F
Hypochlorous Acid, 50% / 70 F
Iodine Solution, 10% / 70 F
Isopropyl Alcohol / 180 F
Lactic Acid, 25% / 70 F
Lead Acetate / 180 F
Lime Sulfur / 150 F
Linoleic Acid / 180 F
Lye / 70 F
Magnesium Carbonate / 150 F
Magnesium Chloride / 180 F
Maleic Acid / 70 F
Malic Acid / 70 F
Mercuric Chloride / 180 F
Mercuric Cyanide / 180 F
Mercury / 150 F
Methyl Cellosolve / 70 F
Methyl Ethyl Ketone / 70 F
Methyl Isobutyl Ketone / 70 F

Methyl Salicylate / 70 F
Milk / 180 F
Molasses / 150 F
Monothanolamine / 70 F
Nickel Chloride / 180 F
Nickel Nitrate / 180 F
Nickel Salt / 180 F
Nickel Sulfate / 180 F
Nitric Acid, 10% / 70 F
Nitric Acid, 30% / 70 F
Oxalic Acid, 50% / 150 F
Perchloric Acid, 10% / 70 F
Perchloric Acid, 70% / 70 F
Phosphoric Acid, 10% / 180 F
Phosphoric Acid, 50% / 180 F
Phosphoric Acid, 85% / 70 F
Phosphorus, Pentoxide / 70 F
Picric Acid / 70 F
Plating Solutions, Brass / 150 F
Plating Solutions, Cadmium / 150 F
Plating Solutions, Chrome / 150 F
Plating Solutions, Copper / 150 F
Plating Solutions, Gold / 150 F
Plating Solutions, Lead / 150 F
Plating Solutions, Nickel / 150 F
Plating Solutions, Silver / 150 F
Plating Solutions, Tin / 150 F
Plating Solutions, Zinc / 150 F
Polyvinyl Acetate / 70 F
Potassium Aluminm Sulfate / 180 F
Potassium Borate / 70 F
Potassium Bromate / 70 F
Potassium Bromide / 180 F
Potassium Carbonate / 180 F
Potassium Chlorate, Aqueous / 70 F
Potassium Chloride / 180 F
Potassium Chlorate / 70 F
Potassium Cyanide / 180 F
Potassium Dichromate / 180 F
Potassium Ferricyanide / 70 F
Potassium Ferrocyanide / 180 F
Potassium Hydroxide / 180 F
Potassium Hydroxide, 25% / 180 F
Potassium Iodide / 70 F
Potassium Nitrate / 150 F
Potassium Perchlorate / 70 F
Potassium Permanganate, 10% / 150 F
Potassium Permanganate, 25% / 70 F
Potassium Persulfate / 150 F
Potassium Sulfate / 180 F
Propyl Alcohol / 70 F
Pyridine / 70 F
Silicone Oil / 150 F
Silver Cyanide / 180 F
Silver Nitrate / 180 F
Soaps / 150 F
Soap Solutions / 180 F
Sodium Acetate / 180 F
Sodium Benzoate / 180 F

Sodium Bicarbonate / 180 F
Sodium Bisulfate / 180 F
Sodium Bisulfite / 180 F
Sodium Borate / 70 F
Sodium Bromide / 180 F
Sodium Carbonate / 180 F
Sodium Chlorate / 70 F
Sodium Chloride / 180 F
Sodium Chlorite / 150 F
Sodium Cyanide / 180 F
Sodium Hydroxide, 15% / 180 F
Sodium Hydroxide, 30% / 180 F
Sodium Hydroxide, 50% / 70 F
Sodium Hypochlorite / 70 F
Sodium Metaphosphate / 150 F
Sodium Nitrate / 180 F
Sodium Perborate / 180 F
Sodium Peroxide / 180 F
Sodium Phosphate, Alkaline / 180 F
Sodium Phosphate, Acid / 180 F
Sodium Phosphate, Neutral / 180 F
Sodium Silicate / 180 F
Sodium Sulfate / 180 F
Sodium Sulfide / 180 F
Sodium Sulfite / 180 F
Sodium Thiosulfate / 180 F
Stannic Chloride / 150 F
Stannous Chloride / 180 F
Stearic Acid / 70 F
Sulfite Liquors / 70 F
Sulfur Dioxide, Dry / 70 F
Sulfur Dioxide, Wet / 70 F
Sulfuric Acid, 10% / 70 F
Sulfuric Acid, 30% / 70 F
Sulfuric Acid, 50% / 70 F
Sulfurous Acid / 70 F
Tannic Acid / 180 F
Tartaric Acid / 70 F
Tributyl Phosphate / 70 F
Trichloroacetic Acid / 70 F
Triethanolamine / 70 F
Urea / 180 F
Urine / 180 F
Vinegar / 150 F
Vinegar, White / 150 F
Water / 180 F
Water, Demineralized / 150 F
Water, Distilled or Fresh / 180 F
Water, Potable / 180 F
Water, Sale / 180 F
Water, Sea / 180 F
Whiskey / 150 F
Wines / 150 F
Zinc Chloride / 180 F
Zinc Nitrate / 180 F
Zinc Sulfate / 180 F

- This product may only serve chemical waste systems installed in educational facilities that serve up to and including 12th grade.

- When the chemical waste drain system discharges into a dilution or neutralizing basin through a submerged inlet, a chemical waste vent extending to atmosphere must connect to the chemical drain system downstream of all fixtures served by the chemical waste drain system. The vent must be sized based on the number of drainage fixture units discharging in to the basin.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Jerry Thompson
Plumbing Product Reviewer
Phone: 608-266-6742
Fax: 608-267-9566
E-mail: jerry.thompson@wi.gov