

EPIC INTERNATIONAL, INCORPORATED

SPECIFICATION

SECTION 11376

“FLIGHT DEK” FRP SCREW PUMP COVERS

PART 1 - GENERAL

1.1 Related Section – 11375 Open Screw Pumps

1.2 DESCRIPTION OF WORK:

- A. The work covered by this Section shall include the furnishing of all labor and materials to complete the equipment fabrication, and installation of () sets of influent screw pump covers. Each cover unit shall consist of Safe-Planks, support beams, hold-down angles, assembly hardware and all other appurtenances necessary to provide a complete installation for satisfactory operation.
- B. It is the intent of this Contract that the final installation shall be complete in all respects and the Contractor shall be responsible for minor or specific details; coordination with trades, equipment manufacturing, installation and manufacturers start-up representatives; and any necessary special construction not specifically included in the Drawings or Specifications.
- C. The Contractor shall pay particular attention to the following elements of the installation.
 - 1. Operation of Screw Pumps: Screw pump covers shall be individually installed in each screw pump trough. The screw pump shall not be in operation and the motor drive belts shall be removed or securely locked-out prior to commencing work in the screw pump trough.

1.3 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General Supplementary Conditions and Division- Specifications sections apply to work of this section.

1.4 QUALITY ASSURANCE:

- A. The named equipment supplier and the detailed specifications, establish the minimum acceptable standards of material and workmanship. In addition to requirements of the Specifications, all work performed shall be in accordance with approved trade practices and manufacturers recommendations. All equipment shall perform as specified and accessories shall be provided as required for satisfactory operation.

B. Responsibility and Coordination:

1. Under this Contract, the Contractor shall be responsible for the purchase, storage, and installation of the FRP screw pump covers complete, and any accessories required.
2. The Drawings and Specifications are intended to illustrate and define the equipment installation but do not propose to cover all details entering into its design and construction. However, the Contractor shall properly install, adjust, and place in operation the complete installation. The Contractor shall assume full responsibility for additional costs, which may result from unauthorized deviations from the Specifications.

- C. The Contractor shall coordinate and verify that the equipment furnished meets the Specification, system intentions and design criteria prior to equipment submittals and shipment from the manufacturers to the project site.

1.5 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data and application instructions in accordance with Section
- B. Shop Drawings: The Contractor shall submit complete shop drawings of all equipment furnished for this project as covered by these Specifications. The Contractor's submittal must include a certification that the submitted material describes exactly the equipment to be provided. Substitutions of equipment not named and specified will not be accepted. All shop drawings shall clearly identify the specified equipment and material being supplied, the quantity being supplied, and all accessories, dimensions, descriptions, mounting and connection details and any other information necessary to determine compliance with the Plans and Specifications.

1.6 WARRANTY:

The Equipment Manufacturer shall warrant against failure due to defects in the material and workmanship for a period of one (1) year from the date of installation or fifteen (15) months from shipping date whichever comes first.

PART 2 - PRODUCTS

2.1 GENERAL:

- A. FRP screw pump covers shall be designed for durability and to prevent ultraviolet light exposure to the influent screw pumps. The covers shall be of modular construction, be designed to be attached to the concrete walls that form the screw pump trough and shall be removable in sections to gain access to the screw pump. They shall extend the full flight length.
1. Performance criteria:
 - a. Each cover shall protect the screw body from unequal thermal expansion.
 - b. Each cover shall provide horizontal load bearing of not less than 30 psf.
 - c. Each cover shall be corrosion resistant.
 - d. Each cover shall be non-magnetic, nonhygroscopic, non-conductive and UV stabilized.
 - e. The covers shall have a thermal expansion of 5.2×10^{-6} inch per inch of length per degree Fahrenheit change.
 2. Manufacturer: The covers shall be '**FLIGHT DEKS**' supplied by:
EPIC INTERNATIONAL, INC. Ashland, Virginia, 23005 USA
(804)-798-3939

2.2 MATERIALS/EQUIPMENT:

- A. Safe-Plank Cover Sections
1. The Safe-Plank cover sections shall be constructed of a pultruded fiberglass reinforced composite laminate with a minimum glass loading of 50%. The composite laminate shall be constructed of polyester resin with UV stabilizers, single-strand fiberglass rovings, continuous strand mat, and surfacing veil.
 2. The Safe-Plank cover sections shall be standard machinery gray color with pigments that shall be uniform color throughout the laminate. The covers shall be able to be factory or field painted.
 3. The Safe-Plank cover sections shall be uniform in shape and dimension. The individual cover pieces shall be a maximum of ten (10) feet long and each cover section shall consist of standard 12 and 24 inches wide planks with the edge sections abutting a trough wall cut longitudinally as required to fit the screw pump trough inside width as specified. The Safe-Plank gauge shall be a minimum of 0.125-inch

and the minimum sectional depth shall be 2.00 inch. The weight of each 12 inch and 24 inch cover piece shall not exceed 2.6 # and 5.1 # per linear foot respectively.

4. Installation procedures and instructions, as supplied by the manufacturer, shall be carefully followed. Installation of the interlocking Safe-Plank pieces which span the entire width of the influent screw pump channel shall form a continuous panel section. No part of the cover or the transverse support beams shall come into contact with either the water surface or the Screw Pump and shall not affect the operation or performance of the screw pump.
5. Panel section lengths shall not exceed (10) ten feet but with the uppermost panel section fabricated as required to cover the specified length.

B. Transverse Support Beams:

1. The support beams shall be constructed of the same material as the cover sections and shall consist of fabricated composite "I" beam construction.
2. Each ten (10) ft. section of the cover panel which is angled shall be supported at each end by a main beam and at the center by an intermediate beam.

Horizontal sections of Flight Dek covers shall incorporate additional transverse support beams as required to provide increased load bearing capacity.

3. Each main and intermediate support beam will be anchored to the concrete trough walls with clip angles anchored by stainless steel hardware. Two (2) clip angles shall be supplied for each end of each support beam for a total of four (4) per beam.

C. Hold-Down Angles:

1. One (1) hold-down angle shall be supplied for each end of each panel section to secure the Safe-Plank cover pieces. Angles shall be bolted to a section that extends above the main support beams as they are assembled. Hold-down angles shall be removable to allow partial or complete access to the screw pump without the removal of the support beams.

D. Assembly Hardware:

1. Each end of each transverse support beam shall be anchored to the concrete trough by a minimum of two (2) stainless steel bolts. Bolts shall be a minimum of 3/8-inch diameter by 2.75 inches long. Shear load in 4,000 lbs. psi concrete shall not be greater than 3,151 lbs. per anchor.

2.3 SHOP PAINTING/FINISHES:

- A. All surfaces shall be cleaned of dirt, grease, oil, rust, scale or other injurious substances.
- B. The FRP influent screw pump covers shall be painted by the Contractor if a color other than the standard machinery gray provided is preferred by the Client.

PART 3 - EXECUTION

3.1 FIELD CONSTRUCTION QUALITY CONTROL:

- A. Procedure: The Contractor shall submit to the Owner for review and comment a construction procedure prior to commencing work. Construction procedure shall comply with these specifications and all applicable codes and standards.
 - 1. Inspection: Prior to all work of this Section, carefully inspect the fabricated and installed work of all other trades and verify that all such work is completed to the point where this installation may properly commence.
 - 2. Inspect all parts of the furnished equipment and verify that the system may be installed in strict accordance with all pertinent codes and regulations, the original drawings, the referenced standards and the manufacturers' recommendations.
 - 3. Discrepancies: Notify the Owner's Representative immediately of all unsatisfactory conditions or discrepancies. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved. Beginning with the installation means, the installer accepts the existing surfaces and conditions.
 - 4. Coordination: It is the Contractor's responsibility to notify and coordinate with the equipment manufacturer and other trades in a timely manner in order for them to conduct their required work, inspection, servicing, testing, and instruction.
 - 5. Anchorage: The Contractor shall be responsible for furnishing and placing all anchorage systems for the installation of the covers. The Contractor shall coordinate with the manufacturer in identifying proper size and locations of all anchorage.
 - 6. Protection: Protect adjacent equipment, materials, piping, structures, and/or valving against damage from the installation procedure.
 - 7. Manufacturer's Instructions: Preparatory work in accordance with manufacturer's instructions shall be completed prior to equipment installation.

END OF SECTION