

**SECTION 32 31 00**  
**MANUAL OR OPERATED ALUMINUM CHAIN-LINK CANTILEVER SLIDE GATES**  
**FAST-TRAC® & TWIN-TRAC®**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Chain link cantilever slide gates with enclosed aluminum track and hardware manufactured to comply with ASTM F-1184.

**1.02 RELATED SECTIONS**

- A. Section 32 31 13 Chain Link Fences and Gates  
 B. Section 32 31 13.53 High-Security Chain Link Fences and Gates  
 C. Section 32 10 00 Paving and Surfacing  
 D. Section 03 30 00 Cast-In-Place Concrete  
 E. Section 04 20 00 Unit Masonry

**1.03 SUBMITTALS**

- A. Changes in specifications may not be made after the bid date.  
 B. Shop drawings: Layout of fences and gates with dimensions, details, and finishes of components, accessories, and post foundations.  
 C. Product Data: Manufacturer's catalog cuts indicating material compliance and specified options.  
 D. Samples: Samples of materials (e.g. fabric, wires, and accessories).

**1.04 SPECIAL WARRANTY**

- A. Provide manufacturer's standard limited warranty covering cantilever slide gate and truck assembly against failure resulting from normal use for a period of 5 years from date of purchase. Failure is defined as any defect in manufacturing that prevents the gate from operating in a normal manner.

**PART 2 PRODUCTS**

**2.01 MANUFACTURER**

- A. Products from qualified manufacturers having a minimum of 5 years experience manufacturing internal roller cantilever slide gate will be acceptable by the architect as equal, if approved in writing, ten days prior to bidding, and if they meet all of the following specifications for design, size, gauge of metal parts and fabrication.  
 B. Obtain chain link fences and gates, including accessories, fittings, and fastenings from a single source.  
 C. Approved Manufacturer: Fast-Trac & Twin-Trac Aluminum Cantilever Slide Gate by Master Halco, Inc., Orange, CA  
 Phone (888) MH.FENCE Fax (714) 385-0104

**2.02 MANUAL OR OPERATED CHAIN LINK CANTILEVER SLIDE GATES**

- A. Gate frames: Fabricate chain link cantilever slide gates in accordance with ASTM F-1184, Type II, Class 2, using aluminum members conforming to ASTM B 221, alloy and temper 6061-T6. Vertical members shall be 2 inch (50mm) square aluminum, weighing 1.13 lb./ft., 2 inch x 4 inch aluminum bottom frame member weighing 1.73 lb./ft., and a one-piece aluminum track/frame member weighing a minimum of 4.621 lb./ft. for Fast-Trac and 7.95 lb./ft. for Twin-Trac. The 2 inch square frame member of said track/frame shall have a wall thickness of not less than .250 inches on all four sides. Aluminum alloy used shall be 6061-T6 only. Internal uprights shall be 2-inch square aluminum spaced equally at no more than 6 feet on center subdividing the gate frame into panels. Weld all members together forming a rigid one-piece frame integral with top track. Provide 2 truck assemblies for each gate leaf, except as indicated for gates larger than 30' (9144 mm). Frame sizes over 27' (8230 mm) in length shall be shipped in 2 parts and field spliced with special attachments provided by the manufacturer.

<u>Gate Opening</u>	<u>Cantilever Support (Overhang)</u>	<u>Overall Panel Width</u>
6 Foot	4 Foot	10 Foot
8 Foot	4 Foot	12 Foot
10 Foot	4 Foot	14 Foot
12 Foot	5 Foot	17 Foot
14 Foot	6 Foot	20 Foot
16 Foot	7 Foot	23 Foot
18 Foot	8 Foot	26 Foot
20 Foot	8 Foot	28 Foot
22 Foot	9 Foot	31 Foot
24 Foot	10 Foot	34 Foot
26 Foot	11 Foot	37 Foot
28 Foot	12 Foot	40 Foot
30 Foot	12 Foot	42 Foot

For gate leaf sizes 31' (9449 mm) to 50' (15,240 mm), a single extruded member forming a dual enclosed track/frame without welding shall be employed. An integral 2" x 4" dimensional top frame, with center stabilizing web, shall be integral to the aluminum track/frame profile all thicknesses to be 0.25" (6.35 mm). Dual top track/frame profile to weigh 7.95 lbs./ft. Provide 2 truck assemblies for each track for each gate leaf, total 4 truck assemblies. Bottom rail shall consist of 2" x 4" (50 mm x 100 mm) aluminum member weighing 1.73 lb./ft. (2.67 kg/m).

<u>Gate Opening</u>	<u>Cantilever Support (Overhang)</u>	<u>Overall Panel Width</u>
32 Foot	13 Foot	45 Foot
34 Foot	14 Foot	48 Foot
36 Foot	15 Foot	51 Foot
38 Foot	16 Foot	54 Foot
40 Foot	16 Foot	56 Foot
42 Foot	17 Foot	59 Foot
44 Foot	18 Foot	62 Foot
46 Foot	19 Foot	65 Foot
48 Foot	20 Foot	68 Foot
50 Foot	20 Foot	70 Foot

B. Gate Frame Finish: Natural Aluminum

Chain Link Filler Finish: To match specification of existing fence

\* All Operated Chain-Link Cantilever slide gates will be filled across the entire length of the panel (including the back frame counterbalance) to satisfy UL325 and ASTM F-220 safe gate design guidelines.

\*\* Chain Link mesh size, and wire gauge to match that of existing fence. Fabric shall be attached between each internal upright with hook bolts spaced no more than 15 inches (380 mm) on center as recommended by the manufacturer.

C. Trussing: Each bay shall be cross-trussed by means of 1/4" cable with adjustable turnbuckles. Trusses will maintain the structural integrity of the gate while allowing for expansion and contraction of aluminum in varying weather conditions.

D. Top track/rail: Enclosed combination one-piece track and rail, aluminum extrusion with weight of:

- o Openings up to 30'; 4.62 lbs./ft. Top track/rail to be a single formed profile with integrated center stabilizing web without welding. All wall thicknesses to be 0.25".
- o Openings up to 31' to 50'; 7.95 lbs./ft. Top track/rail to be a single formed profile with integrated center stabilizing web without welding. All wall thicknesses to be 0.25".

E. Truck assembly: Swivel type, zinc die coated steel, with 6 sealed lubricant ball bearing rollers, 2 inches (50 mm) in diameter by 9/16" (14 mm) in width, and 2 side rolling wheels to ensure truck alignment in track. Mount trucks on post brackets using 7/8" (22 mm) diameter ball bolts with 5/8" (16 mm) shank. Truck assembly shall withstand same reaction load as track 2,000 # (907.2 kg.).

- F. Gate hangers, brackets, guide assemblies, receivers, and latches: Malleable iron or steel, galvanized after fabrication. Operated cantilever gates are shipped without standard latching/locking hardware per ASTM F-2200. If positive locking is required, a suitable electronic locking device should be employed (See Section 02829 if applicable).
- G. Bottom guide wheel assemblies: Each assembly shall consist of two, 3" (75 mm) diameter wheels, straddling bottom horizontal gate rail, allowing adjustment to maintain gate frame plumb and in proper alignment. Attach one assembly to each support post.
- H. End Plug: After gate has been installed, both ends of the combination track/frame member shall be closed off with a shock absorbing plastic block that shall also serve as a stop bracket.
- I. Gate posts:
  - For gates under 31'-0" (9449 mm): galvanized steel 4" (101.6 mm) OD schedule 40 pipe, ASTM F 1083, weighing 9.1 lb./ft. (13.6 kg/m). Provide 1 latch post and 2 support posts for single slide gates and 4 support posts for double slide gates.
  - For gates 31'-0" (9449 mm) or larger: 2 pairs of support posts for each leaf (dual) 4" (100 mm) OD schedule 40 pipe, ASTM F 1083, weighing 9.1 lb./ft. (13.6 kg/m) each. Posts connected by welding 6 inch x 3/8 inch (12.7 x 9.5 mm) plate between posts as shown on drawings. Also one 4" (100 mm) latch post.
  - 1. Finish: to match fence.

### **2.03 SETTING MATERIALS**

- A. Concrete: Minimum 28 day compressive strength of 3,000 psi (20 MPa).

### **2.04 CERTIFICATIONS**

- A. American Welding Society AWS D1.2 Structural Welding Code.
- B. All welds on the gate frame shall conform to Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.2 Structural Welding Code. All individual welders shall be certified to AWS D1.2 welding code.
- C. Gate manufacturer shall provide independent certification as to the use of a documented Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.2 welding code. Upon request, Individual Certificates of Welder Qualification documenting successful completion of the requirements of the AWS D1.2 code shall also be provided.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify areas to receive fencing are completed to final grades and elevations.
- B. Verify areas to assure sufficient space to receive gate in open position (gate and overhang).
- C. Ensure property lines and legal boundaries of work are clearly established.

### **3.02 MANUAL OR OPERATED CHAIN LINK CANTILEVER SLIDE GATE FRAMING INSTALLATION**

- A. Install gate posts in accordance with manufacturers' instructions, and in accordance with ASTM F-567.
- B. Install "Fall-over" posts per ASTM F-1184 and ASTM F-2200 (Section 4.2) to prevent fall of more than 45 degrees from the vertical plane if gate should disengage from mounting hardware.
- C. Concrete set gate posts: Drill holes in firm, undisturbed or compacted soil. Holes shall have diameter 4 times greater than outside dimension of post with a minimum diameter of 12" (304 mm), and depths approximately 6" (152 mm) inches deeper than post bottom with a minimum depth of 42" (1066 mm) per ASTM F-567 (Section 5.13.1). Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads. Set post bottom 42" (1066 mm) below surface when in firm, undisturbed soil. Place concrete around posts in a continuous pour, tamp for consolidation. Trowel

finish around post and slope to direct water away from posts. Check each post for vertical and top alignment, and maintain in position during placement and finishing operations.

### 3.03 MANUAL GATE INSTALLATION

- A. Install gates plumb, level, and secure for full opening without interference. Gate movement shall not be initiated by gravity when in an automated gate operator is disengaged/disconnected per ASTM F-1184.
- B. Attach hardware by means which will prevent unauthorized removal.
- C. Adjust gate and hardware for smooth operation.
- D. All gate installations to conform to all applicable federal, state, and local codes as well as: ASTM F-567 and ASTM F-1184.

### 3.04 OPERATED GATE INSTALLATION

- A. Install gates plumb, level, and secure for full opening without interference. Gate movement shall not be initiated by gravity when an automated gate operator is disengaged / disconnected per ASTM F-2220 (Section 4.9)
- B. There shall be a maximum gap of 2 ¼" (57 mm) between the horizontal plane of the moving gate panel and any fixed obstacle (support posts, "fall-over" posts, hardware, pilaster, etc.) Except that said obstacle be more than 16" from the moving horizontal plane of the gate panel per ASTM F-2200 ( Section 6.1.4.).
- C. Gate Receiver Guides shall be recessed behind the leading edge of the receiver post or any other fixed object per ASTM F-2200 (Section 6.1.6).
- D. No device designed to provide activation for the automated gate operator is to be installed within 6' of the horizontal plane of the gate panel per UL-325.
- E. All Operated Chain-Link Cantilever slide gates are required to have Gate Warning Placards fully visible to the approach on both sides of the gate per UL-325.
- F. Attached hardware by means which will prevent unauthorized removal.
- G. Adjust hardware for smooth operation.
- H. All operated gate installations to conform to all applicable federal, state, and local codes as well as: ASTM F-567, ASTM F-1184, ASTM F-2200, and Underwriters Laboratory UL-325 safety standards.

### 3.05 CLEANING

- A. Clean up debris and unused material and remove from site.

**Operated gates are intended for use in controlling vehicular traffic ONLY and are not intended to be used by pedestrians, or to control pedestrian traffic. Always install a separate man gate for pedestrian use.**