**Section 13200**

**FIBERGLASS WEIRS AND SCUM BAFFLES**

**PART 1 - GENERAL**

* 1. DESCRIPTION
1. Provide fiberglass weirs, baffles, and appurtenances as indicated and specified.
2. Weirs and scum baffles shall be the product of one manufacturer.
	1. REFERENCES
3. American Society for Testing and Materials (ASTM) Publications:
	1. D256: Test Methods for Impact Resistance of Plastics and Electrical Insulating Materials.
	2. D570: Test Method for Water Absorption of Plastics.
	3. D638: Test Method for Tensile Properties of Plastics.
	4. D790: Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

B. ANSI/AWWA F102 or machined from pultruded FRP plate.

* 1. SUBMITTALS
1. Shop Drawings: Submit the following in accordance with submittal procedures.
	1. Detailed and certified shop and installation drawings.
		1. Equipment Manufacturer shall submit electronic files of the proposed equipment in the capacity, size, and arrangement as indicated and specified.
		2. Electronic files shall conform to the following minimum requirements:
			1. Files shall be Auto Cad latest version.
			2. Files shall be submitted as part of the Shop Drawing review by the Engineer.
			3. Drawings shall include plan views, sectional views, title block, and details of all related items. In cases where certain information is Proprietary and is omitted, provided a statement indicating that the Information is proprietary and is being omitted.
			4. Files shall include Tag Names, Parts List (identifying each component), Dimensions, and connection sizes.
			5. Files shall be drawn to scale.
			6. Drawings shall be in conformance with all other requirements as specified herein.
2. Manufacture r's specification, catalog data and illustrations.
3. Certified setting plan, with tolerances, for anchor bolts.
4. Recommendations for short and long term storage.
5. Shop drawing data for accessory items.
6. Manufacturer' s literature as needed to supplement certified data.
7. Shop inspection reports.
8. Special tools.

1.04 DELIVERY, STORAGE AND HANDLING

A. Shipping:

1. Weir and baffle plates shall be tightly banded to skids or suitable packaged to prevent damage during handling and shipping. Fiberboard or plastic corners shall be placed at the edges under bands to prevent damage caused by bands cutting into the plastic material. Support brackets shall be placed in wooden boxes or fiberboard cartons of sufficient strength to prevent damage during handling and shipping.

* 1. SEISMIC DESIGN REQUIREMENTS
1. The Contractor shall conform to the seismic design requirements for this project and for the work of this specification section.
2. Provide all equipment bases, anchorage, supports and foundations designed in accordance with the seismic requirements indicated and specified.
3. Additionally, provide a Manufacturer's Equipment Certification form, a certification for all equipment signed by a registered structural engineer registered in the state where weirs and baffles will be installed, stating that computations were performed and that all components have been sized for the seismic forces specified and indicated.
	1. QUALITY CONTROL

A. Weirs and baffles shall be the product of one manufacturer.

1. Weirs and baffles shall be manufacturer's standard cataloged product and modified to provide compliance with the drawings, specifications and the service conditions specified and indicated.
2. Shop tests as specified.
3. Warranty: Provide a five (5) year warrantee from material and workmanship defects.
4. Coordination: Weirs and baffles manufacturer shall coordinate the fabrication of the weirs and baffles with the contractor and clarifier manufacturer in regards to the clarifier mechanism, scum collection and lauder and channel configurations.

#### PART 2. PRODUCTS

* 1. MANUFAC TURERS
1. RPS Engineering – Elgin, IL
	1. MATERIALS
2. Resin: Provide commercial-grade polyester or vinyl thermo setting resin, which has been determined to be acceptable for the service conditions. The resin shall contain no fiber or additives except as follows:
	1. A thixotropic agent may be added for viscosity control.

2. Pigment s shall be light stable, not soluble in water, and compatible with the resin. Typical color shall be blue-green.

1. A synthetic surface veil fabric shall encase the glass reinforcement.
2. Ultraviolet Resistance: Provide ultraviolet stabilizers in all laminates exposed to ultraviolet light, whether it is in the form of pigmentation or ultraviolet absorbers.
3. Each weir and baffle shall be match die molded or manufactured by the pultrusion process utilizing polyester resin (as required). A synthetic surface veil shall be the outermost layer covering the exterior surface.
4. Weirs and baffles shall possess the following typical coupon properties:

|  |  |  |  |
| --- | --- | --- | --- |
| **Properties** | **ASTM Test Method** | **Units** | **Value** |
| Tensile Strength | D638 | PSI | 45,000 |
|  |  | kPa | 3.10 x 104 |
|  |  |  |  |
| Flexural Strength | D790 | PSI | 32,000 |
|  |  | kPa | 2.2 x 104 |
|  |  |  |  |
| Flexural Modulus | D790 | PSI | 1.69 x 106 |
|  |  | kPa | 1.03 x 107 |
|  |  |  |  |
| Compressive Strength | D695 | PSI | 50,000 |
|  |  | kPa | 3.44 x 108 |
|  |  |  |  |
| IZOD Impact Strength | D756 | ft.lbs./in. | 25 |
|  |  | J/M | 1334 |

1. Hardware: Type 316 stainless steel and all hardware to be provided by the weir and scum baffle manufacturer.

PART 3 - EXECUTION

* 1. INSTALLATION

A. Install all items in accordance with the manufacturer' s printed instructions, as indicated and specified.

* 1. ERECTION
1. Set items accurately, and secure properly in place.
2. Install weirs and scum baffles with an adequate allowance for thermal expansion and contraction at the joints.
3. Accurately set embedded items using templates.
4. Set weir and scum baffles crests level to elevations indicated, or directed. Fill each tank with plant influent, and adjust plates for equal overflow levels.

END OF SECTION