

Part 1. General

1.1.1 Summary

- A. Furnish a piping system including pipe, and related fittings, for ventilation at low pressure. Associated pipe joining equipment is also included.

1.1.2 References

- A. The following standards apply to products used within this section:
 ASTM D1598
 ASTM D1599
 ASTM D2122
 ASTM D2837
 ASTM D2657
 ASTM D4101
 ASTM D3222
- B. The system design shall meet the requirements of ASME/ANSI B31.3 for design criteria where temperature and pressure fall within the limits of that code.

1.1.3 Definitions

Pro-Vent Pipe --- Ventilation piping; extruded pipe constructed in a continuous profile. Rolling of sheet is not acceptable.
 Pro-Vent Fittings ---- Elbows, reducers, tees, laterals, dampers, couplings, slip caps, flanges and accessories.

1.1.4 System Description

System shall be a single wall piping system of uniform materials and pressure rating as specified below. System product pipe shall be capable of transporting stated media under continuous exposure for 25 years.

1.2 System Performance Requirements

System shall handle the following operating conditions:

| | Product Pipe |
|-----------------------|--------------|
| Operating Pressure | |
| Operating Temperature | |
| Test Pressure | |
| Media | |

1.2.1

1.2.2 Submittals

Submit the following:

- A. Product data for each type of pipe and/or fitting specified including details of construction relative to materials, dimensions of individual components, profiles, and finishes.
- B. Product certificates signed by manufacturer of product stating compliance with stated requirements (optional)
- C. Welder certificates certifying that welders comply with the installation procedures as outlined by ASTM D 2657 Section 8 prior to construction.
- D. Qualifications of firms supplying ventilation piping and/or fittings. Firms must have a minimum of 5 years experience in the design, installation and operation of a thermoplastic piping system.
- E. Due to the nature of the use of this product for ventilation, the design and installation may require Factory Mutual (FM) approval. FM approval will require the use of an internal sprinkler head system.

1.2.3 Quality Assurance

- A. Obtain components from a single source having responsibility and accountability to answer and resolve problems regarding proper installation, compatibility, performance and acceptance.
- B. Design, fabricate and install ventilation piping to meet ASME/ANSI B31.3. Where applicable the engineering firm shall provide thermal stress analysis demonstrating the ability of the ventilation piping system to handle the stated piping conditions. The manufacturer or Design Engineer should be consulted for the proper location of clamps to keep the system in place if necessary.

1.2.4 Delivery, Storage and Handling

- A. Deliver ventilation piping as a factory assembled unit with protective wrapping/coverings.
- B. Store products on elevated platforms in a dry location with protection from elements.

C. Lift, support, and transport ventilation piping per manufacturer’s recommendations.

1.2.5 Warranty
Warranty period is one year after date of substantial completion of installation.

1.2.6 Extra Materials
Turn over to owner, at end of construction, necessary welding equipment as suggested by manufacturer for repair and maintenance of the ventilation product.

Part 2. Products

2.1 Manufacturers
Subject to the compliance with requirements and products that may be incorporated into the work include Pro-Vent by Asahi/America, Inc., of Lawrence, Massachusetts, 1-800-343-3618.

2.2 Materials
A. Pipe shall meet the requirements for a Type I homopolymer polypropylene material according to ASTM D 4101

B. Fabricated fittings shall be made from the same pipe as listed in 2.2A. Fittings, such as flanges or couplings shall be produced from sheet material made from the homopolymer polypropylene resin. Where available molded fittings up to 20” shall be utilized over fabricated fittings. Molded fittings shall be produced from Type II copolymer resin.

2.3 Pressure Rating Pipes
Pipes shall conform to requirements for establishing a hydrostatic design basis.

The product pipe shall have characteristics at 68°F for diameter sizes as follows:

| Pipe Size* | SDR | Pressure rating |
|-------------------------|------|-----------------|
| 4” to 56” Vent Grade | VENT | 6” W.C. |

2.4 Pressure Rated Fittings
Molded fittings shall meet requirements of the pipe as indicated in 2.3

2.5 Fabricated Fittings
Fabricated fittings shall meet requirements of the pipe as indicated in 2.3

Consult factory for ratings on non published fittings.

2.6 Damper and Butterfly Valves
All damper and butterfly valves shall be manufactured from materials compatible with the pipe and fittings as specified. All dampers shall have a multiple position handle that is fixed at each position.

2.7 Flanges
All flanges shall be per EN 1506 vent bolt hole pattern. Alternately flanges can be adapted to ANSI 150# B16.5.

2.8 Unlisted Components
Any special fittings, welded areas, etc. not supplied as part of the normal product offering shall be classified as unlisted components. Products falling into this category shall be rated by the manufacturer.

2.9 Pipe Supports
Supports, guides, etc. for the pipe shall be of a design that does not scratch, puncture or wear the pipe.
Support spacing shall be per the manufacturers written specifications.

Part 3. Execution

3.1 Installation
A. Install ventilation piping to comply with manufacturer’s recommended procedures. All pipe and fitting joints shall be done using butt fusion. Welding parameters shall be according to Asahi America Inc. of Malden, MA printed recommendations.

Alternately, all pipe and fitting joints shall be accomplished using couplings and either hot gas welding or extrusion welding.

B. Installers shall be pre-qualified through sufficient training in hot air and extrusion welding as needed.

C. Manufacturer and/or Manufacturer’s Representative shall hired by the installing contractor to provide on-site training in the assembly, installation, and operation of ventilation systems.

3.2 Testing

Testing shall be conducted in accordance with manufacturer's recommendations. The owner shall be notified at the time of test and can choose to be present.