SECTION 06 5102

FIBERGLASS LAUNDER COVERS

PART 1- GENERAL

* 1. DESCRIPTION

A. Provide fiberglass launder covers and appurtenances as indicated and specified.

Please list all tanks where covers are required and clearly identify on the contract drawings provided:

1.

2.

3.

4.

* 1. REFERENCES
1. American Society for Testing and Materials (ASTM) Publication s:
	1. D256: Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
	2. 0570: Test Method for Water Absorption of Plastics
	3. D638: Test Method for Tensile Properties of Plastics
	4. D790: Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
	5. SEISMIC DESIGN REQUIREMENTS
2. The Contractor shall conform to the seismic design requirements for this project and for the work of this specification sect ion.
3. Provide all equipment bases, anchorage, supports and foundations designed in accordance with the seismic requirement s indicated and specified.

D. Additionally, provide a certification for all equipment signed by a registered structural engineer registered in the state where covers are installed, stating that computations were performed and that all components have been sized for the seismic forces specified and indicated. This certification is provided in the Manufacturer's Equipment Certification.

* 1. SUBMITTALS
1. Submit the following in accordance with submittal procedures.
	1. Certified shop and erection drawings. Contractor shall submit electronic files of the proposed equipment in the capacity, size, and arrangement as indicated and specified.
		1. Electronic files shall conform to the following minimum requirements:
2. Electronic Files: AutoCAD latest version, drawn to scale.
3. Submit electronic files as part of the Shop Drawing submittal.
4. Drawings shall include plan views, sectional views, title block, Tag Numbers, Parts List (identifying each component), dimensions, connection sizes and types and all 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.
5. Drawings shall be in conformance with all other requirements as specified in this specification.

2. Materials listing including resins and fiberglass content

3. Method of attachment, size of fasteners and weights of each section

4. Shop drawing data for accessory items.

1. Certified setting plans, with tolerances, for anchor bolts.
2. Listing of reference installations as specified with contact names and telephone numbers.
3. Shop and field inspection reports.
4. Shop test results: Certified test reports of the physical and mechanical properties as specified herein.
5. Recommendations for short and long-term storage.
6. Special tools.
7. Number of service person-days provided and per diem field service rate.
8. The latest ISO 9001 series certification or quality system plan.
	1. QUALITY CONTROL
9. Covers shall be the product of one manufacturer.
10. Covers shall be manufacturer's standard cataloged product and modified to provide compliance with the drawings, specifications and the service conditions specified and indicated.
11. Shop tests as specified.
12. Warranty: Provide a one (1) year warrantee from material and workmanship defects.
13. Coordination: Cover manufacturer shall coordinate the fabrication of the covers with the contractor and clarifier manufacturer in regards to the clarifier mechanism, scum collection and launder and channel configurations.

F. Contractor shall provide the services of the manufacturer’s representative for equipment installation, startup and training in accordance with manufactures certificates.

1. Provide the following certificates related to the supply, installation and operation of the equipment specified herein in accordance with manufactures certificates:
	1. Manufacturer's Equipment Certification
	2. Equipment Installation Certification
	3. Equipment Operation Warranty
	4. DELIVERY, STORAGE AND HANDLING
2. Provide in accordance with requirements.
3. Shipping:
	1. All systems, sub-systems and structures shall be shop fabricated and assembled into the largest practical size suitable for transporting.
	2. OPERATION AND MAINTENANCE MANUALS

A. Submit Operation and Maintenance Manuals as specified in close out submittal.

#### PART 2 - PRODUCTS

* 1. MANUFAC TURERS

A. RPS Engineering Elgin, Illinois 60123

* 1. COVERS
1. Provide the launder covers consisting of a system of molded fiberglass panels that are attached together to form a continuous cover over the launder trough, weir and scum baffle within the tank.
	1. Provide the cover extending over the trough and weir to a point immediately inside the scum baffle so long as the cover does not interfere with the sweep arm.
	2. Individual sections: fitted to follow the curvature of the tank.
2. Provide the cover designed such that adjacent panels fit together and the completed cover, when installed, forms a rigid structure.
3. Provide the covers designed and manufactured to inhibit incident sunlight from striking the surfaces of the launder and weir.
4. Provide each cover section molded of UV-protected fiberglass and opaque to sunlight.
5. Provide the cover designed to open away from or toward the operator as shown on contract drawings.
6. Covers shall be designed to be non-walkable unless otherwise specified.
7. Cover segment: Two sections, a fixed mounting section and a hinged cover section connected by a continuous Type 316 stainless steel hinge.
	1. Mounting Section: Provide a rigid mount for the cover and fastened to the weir wall with Type 316 stainless steel brackets and hardware as indicated.
		1. Provide the mounting section extending inward to a point just inboard the scum baffle.
	2. Cover Section: Hinged and extending outward or inward toward the tank wall to swing open to allow inspection and maintenance of the launder and weir. In the closed position, the Cover Section rests on an FRP support flange attached to the outer wall of the tank with “A” frame supports.
		1. Provide the hinged cover sections designed such that alternating sections have integral tabs at each side, which rest on the adjacent section, covering that the seams between panels and enabling the alternate panels to open independent of every other panel.
	3. Provide a latch mechanism that secures the hinged cover section to the support flange with integral lifting ring or handle.
8. Provide a means of limiting the travel of the hinged cover section, in the form of a restraint of Type 316 stainless steel cable.
9. Covers with inspection hatches or cleanout doors are not acceptable.
10. Provide covers to support the cover in such a manner that the panels are held in place, with the panels hinged to provide access to the launder and weir for inspection and maintenance.
11. Where the circumference of the trough is interrupted by a bridge-support or another obstacle, provide a fixed panel(s) over the trough beneath the support such that the surface of the cover is continuous around the entire tank.
12. Provide the cover system designed to withstand wind and snow loads for the plant location.
	1. Provide cover designed to support the weight of a 250-pound person. (W hen a walkable cover is required)
	2. Provide stiffeners as required integral to each panel, but panels reinforced with balsa or foam cores are not acceptable.

# MATERIALS

1. Fiberglass: Fiberglass reinforced poly resin composite laminate with UV stabilizer.
	1. Glass fiber content shall be minimum 50% by weight.
	2. Physical Properties:
		1. Tensile Strength (ASTM D-638) 30,000 psi
		2. Compressive Strength (ASTM D-695) 30,000 psi
		3. Flexural Strength (ASTM D-790) 30,000 psi
2. Fasteners: All fasteners shall be stainless steel or structural plastic. Fasteners on underside of cover shall be 316 stainless steel. Beams and panels shall be fastened to concrete using 316 stainless steel drill-in place anchor bolts.
3. Seals: A mechanical and replaceable neoprene bulb type seal shall isolate the cover perimeter from the concrete wall. No foam tape or caulk shall be allowed.
4. Access Hatch: Provide raised access panels where indicated. Access panels shall be pultruded FRP. Provide 316 stainless steel fasteners, hinges and hold open device.
5. Structural Supports: Wide flange or fabricated FRP structural beam. Resin vinyl ester with UV stabilizers. Provide at all hatches and pipe penetrations.

PART3 - EXECUTION

* 1. INSTALLATION

A. Install items in accordance with approved shop drawings, manufacturer's printed instruction s and as indicated.

1. Contractor to field verify dimensions prior to installing the covers.
2. Use factory drilled mounting holes. Field cutting of baffle panels will only be allowed as approved by the Engineer to complete the structure and accommodate in-tank obstructions.
3. Coat all field cut or drilled edges in accordance with the manufacturer's recommendations to prevent fiber blooming or fraying.
4. Provide adjacent baffle panels fastened together using 14-in bolts, 2 flat washers, lock washer, and hex nut. All hardware Type 316 stainless steel.
5. The covers shall extend completely around the tank and shall be level, rigid and free of sway that could work anchors loose or cause undue wear.
	1. CONTRACT CLOSEOUT

A. Provide in accordance with Section\_\_\_\_\_\_\_\_\_ CLOSEOUT PROCEDURES.

END OF SECTION