

ENGINEERING SPECIFICATION
FIBERGRATE[®] FLAT LAUNDER COVERS

SECTION 11300

FIBERGLASS REINFORCED PLASTIC FLAT LAUNDER COVERS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The CONTRACTOR shall furnish, and install fiberglass reinforced plastic (FRP) Density Current Baffles with all appurtenances, accessories and incidentals necessary to produce a complete, operable and serviceable installation as shown on the Contract Drawings and as specified herein, and in accordance with the requirements of the Contract Documents.

1.2 REFERENCES

- A. The publications listed below (latest revision applicable) form a part of this specification to the extent referenced herein. The publications are referred to within the text by the designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) Test Methods:

ASTM D 638 Tensile Properties of Plastics

ASTM D 790 Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

ASTM D 2583 Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor

ASTM D 256 Pendulum Impact Resistance of Notched Specimens of Plastics

ASTM D 570 Water Absorption of Plastics

1.3 CONTRACTOR SUBMITTALS

- A. The CONTRACTOR shall furnish shop drawings of the Flat Launder Covers and accessories in accordance with the provisions of this Section.
- B. The CONTRACTOR shall furnish manufacturer's shop drawings clearly showing material sizes, types, styles, part or catalog numbers, complete details for the fabrication and erection of components including, but not limited to, location, lengths, type and sizes of fasteners, and connection details.
- C. The CONTRACTOR shall submit the manufacturer's published literature, corrosion resistance tables, certificates of compliance, test reports as applicable, and concrete anchor systems with their allowable load tables.
- D. The CONTRACTOR may be requested to submit sample pieces of each item specified herein for acceptance by the ENGINEER as to quality and color. Sample pieces shall be manufactured by the method to be used in the WORK.

1.4 QUALITY ASSURANCE

- A. All items to be provided under this Section shall be furnished only by manufacturers having a minimum of ten (10) years experience in the design and manufacture fiberglass reinforced plastic systems.
- B. Manufacturer shall offer a 3 year limited warranty on all FRP products against defects in materials and workmanship.
- C. Manufacturer shall be certified to the ISO 9001-2008 standard.

1.5 PRODUCT DELIVERY AND STORAGE

- A. Delivery of Materials: Manufactured materials shall be delivered in original, unbroken pallets, packages, containers, or bundles bearing the label of the manufacturer.
- B. Storage of Products: All materials shall be carefully handled to prevent them from abrasion, cracking, chipping, twisting, other deformations, and other types of damage. Adhesives, resins and their catalysts are to be stored in dry indoor storage facilities between 70 and 85 degrees Fahrenheit (21 to 29 degrees Celsius) until they are required.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Flat Launder Covers shall be Fibergrate[®] as manufactured by

Fibergrate Composite Structures Inc.
5151 Belt Line Road, Suite 1212
Dallas, Texas 75254-7028 USA
(800) 527-4043 Phone (972) 250-1530 Fax

Website: www.fibergrate.com
E-mail: info@fibergrate.com

2.2 GENERAL

- A. All FRP items furnished under this Section shall be composed of fiberglass reinforcement and resin in qualities, quantities, properties, arrangements and dimensions as necessary to meet the design requirements as specified in the Contract Documents.
- B. Fiberglass reinforcement shall be included in sufficient quantities as needed by the application and/or physical properties required.
- C. Resin system: The resin system used in the manufacture of the Launder Cover shall be a general purpose thermosetting polyester suitable for use in wastewater treatment applications. The resin should also contain UV stabilizers to reduce damage from UV light. Color to be blue green.
- D. A resin rich layer 0.01" – 0.02" in thickness, reinforced with a Type C surface veil shall be included on the upper surface of the Launder Cover.

- E. All finished surfaces of FRP items and fabrications shall be smooth, resin-rich, free of voids and without dry spots, cracks, crazes or unreinforced areas. All glass fibers shall be well covered with resin to protect against their exposure due to wear or weathering.
- F. All bolts and concrete anchors shall be manufactured of AISI 304 or 316 stainless steel.

2.3 LAUNDER COVERS

- A. The Launder Cover is to consist of a system of fixed sections and hinged lids to form a continuous cover over the launder, scum baffle, and weir of the tank. It is to be designed to shield this part of the treatment system from exposure to incident sunlight for the purpose of preventing unwanted biological activity in this portion of the process, contain odors, and prevent debris from entering the launder.
- B. The Launder Cover is to consist of fixed sections, rigidly mounted to the top of the launder wall and hinged lid sections to allow unhindered access for the purpose of maintaining the launder. The lids are to be hinged such that they open away from the operator, toward the center of the tank, via a continuous stainless steel hinges which attaches it to the fixed portion. A continuous FRP flange is to be mounted to the outer wall of the launder to support the hinged lids when they are in the closed position
- C. The hinged lids are to be a minimum of 4'-0" in length unless specifically detailed otherwise in the contract drawings. They are to be manufactured so that the edge of the lid which lies adjacent to the outer launder wall is cut to the same radius as the wall minus a gap of ¼" for clearance.
- D. The hinged lids are to consist of alternating sections, lids which are flat and equipped with a stainless steel lifting loop alternating with lids which are equipped with flanges which overlap the flat sections to insure that no sunlight can penetrate the gap between the lids. The flanged lids are to be equipped with a stainless steel latch which holds both it and the flat lids closed.
- E. All hinged lids are to be equipped with a stainless steel restraining device which limits the travel of the lid in the open position to prevent damage.
- F. The installed system is to be designed to resist code required wind and snow loads, but is not designed to be used as a walking surface.
- G. Substitutions: Other products of equal strength, stiffness, corrosion resistance, features, and overall quality may be submitted with the proper supporting data to the engineer for approval.

PART 3 - EXECUTION

3.1 INSPECTION

- A. The contractor shall field verify all existing dimensions and conditions and verify that they are suitable for installation of the Launder Cover. Any unsatisfactory site conditions are to be corrected prior to installation of the baffles.

- B. Shop inspection is authorized as required by the Owner and shall be at Owner's expense. If a shop inspection is required, the fabricator shall give ample notice to Contractor prior to the beginning of any fabrication work so that an inspection may be conducted.

3.2 INSTALLATION

- A. Contractor shall install the Launder Covers in accordance with manufacturer's drawings that have been released for construction by the owner. Fasten Launder Covers securely in place with using fasteners as specified herein.
- B. Install Launder Covers level and true without excessive twist or warp and within the tolerances specified by the manufacturer. Adjust as required to so that the finished installation provides for free movement of the hinged covers and insure that all latches and restraint devices operate properly.
- C. When required, field cut and drill fiberglass reinforced plastic products with carbide or diamond tipped bits and blades. Seal cut or drilled surfaces in accordance with manufacturer's instructions. Follow manufacturer's instructions when cutting or drilling fiberglass products or using resin products; provide adequate ventilation.