



Fiberglass Fabricators, Incorporated

Standard Specification for Weirs and Baffles

1 Scope

- 1.1 This specification shall govern all work necessary to finish fiberglass weir plates, scum baffles, mounting brackets, lap plates and cover washers. Fabrication shall be in strict compliance with the American Water Works Association procedures set forth in standard ANSI/AWWA F102-96.

2 General (Reference Drawing W-001 attached)

- 2.1 The contractor shall furnish and install fiberglass weir plates, scum baffle plates, and scum baffle supports as shown on the plans. Included shall be necessary butt and splice plates at each weir and baffle plate joint to prevent short circuiting. Necessary fiberglass washers and stainless steel mounting hardware shall also be included. All hardware shall be type 316 stainless steel unless otherwise specified by the engineers.

3 Materials

3.1 Resin Requirements

The resin shall be a commercial-grade polyester thermosetting resin, which has been determined to be acceptable for the service conditions. The resin shall contain no fillers or additives except as follows:

- a. A thixotropic agent may be added for viscosity control.
- b. Pigments shall be light stable, not soluble in water, and compatible with the resin. Typical color shall be blue-green.

3.2 Glass Reinforcement

The reinforcing materials used shall be Type E glass mat, with chrome or silane finish and a styrene-soluble binder compatible with the resin. Surfacing veil shall be Type C veil, with styrene-soluble binder compatible with the resin.

3.3 Ultraviolet Resistance

Ultraviolet stabilizers are required in all laminates exposed to ultraviolet light, whether it be in the form of pigmentation or ultraviolet absorbers.

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3.4 Laminate Minimum Physical Properties

Minimum physical properties for the product shall conform to those presented in Table 1 below:

Table 1. Laminate Minimum Physical Properties

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Property @ 70 ⁰ F	Value	Test Method
Tensile Strength	14,000 psi	ASTM D 638
Flexural Strength	25,000 psi	ASTM D 790
Flexural Modulus	900,000 psi	ASTM D 790
Barcol Hardness	35 Min	ASTM D 2583
Izod Notch Impact	13	ASTM D 256
Glass Content	30%	ASTM D 2584
Water Absorption	.2% Max	ASTM D 570
Coefficient of Linear Thermal Expansion (in/in/ ⁰ F) - Molded	3.6 x 10 ⁻⁶	ASTM D 696

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. Manufacturer's recommended procedures for jobsite storage of equipment, handling, and erection.

4.2 Design Criteria

4.2.1 **Dimensions** - The dimensional criteria included in this specification is based on existing tooling and practice, which have become the industry standard.

- a. Weir plates shall be a nominal 1/4 inch thick and shall have 90 degree V-notches, rectangular notches, or shall be flat crested (straight edge). For 2 inch deep V-notches, the weir plate shall be 9 inches wide. For 3 inch deep V-notches, the weir plate shall be 10 inches wide. Flat crested weir plates shall be straight, varying not more than +/- 1/32 inch in 12 feet of length. Other sizes may be produced with agreement between purchaser and manufacturer.

- b. Weir plates shall be provided with 2-5/8 inch diameter holes (or slots) for mounting hardware. For curved walls, these holes shall be located a maximum of 24 inches on center. For straight walls, holes shall be located a maximum of 12 inches on center. The holes shall provide a minimum of two inches vertical and horizontal adjustment. Weir plate slots for mounting to troughs shall be 1/16 inch wider than the bolts, and shall provide for a minimum adjustment of ± 1 inch after allowing for the diameter of the attachment bolt.
- c. Weir plates shall be secured to the walls by anchor bolts and 5 inch diameter fiberglass washers over holes in weir to prevent short circuiting. The ends of the weir plates shall be covered by 6 inch wide butt plates, arranged to allow for horizontal expansion.
- d. Scum baffle plates shall be a nominal 1/4 inch thick by 12 inches wide. Mounting holes shall be counter-sunk to a depth that allows the flat head bolts to be flush or below the surface. Spacing of holes for mounting brackets shall be a maximum of 48 inches for curved walls, and a maximum of 24 inches for straight walls.
- e. Scum baffle mounting brackets shall have a width of not less than 3 inches, a base length of not less than 6 inches, and a depth of not less than 6 inches. Brackets shall be fabricated from fiberglass-reinforced material with a nominal thickness of 1/4 inch.
- f. All weir plates and baffle plates shall be of standard length not to exceed 12 feet with closure plates made to length at the factory. Final laminate thickness shall be $\pm 10\%$ of the nominal specified thickness.

4.2.2 **Finish and Appearance** - All weir plates and baffle plates shall have uniform, smooth, resin rich surfaces and shall be free of voids and porosity, without dry spots, crazes or unreinforced areas. All plates shall have a glass content of 30%, $\pm 2\%$.

5 Quality Assurance

5.1 Qualifications

Contractor 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 Weirs & Baffles 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.Manufacture

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

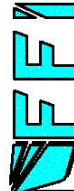
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5.6 Manufacturing Procedures

The matched-die molding process shall be used to produce fiberglass-reinforced plastic molded parts with smooth resin-rich surfaces and edges, dimensional accuracy, and consistency. Weir plate notches shall be molded within dies to ensure resin-rich edges and notches for increased corrosion and weather resistance. Weir plates and scum baffle plates produced from fabricated plate stock with cut edges and notches will not be acceptable. All cut edges shall be sanded and sealed with non-air-inhibited resin to ensure edges are completely sealed and to prevent water and chemicals from penetrating the laminate.

6 Installation, Storage, Handling, and Maintenance

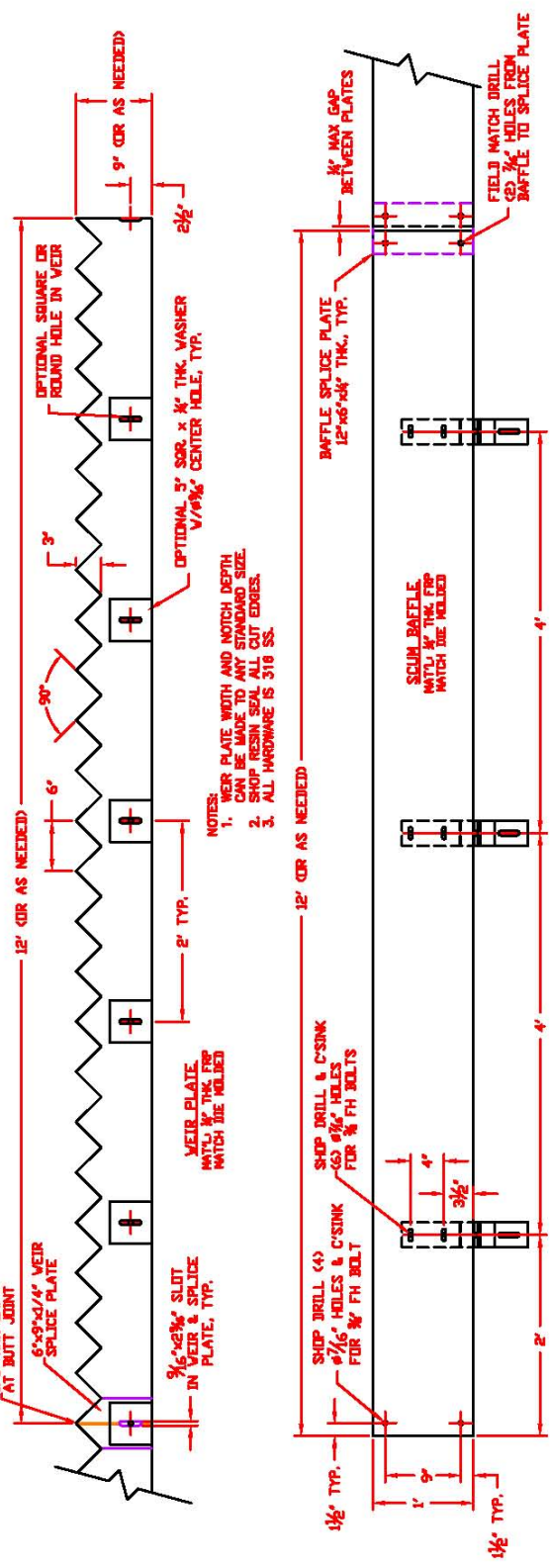
6.1 The manufacturer shall provide detailed written instructions for the installation, long term storage, handling, and maintenance for the products provided.



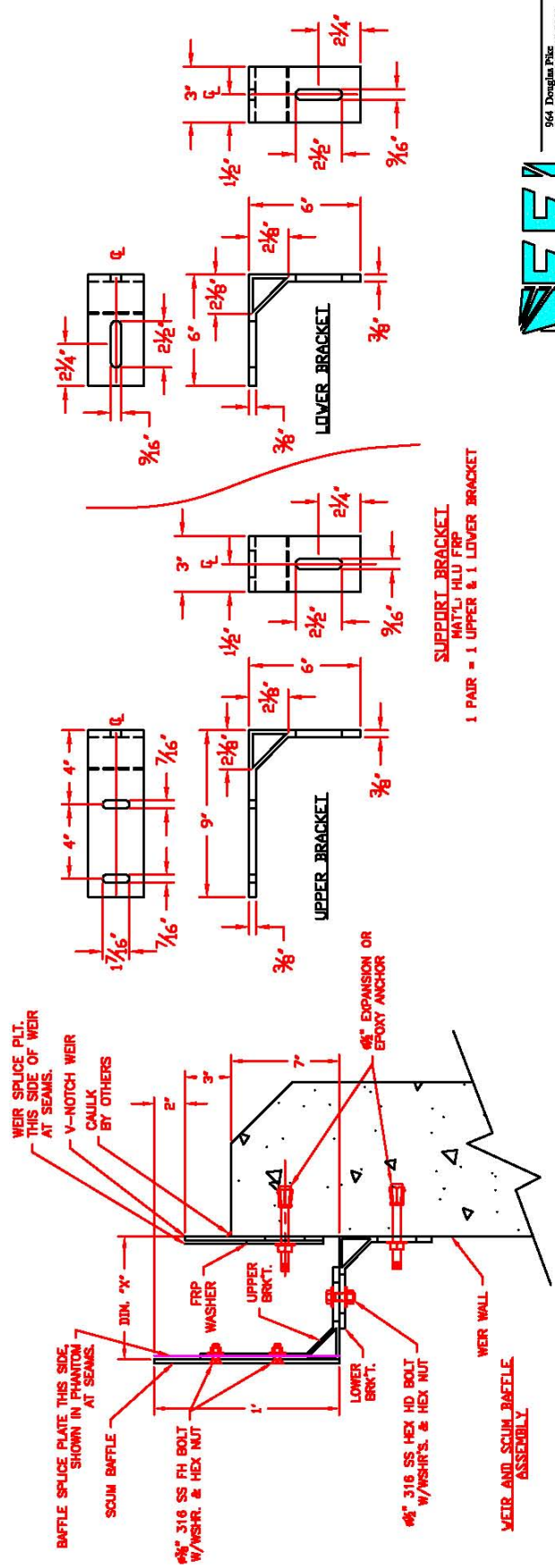
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FRP WEIRS & BAFFLES
 DRAWING NO. W-001
 DATE: 09-19-14

REV. B



- NOTES:
1. WEIR PLATE WIDTH AND NOTCH DEPTH CAN BE MADE TO ANY STANDARD SIZE. SHOP RESIN SEAL ALL CUT EDGES.
 2. SHOP RESIN SEAL ALL CUT EDGES.
 3. ALL HARDWARE IS 316 SS.



SUPPORT BRACKET
 MATERIAL: FRP
 1 PAIR = 1 UPPER & 1 LOWER BRACKET

- SAMPLE MOUNTING DETAIL
1. SUPPORT BRACKET ASSEMBLY IS VERTICALLY ADJUSTABLE ± 1".
 2. BAFFLE IS HORIZONTALLY ADJUSTABLE ± 1/8".
 3. DIMENSION "X" IS ADJUSTABLE FROM 6" TO 9 1/2".
 4. WEIR IS VERTICALLY ADJUSTABLE ± 1".