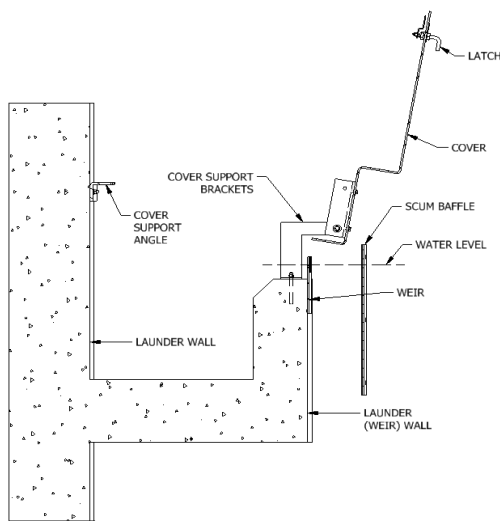


New Design: Launder Cover

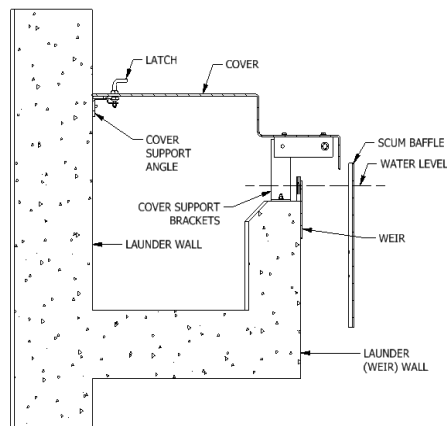
With a history of outstanding product performance, Enduro Composites has been a leader and innovator in the fiberglass clarifier industry for over 25 years, including the creation of our newest launder cover offering. Enduro's launder covers are custom designed for both round and rectangular tanks. Preventing algae growth, acting as a weather and debris barrier, and containing odor and gas emissions are a few of the valuable benefits to water and wastewater treatment operations.

New Design:

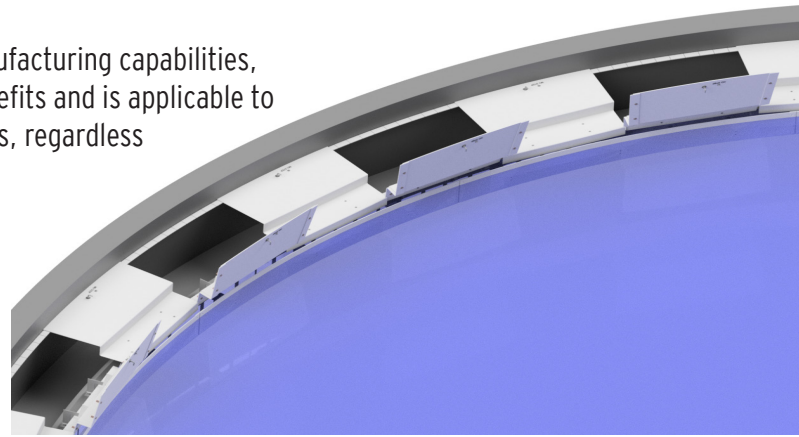
Designed and built through extensive experience and broad manufacturing capabilities, Enduro's enhanced launder cover system increases operator benefits and is applicable to a wide range of launder trough configurations that require covers, regardless of location within the plant's hydraulic profile.



Open Position



Closed Position



IMPROVED STRUCTURAL PERFORMANCE

A more rigid shape with better mechanical properties provides greater load capacity.

LIGHTER WEIGHT

Up to 20 percent less weight than industry standard and previous design.

LOWER INSTALLATION COSTS

The fully integral design reduces assembly efforts and quantity of parts to install.

BETTER OPERABILITY

The combination of improved structural performance and lighter weight enhances the serviceability for plant operators.

SPECIFICATIONS

FIBERGLASS REINFORCED PLASTIC LAUNDRY COVER

PART 1 GENERAL

1.1. Description of Work

A. The work covered by this section shall include materials and installation for the fiberglass reinforced plastic (FRP) Laundry Cover Panel System, which includes but is not limited to FRP Laundry Coverpanels, FRP or stainless steel support brackets, stainless steel fasteners and connections.

1.2. Design Criteria

A. The Laundry Cover shall consist of a system of molded fiberglass panels that come together to form a continuous cover over the laundry trough and weir within the treatment tank. The Cover shall be designed and manufactured to inhibit incident sunlight from striking the surfaces of the laundry and weir. Each Cover section shall be molded of UV-protected fiberglass and shall be opaque to sunlight. Individual sections shall be a minimum of four feet in length and curved to follow the curvature of the tank. The Cover shall extend over the trough and weir as far as possible and may extend to a point immediately outside the scum baffle ring to avoid interference with the sweep arm. The Cover shall be designed such that adjacent panels fit together properly and the completed Cover, when installed, forms a rigid structure.

B. Provision shall be made to support the Cover in such a manner that the panels are held securely in place, with the panels' pivoting point to provide access to the laundry and weir for inspection and maintenance. Neither the Cover nor the means used to support it shall interfere with effluent flow over the weir or within the trough. Cover pivoting / support brackets shall not impede personnel from entering and traversing the laundry. Cover supports that cantilever from the outer effluent laundry wall without support at the weir wall are unacceptable.

C. Laundry cover panels shall have a cross-sectional ridge over the width of the laundry trough <in the direction of the flow> to strengthen the panel and minimize possible deflections against snow loads.

D. The Cover shall be designed to open away from the operator and toward the center of the tank. Each Cover segment shall consist of a single Cover Section fastened to the top or side of the weir wall using two (2) pivoting support brackets. The pivoting support brackets provide a rigid mount for the Cover Sections and ensure proper fixed spacing between them. Cover sections with multiple parts connected by piano hinges are unacceptable.

E. The Laundry Cover sections can be designed to open in one of three (3) configurations:

_____ Consecutively - In sequence; _____ Independently; or
_____ Alternatively - Every other panel opens independently so intermediate panels can open.

F. Provision shall be made to secure the Cover in the closed position for safety and security. This is accomplished by means of an easily operated, spring-loaded latch mechanism that secures the Laundry Cover panels in the closed position. Handles or lift rings may also be required for some panels. A means of limiting the travel of the Laundry Cover sections, in the form of a restraint cable or tether, may also be provided to protect against damage. Covers with inspection hatches or cleanout doors are unacceptable.

G. Where the circumference of the trough is interrupted by a bridge-support or another obstacle, a fixed panel(s) shall be installed over the trough beneath the support such that the surface of the Cover is continuous around the entire tank. Alternatively, vertical panels may be installed on both sides of the bridge supports to block out sunlight.

H. Designed to withstand common wind and snow loads, but not intended as a "walk-on" cover capable of supporting the weight of plant personnel.

PART 2 PRODUCTS

2.1. Manufacturer(s)

A. Standard design and characteristics shall be based on materials, equipment, and components provided by Enduro Composites Inc., 16602 Central Green Blvd., Houston, TX 77032.

2.2. Materials

A. Each Cover panel shall be molded of fiberglass, reinforced plastics. The resins and fiberglass reinforcing materials shall be consistent with the environmental conditions and structural requirements of the application.

B. The resin shall be an isophthalic polyester resin with UV suppression additives, or equivalent. The resin shall be pigmented to ensure that the resulting part is opaque. The glass reinforcement shall be continuous fiberglass mats/roving combination, or equivalent. Multiple continuous panels of woven roving may be applicable for extra-large panels. Additional reinforcement in the form of stiffening ribs shall be added when necessary. The glass content of the finished laminate shall be not less than 35 percent by weight (ASTM D2584-18). The nominal thickness of each panel shall be 1/4 inch. The laminate shall consist of resin-rich glossy surface finish. The laminations shall be dense and free of voids, dry spots, cracks, or crazes. All factory-trimmed edges shall be sanded and sealed. The finished laminate shall have a smooth, even appearance.

C. FRP Laundry Cover panels shall exhibit these minimum properties:

Tensile Strength (ASTM D-638)	26,000 psi
Flexural Strength (ASTM D-790)	30,000 psi
Flexural Modulus (ASTM D-790)	1.9 X 106 psi
Barcol Hardness (ASTM D-2853)	50
Notched Izod (ASTM D-256)	20 ft-lbs/in
Water Absorption (ASTM D-570)	0.25 percent (MAX)

D. Fasteners, handles, hinge, and latches shall be stainless steel. The weir wall mounting brackets shall be stainless steel, FRP or a combination of the two. The latch/handle shall be spring-loaded, where the mechanism shall have a positive detent positioned to indicate the closed/locked position of the handle. The spring-loaded latch is activated by pressing down on the handle and turning it.

E. The tether or restraint cable shall consist of stainless-steel cable secured to the tank wall and the hinged Cover Section by means of stainless-steel eyebolts.

F. Each cover panel's weight shall not supersede 55 lbs. max.

PART 3 EXECUTION

3.1. Installation

A. The Cover sections shall be mounted to the weir wall on stainless steel or FRP brackets. The free end of each Cover panel shall be supported at the outer tank wall by an FRP support flange that attaches to the entire periphery of the tank.

B. The installation contractor shall install the Cover in accordance with the contract drawings, manufacturing drawings and manufacturer's recommendations. Field cutting of panels shall be allowed to complete the structure and accommodate in-tank obstructions. All cut ends shall be dressed as per the manufacturer's recommendations.

C. All the fasteners and brackets required for the installation shall be Stainless Steel and shall be supplied by the Cover manufacturer. The support flange and weir wall brackets are installed using 3/8" x 3-3/4" expansion anchors with flat washers, lock washers and hex nuts.



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