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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 11207

FRP PARSHALL FLUMES

Specifier Notes: This section covers MFG Water Treatment Products Company FRP Parshall flumes. 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 Parshall flumes.

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 11208 - Metering Manholes.

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, anchors, and assembly hardware.
- D. Samples: Submit manufacturer's 6-inch square sample of fiberglass reinforced plastic laminate of same construction, nominal thickness, and color as Parshall flumes.
- 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.

2.2 FRP PARSHALL FLUMES

- A. Material:
 - 1. Fiberglass reinforced isophthalic polyester resin contact-molded composite laminate.
 - 2. Nominal Thickness: As required by design.
 - 3. Inside Surface: Smooth gel-coat resin finish.
 - 4. Outside Surface: Gel-coat resin to seal exposed glass fibers.
 - 5. Cut Edges: Seal with polyester resin.
 - 6. Glass: Type E, random chopped with chrome or silane finish.
 - a. Binder: Compatible with resin.
 - b. Glass Strand Length: Minimum 1 inch.
 - 7. Color: Marine White. 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. Compliance:

Specifier Notes: Specify the required standards.

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

- D. Construction:

- 1. Fiberglass reinforced contact-molded composite structure.
- 2. Flumes with Throat Widths 60 Inches and Less: 1-piece.
- 3. Flumes with Throat Widths Over 60 Inches: Provide in sections and field assemble.
- 4. Necessary reinforcing to make structure self-supporting.
- 5. Sizes: As indicated on the drawings.
- 6. Staff Gauge:
 - a. Integrally molded-in flume side wall with flush fit.
 - b. Graduations: In feet with 100 divisions per foot.

Specifier Notes: Specify optional float well and integral stilling well if required.

7. Float Well: Inlet and outlet connections with 2-inch NPT.
8. Integral Stilling Well: Same materials as flume.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive Parshall flumes.
- 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 Parshall flumes in accordance with manufacturer's instructions.
- B. Install Parshall flumes plumb, level, square, in true and proper alignment, and without warp or twist.
- C. Position Parshall flumes at elevations as indicated on the drawings.
- D. Install temporary internal bracing to prevent deflection in opening of flow area when flumes are being encased in concrete.

END OF SECTION