

SECTION 11286

SLIDE GATES AND GUIDES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Slide gates and guides.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete.
- B. Section 08342 - Fiberglass Doors and Frames.
- C. Section 11201 - Wash Troughs.
- D. Section 11202 - Effluent (Collection) Troughs (Launders).
- E. Section 11203 - Finger Weir Pans.
- F. Section 11204 - Weir Plates, Scum Baffles, and Brackets.
- G. Section 11205 - Density Current Baffle System.
- H. Section 11206 - Palmer-Bowlus Flumes.
- I. Section 11207 - Parshall Flumes.
- J. Section 11208 - Metering Manholes.
- K. Section 11305 - Odor Control System.
- L. Section 13122 - Pre-Engineered Fiberglass Buildings.
- M. Section 13411 - Instrument Consoles.

1.3 REFERENCES

- A. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
- B. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Test results of fiberglass reinforced plastic laminate.
- C. Shop Drawings: Show:
 - 1. Critical dimensions, jointing and connections, fasteners and anchors.
 - 2. Materials of construction.
 - 3. Sizes, spacing, and locations of structural members, connections, attachments, openings, fasteners, and loads.
- D. Samples: 8-inch square sample of fiberglass reinforced plastic laminate.
- E. Manufacturer's installation instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products indoors and protect from construction traffic and damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Provide products manufactured by Warminster Fiberglass Company; P.O Box 188, Southampton PA 18966-0188; ASD. Tel. (215) 953-1260, Fax. (215) 357-7893.
- B. Requests for substitution will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.

2.2 SLIDE GATES AND GUIDES

- A. Slide Gates: Fiberglass reinforced polyester resin with resin-rich surface, ribbed as necessary to withstand maximum water heads to be encountered, using molded-in structural members. Bolted or bonded ribs will not be acceptable.
 - 1. Gates up to 24 inches wide by 36 inches high: 1/4 inch thick, minimum.
 - 2. Gates between 24 and 72 inches wide and between 36 and 96 inches high: 3/8 inch thick, minimum.
 - 3. Color: White.
 - 4. Color: Turquoise.

- B. Guide Frames: Pultruded fiberglass reinforced polyester resin with resin-rich surface.
 - 1. One-piece molded construction, with mitered corners adequately bonded and laminated together.
 - 2. Type: Recessed (embedded).
 - 3. Type: Surface mounted with stainless steel anchor bolts.
 - 4. Type: Flange mounted with stainless steel anchor bolts.

- C. Fiberglass: Cut edges shall be resealed with polyester resin prior to shipment, and no unsealed edges may be exposed to the process fluid. Laminate shall have a nominal glass content of 30 percent, with the following minimal physical properties:
 - 1. Tensile strength (ASTM D 638): 14,000 psi.
 - 2. Flexural strength (ASTM D 790): 25,000 psi
 - 3. Flexural modulus (ASTM D 790): 1,000,000 psi.
 - 4. Chemical resistant resin: _____.

- D. Hand Lift Gates: Provide PVC grip for hand hole or stainless steel lifting handle or lugs.

- E. Hand-Wheel and Hand-Crank Operated Gates: Self-contained factory assembled units.
 - 1. Operator:
 - a. Type I fiberglass handwheel with bronze lift nut.
 - b. Type II fiberglass handwheel with bronze lift nut and ball bearings.
 - c. Cast iron handwheel.
 - d. Cast iron handwheel with PVC coating.
 - e. Offset pedestal for handwheel.
 - f. Side-mounted hand crank operator.
 - g. Handcrank gearbox.
 - 2. Type 304 stainless steel threaded stem with acme thread.
 - 3. Type 316 stainless steel threaded stem with acme thread.
 - 4. PVC coated steel head channel.
 - 5. Fiberglass encapsulated head channel.
 - 6. Stainless steel head channel.
 - 7. Head channel support frame shall be an extension of the fiberglass guide frame with structural steel members molded in for additional strength.
 - 8. Type 304 stainless steel fasteners and anchor bolts.
 - 9. Type 316 stainless steel fasteners and anchor bolts.

10. Encapsulate exposed steel parts with fiberglass at least 1/16 inch thick.
 11. Reinforce stem attachment area with stainless steel plate bolted to gate.
 12. Design head channel to adequately withstand maximum breakaway forces.
 13. Size(s): As indicated in gate schedule on drawings.
- F. Accessories:
1. Neoprene seals for reduced leakage.
 2. Non-rising stems.
 3. Weir cut-outs in gates as indicated on the drawings.
 4. Stem covers.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that dimensions are correct and project conditions are suitable for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Ensure that products are installed plumb and true, free of warp or twist, within tolerances specified by the manufacturer and as indicated in the contract documents.
- C. Surface and Flange Mounted Guides: Install guides with expansion anchors of type specified. Position guides at the required elevation, plumb and true, free of twist or warp.
- D. Recessed Guides: Box out slot in concrete to receive guides. Position guides at the required elevation, plumb and true, free of twist or warp. Grout guides in place in accordance with manufacturer's instructions.
- E. Gates: Install gates in accordance with manufacturer's instructions. Adjust to provide smooth operation.

3.3 ADJUST AND CLEAN

- A. Clean surfaces in accordance with manufacturer's instructions.

B. Remove trash and debris, and leave the site in a clean condition.

END OF SECTION