

FRP WEIRS AND SCUM BAFFLES

Revised 7-26-2024

PART 1 GENERAL

1.1. SUBMITTALS

A. Shop Drawings

- i. Manufacturer's catalog information, descriptive literature, specifications, and identification of materials of construction, including resins and glass fiber content and layout for FRP constructions.
- ii. Detailed drawings that show equipment fabrication dimensional layouts, bill of materials, bolt and anchor locations, method of attachment including number, locations, and size of fasteners, and shall be based on field measurements by the Contractor to ensure proper installation.

B. Quality Control Submittals

- i. Manufacturer's Certificate of Compliance.
- ii. Special shipping, storage and protection and handling instructions.
- iii. Manufacturer's written/printed installation instructions.
- iv. Test reports of the physical and mechanical properties of the product. Each panel shall have the following minimum physical properties:

<u>Property</u>	<u>Test</u>	<u>Minimum Value</u>
Tensile Strength	ASTM D-638	19,400 psi
Flexural Strength	ASTM D-790	28,500 psi
Flexural Modulus	ASTM D-790	1,550,000 psi
Barcol Hardness	ASTM D-2853	57.8
Water Absorption	ASTM D-570	0.157%

1.2. WARRANTY

- A. The manufacturer shall warrant the weirs and scum baffles to be free of defects in materials and workmanship for a period of one year after the date of Substantial Completion.

1.3. COORDINATION

- A. Manufacturer shall coordinate the weir and scum baffle design and installation requirements with the clarifier mechanism, scum box and launder effluent channel configurations.

PART 2 PRODUCTS

2.1. MANUFACTURERS

- A. The weirs and scum baffles in this section shall be the products of:
 - i. National Manufacturing Water Treatment Products 7870 West Ridge Road Unit #9 Fairview PA 16415 dvorse@nationalcomposites.com
 - ii. Manufacturer and supplier to supply a performance bond.
 - iii. The manufacturer of products shall be ISO 9001 certified.
 - iv. FRP products must be completely manufactured in the U.S.A.
 - v. Supplier of FRP material shall be the manufacturer of the FRP material.

2.2. FRP WEIRS AND SCUM BAFFLES

- A. Except for bolts and hardware specified herein, the weirs, scum baffles and supports shall be polyester plastic resin, reinforced with glass fiber. All weir plates, weir washers, weir splice plates, scum baffle panels, scum baffle splice plates and baffle support brackets shall be fiberglass reinforced plastic molded to produce uniform smooth surfaces. The surface shall be resin rich, free of voids and porosity, without dry spots, crazes or unreinforced areas and shall provide for increased corrosion resistance and UV protection. The weirs and scum baffles shall be National Manufacturing Water Treatment Products Aqua in color.
- B. The weir plates, splice plates and weir washers shall be 1/4" thick plastic laminate. Weir plates shall not exceed 16' in length unless otherwise noted. The specific dimensions of the weirs and scum baffles shall be as shown in the drawings. Oversized mounting holes in the weir plates shall be provided for vertical and horizontal alignment of at least 2" with 5" diameter FRP weir washers to cover the holes. The weirs shall be mounted with 1/2" x 3 3/4" stainless steel expansion anchors 2' on center for curved runs and 1' on center for straight runs. Cut ends of non-standard lengths shall be resin coated.
- C. Scum baffle panels and splice plates shall be 1/4" thick plastic laminate. The scum baffle panels shall be 12" high and shall not exceed 16' in length unless otherwise noted. Flanged scum baffle plates with a 3/4" turn back top and bottom are also available. Splice plates shall be 6" x 12".
- D. Baffle Support Brackets
 - i. Size: 1/4 inch thick, 3 inches wide.
 - i. Non-algae sweep tank design:
 - 1. Upper baffle support bracket; 6-inch x 9 inch
 - 2. Lower baffle support bracket; 6-inch x 8 inch
 - ii. Algae sweep tank design:
 - 1. Upper "L" baffle support bracket design; 6-inch x 9 inch
 - 2. Lower baffle support bracket design; 6-inch x 8 inch
 - ii. Slotted to allow at least 1-1/2 inches vertical and horizontal adjustments.

- E. The brackets shall be installed on 4' centers. Fastening holes in the scum baffle panel shall have countersunk to accommodate flat head fasteners. Cut ends of non-standard lengths shall be resin sealed.
- F. Expansion anchors, nuts, bolts, washers, and other hardware shall be Type 304 or 316 stainless steel.

PART 3 EXECUTION

3.1. INSTALLATION

- A. The installation contractor shall field verify existing dimensions, install the weir, and scum baffle in accordance with the Contract Drawings, approved shop drawings and manufacturer's recommendations. Field cutting of panels shall be permitted to complete the structure. All field cut or drilled edges shall be resin sealed per the manufacturer's recommendations. All the fasteners required for installation will be supplied by the weir and scum baffle manufacturer.
- B. Weirs and scum baffles must be carefully aligned and leveled to the elevations shown on the drawings. In the completed installation, no variation greater than 1/8" shall exist between any two notches of the weir plate in any one tank. In addition, the average deviation from one quadrant of the weir to any other shall not exceed 1/16". The installation contractor shall apply a suitable sealant between the weir and the wall to prevent the flow of liquid between the weir and the tank wall.

END OF SECTION