

FIBERGLASS REINFORCED PLASTIC (FRP) DENSITY CURRENT BAFFLES

PART 1 GENERAL

1.1. SUMMARY

- A. This section includes fiberglass reinforced plastic (FRP) density current baffles for clarifiers, thickeners, or other applications as shown on the contract drawings.

1.2. QUALITY ASSURANCE

- A. The material covered by these specifications shall be furnished by a reputable and qualified manufacturer of proven ability that is regularly engaged in the manufacture and installation of FRP products.
- B. Fabricator shall be experienced in successfully producing FRP products specified for this project, with sufficient production capacity to produce required units without causing delay in the work.
- C. Fabricator shall provide a list of five (5) installations of comparable size in operation for at least three (3) years.

1.3 SUBMITTALS

- A. The following shall be submitted in accordance with the General and Special Provisions.
 - a. Shop Drawings
 - i. Dimensions
 - ii. Job specific layout
 - iii. Sectional assembly
 - iv. Locations and identification mark
 - v. Accessories, attachments, transition pieces
 - vi. Connection details
 - b. Manufacturer's catalog data showing:
 - i. Dimensions, spacing, and construction details
 - ii. Materials of construction
 - iii. Description
 - c. Certificates
 - i. Submit Manufacturer's certification that all materials furnished are in compliance with the applicable requirements of this specification
 - d. Manufacturer's Instructions
 - i. Submit complete information and instructions relating to storage, handling, installation, and inspection of all equipment related to this section.

1.4 SHIPPING AND STORAGE INSTRUCTIONS

- A. All FRP components shall be shop fabricated and assembled into the largest practical size suitable for shipping.

- B. The parts and assemblies that are shipped unassembled shall be packaged and tagged in a manner that will protect the equipment from damage and facilitate the final assembly in the field.
- C. All FRP materials shall be stored before, during, and after shipment in a manner to prevent cracking, twisting, bending, breaking, chipping or damage of any kind to the materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. The following manufacturer is named to establish a standard of quality necessary for the project:
 - a. MFG Construction and Water Products Company, 55 Fourth Ave., Union City, PA 16438
- B. Manufacturer and supplier of density baffles shall be NSF 61 Certified and listed on the NSF website as a certified manufacturer.
 - a. When a project is NSF61 Certified all drawings and shipping documents shall be stamped with the NSF61 logo.
- C. Manufacturer and supplier to supply a performance bond.
- D. Manufacturer of products shall be ISO 9001 certified.
- E. All FRP products shall be manufactured entirely in the United States.
- F. Supplier of FRP material shall be the manufacturer and the FRP material.

2.2 DENSITY CURRENT BAFFLES

- A. Material: Fiberglass reinforced isophthalic polyester resin contact-molded composite laminate; the surfaces shall have a gel-coat resin finish, gel-coat to contain the ultraviolet inhibitor. All cut edges shall be sealed with polyester resin.
 - a. Baffle thickness to be determined by the depth of the baffle.
- 1. Glass Type E with silane finish
- 2. Adequate contact molding pressure ensures complete resin wet-out of glass fibers.
- 3. Fiberglass fiber weight, nominal 25 percent.
- 4. Physical Properties:
 - a. Tensile Strength (ASTM D-638): 18,500 psi
 - b. Flexural Strength (ASTM D-790): 27,900 psi
 - c. Flexural Modulus (ASTM D-790): 1,080,000 psi
 - d. Izod, Notched (ASTM D-256): 15.4 ft-lb/in
 - e. Barcol Hardness, ASTM D2583: 40
 - f. Water Absorption, ASTM D 570: .13 percent
- 5. Meets ANSI/AWWA F101 property requirements.
- 6. Color: MFG Construction and Water Products Company Aqua.

7. Baffle panels should not to exceed 12'-0" in length.
8. Integral molded 3/8-inch top edge mounting flange 6 inches in height with pre-drilled holes to accommodate anchors for mounting to tank walls or bolts for mounting to FRP or metal trough.
9. Integral molded 90 degree bottom flange 3 inches in height and the full length of the baffle panel.
10. Baffle face slopes 45 degrees from circular tank vertical wall or at an angle determined by specific project requirements.
11. Baffle panels straight for rectangular tanks and curved for round tanks, curved according to the tank radius shown on drawings.
12. Manufacturer supplies pre-drilled holes on one panel side for in field drilling of holes through holes into adjoining baffle panel for final "ship-lap" connection.
13. All cut edges and drilled holes to be resin coated with manufacturer's sealant.
14. Baffles with integral molded end supports are not acceptable.
15. Mounting Fasteners: 3/8 inch diameter wedge anchor bolts with 2 1/2" diameter FRP washers and 1/4" fasteners of Type 304 or 316 stainless steel.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Baffle panel dimensions require verification and project site conditions must be suitable for installation. Unsatisfactory site conditions must be corrected before product installation.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions, approved shop drawings and in true and proper alignment.
- B. Adjust panels per contract documents or as directed by the site Engineer.
- C. When necessary to adjust lengths of baffle panels due to field conditions and when approved by the site Engineer, seal cut or machined edges thus exposed with manufacturers supplied sealant. Excessive cutting will not be acceptable.

3.3 ADJUST AND CLEAN

- A. Surfaces to be cleaned according to manufacturer's instructions.
- B. Remove excess materials of construction and trash to leave site in a clean condition for subsequent operation.

END OF SECTION