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## Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, contained in the *CSI Manual of Practice*.

The section must be carefully reviewed and edited by the Engineer to meet the requirements of the project. Coordinate this section with other specification sections and the drawings.

Delete all "Specifier Notes" when editing this section.

## SECTION 11205

### FRP DENSITY CURRENT BAFFLES

Specifier Notes: This section covers MFG Water Treatment Products Company FRP density current baffles. Consult MFG Water Treatment Products Company for assistance in editing this section for the specific application.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. FRP density current baffles.

##### 1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- A. Section 11200 - Water Supply and Treatment Equipment.
- B. Section 11201 - Troughs.
- C. Section 11204 - Weir Plates and Scum Baffles.
- D. Section 11300 - Fluid Waste Treatment and Disposal Equipment.

### 1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- A. ANSI/AWWA F101 - Contact-Molded, Fiberglass-Reinforced Plastic Wash Water Troughs and Launderers.
- B. ANSI/NSF 61 - Drinking Water System Components - Health Effects.
- C. ASTM D 256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
- D. ASTM D 570 - Standard Test Method for Water Absorption of Plastics.
- E. ASTM D 618 - Standard Practice for Conditioning Plastics for Testing.
- F. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
- G. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- H. ASTM D 2583 - Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.

### 1.4 SUBMITTALS

- A. Comply with Section 01330 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including description and physical properties of fiberglass reinforced plastic laminate. Submit manufacturer's installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings showing plans, elevations, sections, and details of materials, components, structural supports, dimensions, tolerances, connections, attachments, adjustments, openings, mounting, fasteners, and anchors.
- D. Samples: Submit manufacturer's 6-inch square sample of fiberglass reinforced plastic laminate of same construction, nominal thickness, and color as density current baffles.
- E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

Specifier Notes: Use the following sentence when NSF certification is required.

- F. Product Certification: Submit proof of NSF labeled products.

### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site banded on skids or other suitable packaging for ease of handling and to minimize damage during shipping, with labels clearly identifying manufacturer.

- B. Storage: Store materials in clean, dry area in accordance with manufacturer's instructions.
- C. Handling: Protect materials from damage during handling and installation.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. MFG Water Treatment Products Company, 55 Fourth Avenue, PO Box 458, Union City, Pennsylvania 16438. Toll Free (877) 826-2509. Phone (814) 438-3959. Fax (814) 438-8538. Web Site [www.mfgwtp.com](http://www.mfgwtp.com).

### **2.2 FRP DENSITY CURRENT BAFFLES**

- A. Material:
  - 1. Fiberglass reinforced isophthalic polyester resin contact-molded composite laminate.
  - 2. Nominal Thickness: 3/16 inch.
  - 3. Gel-Coat Resin Finish: On all surfaces, contain ultraviolet inhibitor.
  - 4. Seal cut edges with polyester resin.
  - 5. Glass: Type E, random chopped with chrome or silane finish.
    - a. Binder: Compatible with resin.
    - b. Glass Strand Length: Minimum 1 inch.
  - 6. Adequate contact molding pressure to ensure complete resin wet-out of glass fibers.
  - 7. Color: Aqua. Color molded-in with ultraviolet inhibitor.
- B. Fiberglass Reinforced Plastic (FRP) Laminate Physical Properties:
  - 1. Tensile Strength, ASTM D 638: 12,000 psi.
  - 2. Flexural Strength, ASTM D 790: 19,000 psi.
  - 3. Flexural Modulus, ASTM D 790: 900,000 psi.
  - 4. Barcol Hardness, ASTM D 2583: 35.
  - 5. Notch Izod Impact, ASTM D 256: 13 ft-lbs/inch.
  - 6. Water Absorption, ASTM D 570: 0.2 percent.
  - 7. Test Coupon Preparation: ASTM D 618.
- C. Baffle Panels:
  - 1. Fabrication: Contact-molded fiberglass reinforced polyester resin composite laminate.
  - 2. Nominal Thickness: 3/16 inch.
  - 3. Gel-Coat: Minimum 15-mil thickness on both sides.
  - 4. Do not exceed 12'-0" in length.
  - 5. Embedded Steel Reinforcement: Contained in baffle panels to enable panel to support its own weight.
  - 6. Baffle Panels with Closed Ends or External Supports: Not acceptable.
  - 7. Top Edge Mounting Flange: Integral molded, 3/16 inch thick, 6 inches in height, with predrilled holes to accommodate anchors for mounting to tank walls.
  - 8. Bottom Flange Return: Integral molded, 90 degrees, 3/16 inch thick, 3 inches in width, full length of baffle panel.
  - 9. Baffle Face Slope: 45 degrees from circular tank vertical wall.
  - 10. Shape:
    - a. Rectangular Tanks: Straight baffle panels.
    - b. Round Tanks: Curved baffle panels, with curve according to tank radius indicated on the drawings.
  - 11. Factory Predrilled Slots: On 1 panel side for field drilling of holes through predrilled slots into adjoining baffle panel for final ship-lap connection.

D. Compliance:

Specifier Notes: Specify the required standards.

1. ANSI/AWWA F101, Type I.
2. ANSI/AWWA F101, Type II.
3. ANSI/NSF 61.

Specifier Notes: Specify Type 304 or Type 316 stainless steel mounting fasteners.

- E. Mounting Fasteners: [Type 304] [Type 316] stainless steel.
1. Wedge Anchor Bolts: 3/8-inch diameter.
  2. Fasteners: 1/4-inch diameter.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine areas to receive density current baffles.
- B. Verify field dimensions.
- C. Notify Engineer of conditions that would adversely affect installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

#### **3.2 INSTALLATION**

- A. Install density current baffles in accordance with manufacturer's instructions.
- B. Install density current baffles level and in true and proper alignment.
- C. Adjust density current baffles as directed by Engineer.
- D. Adjust lengths of baffle panels as necessary due to field conditions as approved by Engineer. Do not perform excessive cutting.
- E. Seal with manufacturer's sealant field cut edges and drilled holes.

**END OF SECTION**