FIBERGLASS REINFORCED PLASTIC DENSITY CURRENT BAFFLES

Revised 8-8-2024.

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 the 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.

1.3 SUBMITTALS

The following shall be submitted in accordance with the General and Special Provisions:

A. Shop Drawings
B. Dimensions
C. Job specific layout
D. Sectional assembly
E. Locations and identification mark
F. Accessories, attachments, transition pieces
G. Connection details

Manufacturer's catalog data showing:

A. Dimensions, spacing, and construction details.
B. Materials of construction
C. Description
D. Certificates
E. Submit Manufacturer's certification that all materials furnished are incompliance with the applicable requirements of the specification.
F. Manufacturer's Instructions
G. 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:

National Manufacturing Water Treatment Products 7870 West Ridge Road Fairview, PA 16415 dvorse@nationalcomposites.com

B. The manufacturer of products shall be ISO 9001 certified.
C. All FRP products shall be manufactured entirely in the United States.
D. Supplier of FRP material shall be the manufacturer of the FRP material.

2.2 DENSITY CURRENT BAFFLES

A. Material is made of fiberglass reinforced isophthalic polyester resin contact-molded composite laminate, the surfaces shall have a gelcoat finish, gelcoat to contain the ultraviolet light inhibitor. All cut edges shall be sealed with polyester resin or gelcoat.
B. Baffle thickness to be determined by the depth of the baffle.
C. Glass Type E with silane finish
D. Adequate contact molding pressure ensures complete resin wet-out of glass fibers.
E. Fiberglass fiber weight, nominal 25 percent.
F. 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
G. Meets ANSI/AWWA F101 property requirements.
H. Color: Aqua.
I. Baffle panels should not exceed 8’-0” in length.
J. 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.
K. Integral molded 90-degree bottom flange 3 inches in height and the full length of the baffle panel.

L. Baffle face slopes 45 degrees from circular tank vertical wall or at an angle determined by specific project requirements.
M. Baffle panels straight for rectangular tanks and curved for round tanks, curved according to the tank radius shown in the drawings.
N. The manufacturer supplies pre-drilled holes on one panel side for in field drilling of holes. Through holes into adjoining baffle panel for final “shiplap” connection. All cut edges and drilled holes to be resin coated with manufacturer’s sealant.
O. Baffles with integral molded end supports are not acceptable.
P. Mounting Fasteners 3/8-inch diameter wedge anchor bolts with 2 ½” diameter FRP washers and ¼” fasteners of Type 304 or 316 stainless steel.

PART 3 EXECUTION

3.1 EXAMINATION

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

Install in accordance with manufacturer’s instructions, approved shop drawings and in true and proper alignment. Adjust panels per contract documents or as directed by the site Engineer. 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

If surfaces must be cleaned, they must be cleaned according to manufacturer’s instructions. Remove excess materials of construction and trash to leave site in a clean condition for subsequent operation.

END OF SECTION