



Standard Specification for Baffle Walls

1 Scope

- 1.1 This specification shall govern all work necessary to furnish fiberglass Baffle Walls including all anchorage hardware required for proper installation of the system components.

2 General

- 2.1 The contractor will furnish and install baffle walls as specified below and as indicated on the contract drawings. The work to be done includes labor, materials, equipment, and services required for the construction of proposed baffle walls and all other items necessary, including columns, for the construction of the baffle wall.

2.2 Design Criteria

Baffle Walls shall be designed to sustain the following load combinations in accordance with ANSI/ASCE 7-98:

- 2.2.1 Panel Loading: The panels shall be designed to support the following loading:
- a. Lateral load: Panels shall be designed to withstand 4 to 6 inches differential head of water between both sides of the panel with a minimum safety factor of 4:1 and an L/D ratio of 240 to 360. Certified calculations must be submitted for review and approval prior to manufacture of the baffle walls.
 - b. Vertical Load: The panels shall be designed to carry 20.8 to 31.2 pounds per foot load along the length of the baffle with a safety factor of 4:1. The baffles shall not bow, crush, or deflect to a point that causes permanent deformation or failure. Stiffener plates may be installed to increase strength as required.
 - c. Wind Loading – The baffle system shall be designed to withstand a wind load that is area specific per ANSI/ASCE 7-98 and have a minimum safety factor of 4:1 and an L/D ratio of 240 to 360 for the baffle panels.

2.2.2 Column loading: Columns shall be designed to support all the loading transferred to it by the baffle assembly within allowable stress and deflection limitations, The column shall have a minimum L/D ratio of 240 to 360.

3 Materials

3.1 All materials shall be new and shall be specifically designed or selected for the function and service specified. No material may be used in the project that has not been approved by the engineer.

3.2 Panel Requirements

Panels shall be designed and supplied by Fiberglass Fabricators, Inc., Box 17068, 964 Douglas Pike, Smithfield, RI 02917, Tel (401) 231-3552 or approved equal with a 23-5/8 inch width and 3-inch nominal height. The thickness shall be 3/16".

3.3 Resin Requirements

Resin shall be as required for the use intended. Panels can be polyester, vinyl ester, fire-retardant, or NSF 61 approved. Color shall be olive-green.

3.4 Hardware

All fasteners shall be 316 SS.

3.5 Ultraviolet Resistance

Ultraviolet protection is required through a stabilizer in the resin system and a polyester veil on the exterior surface of the part.

3.6 Laminate Minimum Physical Properties

Baffle panels shall be produced from continuous pultrusion process. Minimum physical properties for the product shall conform to those presented in Table 1 below:

Table 1. Laminate Minimum Physical Properties

Property @ 70°F	Value	Test Method
Tensile Strength	42,000 psi	ASTM D638
Flexural Strength	32,000 psi	ASTM D790
Flexural Modulus	1.5 x 10 ⁶ psi	
water absorption	.25%	ASTM D570
Izod Impact	25 ft-lbs/in	ASTM D256
Compressive Strength	50,000 psi	ASTM D695
Modulus of Elasticity	2.5 x 10 ⁶ psi	

4 Submittals

4.1 Final approval for incorporation into the project will be made only after the review of shop drawings, specifications, and data as follows:

- a. Shop drawings complete with all dimensions, details of connecting piping, and the size and location of any required openings.
- b. Specifications for all components.
- c. Details of the major fabricated components showing the arrangement of components and labeled with member sizes and materials of construction.
- d. Structural calculations for all components.
- e. Manufacturer's recommended procedures for jobsite storage of equipment, handling, and erection.

4.2 Design Calculations

As part of the shop drawings for all components, the fabricator must supply any and all analyses pertinent to the composite design. A complete analysis of stresses and deflection due to differential pressure loading will be submitted. Engineering calculations must be signed by a registered professional engineer in the state of Rhode Island.

5 Quality Assurance

5.1 Qualifications

Supplier shall have a minimum of five (5) years of history of successful installations of similar design. Past job list with customer contact information will be supplied if required.

5.2 Manufacturer's Quality Control

All fabrication shall be carefully inspected at the factory by inspectors who shall use whatever means necessary to assure the proper fit of all field connections and compliance with all material and fabrication requirements of the specifications.

5.3 Warranty

Manufacturer shall warrant the Baffle Wall to be free of defects in materials and workmanship for a minimum of one (1) year after installation with a maximum of eighteen (18) months from date of shipment.

5.4 The contractor shall be responsible for verifying all field dimensions to develop and approve shop drawings.

6 Manufacture

6.1 Materials, equipment, and components in this section shall be the products of:

Fiberglass Fabricators, Incorporated
P.O. Box 17068
964 Douglas Pike
Smithfield, RI 02917

6.2 The manufacturer shall be ISO 9001 certified and maintain a continuous quality control program. Certified Test Reports consisting of the mechanical and physical tests listed in section 3.5, Table 1 shall be maintained.

7 Installation, Storage, Handling, and Maintenance

7.1 The manufacturer shall provide detailed written instructions for the installation, long term storage, handling, and maintenance for the products provided.