

SECTION 11292 - SLIDE AND STOP GATES

City of San Diego, CWP Guidelines

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing slide and stop gates in the sizes and locations indicated with [manual] [and] [or] [electric] operators, bracing, frame, and mountings.
- B. The WORK requires that one manufacturer accept responsibility for furnishing all gates of one type as indicated but without altering or modifying the CONTRACTOR'S responsibilities under the Contract Documents.
- C. The WORK additionally requires that the one manufacturer who accepts the indicated responsibility for a certain type of gate shall manufacture all gates of that type.

1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.
 - 1. Section 11290 Hydraulic Gates, General

1.3 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with Section 01300:
 - 1. Shop drawings of gates, frames, slides and operators.
 - 2. Design load calculations for deflection at maximum design head.
 - 3. Calculations indicating lifting force required to lift the gate based on 40 pounds on the handwheel or crank.
 - 4. Manufacturer's certification that plastic and fiberglass items are manufactured with the "matched die-molded method".
 - 5. Details, calculations and drawings indicating method of fabrication of [aluminum] [stainless steel] [fiberglass] stop-gates and confirming that platen will withstand design forces without buckling or other damage.

PART 2 -- PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Plastic and fiberglass items shall be manufactured with the "matched die-molded method," and of material recommended by the manufacturer. Bolts, anchor bolts, nuts, washers, and supports shall be provided for all plastic and fiberglass items in accordance with the requirements of the manufacturers of the plastic and fiberglass items and shall be of stainless steel Type [304] [316] complying with Section 05500.
- B. Gates shall be new and of current manufacture, and adequately braced to prevent warpage and bending under the intended use. Where indicated, gates shall be furnished with electric operators provided by the gate manufacturer. Operators of the same type shall be furnished by the same manufacturer.

2.2 ALUMINUM SLIDE GATES

- A. Except as otherwise indicated, aluminum slide gates shall be self-contained, crank or handwheel-operated, with Type [316] stainless steel operating stem and shall be equipped with stem covers and position indicators. Aluminum gates in liquids with a pH lower than 5, or higher than 9, shall be anodized. The gates shall have stiffeners, extruded aluminum frames with bearing bars of ultra high molecular weight polymer, resilient "J"- bulb seals, and fully lubricated stems and operators.

2.3 STAINLESS STEEL SLIDE GATES

- A. Except as otherwise indicated, stainless steel slide gates shall be self-contained, crank or handwheel operated and shall be equipped with stem covers and position indicators. Gate frame, slide and stem shall be made of type [304] [316] stainless steel. Fasteners and anchor bolts shall also be of type [304] [316] stainless steel.
- B. The minimum diameter of the stem shall be one inch.
- C. Gate frames shall be fitted with fixed sealing faces that surround the clear opening. The fixed sealing and sliding faces shall be ultra high molecular weight polyethylene.

2.4 FIBERGLASS SLIDE GATES

- A. **Construction:** Fiberglass slide gates shall be constructed of 1/4-inch thick (min) reinforced plastic laminate fiberglass adequately reinforced for the operating hydrostatic pressure. Reinforcing members shall consist of rigid sandwich core construction integrally-molded to provide a smooth vertical surface.
- B. **Stem:** The gates shall be equipped with Type [316] or other approved stainless steel lift stems, stem covers and position indicators and bronze lift nuts, and stainless steel lift stem extensions and cast iron pedestal.
- C. **Guide Frames:** The gates shall be furnished with concrete-wall-mounted type guide frames properly sized to allow lifting or lowering of the gates smoothly. The guide frames shall be fiberglass reinforced plastic with factory-bonded corners.
- D. **Mounting Hardware:** Mounting hardware, where indicated, shall be of the size and type recommended by the gate manufacturer and shall be furnished as part of the guide frame.

2.5 ALUMINUM STOP GATES

- A. **Construction:** Wall-mounted, hand-lift stop gates with handles shall be fabricated of 1/4-inch aluminum and shall be reinforced to assure long life under the operating conditions. Mounting hardware, where indicated, shall be of Type [316] stainless steel.

2.6 STAINLESS STEEL STOP GATES

- A. Stainless steel stop gates shall be hand-lift type gates having handles and shall be fabricated from type [304] [316] stainless steel 3/8 inch or 1/4 inch thick as indicated. Gate guide frame and mounting hardware shall also be of type [304] [316] stainless steel.

2.7 FIBERGLASS STOP GATES

- A. Fiberglass stop gates shall be manufactured of blue-green fiberglass reinforced polyester resin laminate material containing ultra-violet radiation deterioration and weathering inhibitors. Each gate shall be molded individually to the exact size required with handhold or T-handle and reinforced with integrally molded stiffeners or sandwich core construction. Guide frames shall be of cast fiberglass reinforced polyester resin material, containing weathering and ultra-violet radiation deterioration inhibitors. Guide frames shall have factory-bonded corners. Mounting hardware, where indicated shall be of Type [316] stainless steel.

2.8 MANUFACTURERS

- A. **Manufacturers:** Products shall be manufactured as indicated below (or equal):

- 1. Aluminum slide gates:

Rodney Hunt Company
Hydro Gate Corp.
Washington Aluminum Company, Inc.
Waterman Industries, Inc.

- 2. Stainless Steel Slide Gates:

Rodney Hunt Company
Hydro Gate Corp.
Waterman Industries, Inc.

- 3. Fiberglass slide gates:

F.B. Leopold Co. (Division of Sybron Corp.)
Fischer & Porter Company (Warminster).

- 4. Aluminum stop gates:

F.B. Leopold Co. (Division of Sybron Corp.)
Washington Aluminum Co., Inc.
Waterman Industries, Inc.

- 5. Stainless Steel Stop Gates:

Rodney Hunt Company

Hydro Gate Corp.
Waterman Industries, Inc.

6. Fiberglass stop gates:

Fischer & Porter (Warminster)
F.B. Leopold Co., (Division of Sybron Corp.)
Plasti-Fab, Inc.

PART 3 -- EXECUTION

3.1 INSTALLATION

- A. Installation shall comply with the manufacturer's written instructions.

3.2 FIELD TESTING

- A. Field testing of slide gates shall be performed in accordance with the provisions of ANSI/AWWA C501. The leakage for slide gates shall not exceed 0.1 gpm/ft of seating perimeter under 20 ft of seating head, and 0.2 gpm/ft under 20 ft of unseating head.
- B. If leakage exceeds the indicated limits, modifications and corrections shall be made under the supervision of Manufacturer's Representative at no additional cost to the OWNER.

**** END OF SECTION ****