

SECTION 32 31 00 / FENCE AND GATES
SECTION 32 30 00.11 / PERIMETER SECURITY BARRIERS



Aluminum Cantilever Box Frame Slide Gates- Chain Link
For gate openings up to 60 ft. and maximum heights to 8 ft. or (8' + 1')

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. This section includes design, fabrication and installation criteria and detail for internal roller aluminum box frame cantilever slide gates.

1.02 REFERENCES:

- A. ASTM F 1184: Standard Specification for Industrial and Commercial Horizontal Slide Gates, Type 2, Class 2. (2.02).
- B. ASTM A123: Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel. (2.02.D).
- C. AWS D1.2: American Welding Society Structural Welding Code. (2.01.E).
- D. ASTM F 2200: Standard Specification for Automated Vehicular Gate Construction (2.02.F).
- E. U.L. 325: Safety Standards by Underwriter's Laboratory. (2.02.F).

1.03 SUBMITTALS:

- A. Shop drawings of gates with all dimensions, details and finishes. Drawings must include post foundations.
- B. Gate specifications, material certification and/or installation instructions for job-specific criteria (upon request).
- C. AWS welding procedure specifications. (See 2.01.E). (upon request).

PART 2 - PRODUCTS

2.01 MANUFACTURER:

- A. Gate type shall be PowerTrac™ Series 4000 Double Track Aluminum Cantilever Box Frame Slide Gate as manufactured by JAMIESON MANUFACTURING CO., 4221 Platinum Way, Dallas, TX 75237; PH: (888) 286-3362 www.jamiesonfence.com.
- B. Substitution of products from other manufacturers who possess documented industry experience in the manufacturing of internal roller aluminum cantilever slide gates will be considered by the architect as equal if they meet all specifications for fabrication, design, size and gauge of all component parts.
- C. All requests for submittal of an approved equal must be made to and approved by the architect prior to the published scheduled bid date.
- D. Changes in specifications may not be made after the published date of bid.
- E. Upon written notification prior to weldment that gates require construction in a fabricating plant certified to AWS D1.2, manufacturer's fabricating plant shall provide proof of certification that:
 - 1) All welding processes conform to documented Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.2 welding code.
 - 2) All welders employed for welding under this specification have successfully completed the qualification requirements using the procedures of the AWS D1.2 Code. Individual Certificates of Welder Qualification shall be provided upon request.(ref: 1.02.C and 1.03.C)

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2.02 INTERNAL ROLLER ALUMINUM CANTILEVER SLIDE BOX GATE

A. Gate Frame:

- 1) Materials to be in accordance with ASTM F 1184 Type II Class 2 (ref 1.02.A).

Size/Material/Grade/Weight:

COMPONENT	TUBE DIMENSIONS	MATERIAL GRADE	MIN. WEIGHT PER LINEAR FT. (lbs)
Top Primary Members	2" x 5" □ (x2)	6063-T52	2.02
	TrusTrac™ enclosed track (x2)	6061-T6	4.65
Bottom Front Horizontal Member	2" x 3" □	6063-T52	1.42
Bottom Back Horizontal Member	2" x 2" □	6063-T52	1.12
End Vertical Members	2" x 2" □	6061-T6	2.10
Primary Vertical Members	2" x 2" □	6063-T52	1.12
Intermediate Vertical Members	1" x 2" □	6063-T52	0.82
Vertical Members at Splice Joint	1" x 2" □	6061-T6511	2.35
Cross-panel Members	2" x 2" □	6063-T52	1.12
Diagonal Bracing between panels	1" x 1" □	6063-T52	0.52
Tension bracing	2" x 2" □	6063-T52	1.12

B. Construction:

1. No distinction of left-hand or right-hand is necessary in specifying or fabricating this gate.
2. Primary Vertical Members are to be equidistant and not to exceed 6 ft. spacing.
3. Intermediate Vertical Members are to be equidistant between the Primary Vertical Members.
4. Total box width (outside-frame to outside-frame) to be 24 in. unless otherwise specified.
5. Horizontal tension bracing is provided at each end of the gate on both the front and back panel.
6. Trussing:
 - a. Each bay shall include four (4) ¼ in. thick aluminum gussets welded into each corner of the bay.
 - b. Truss cables are ¼ in. stainless steel wire rope and are cross trussed diagonally between all Primary Vertical Members on both the front and back panels for the entire length of the gate frame.
 - c. Each truss cable shall be secured to the gusset with a single cable thimble and a crimped cable clamp.
 - d. Each truss cable is attached to a bottom gusset via ½ in. x 6 in. galvanized turnbuckles for adjustment.
 - e. The overhang shall be braced exactly as the lead front end of the gate.
7. The gate frame is provided as a single-piece welded unit. However, if the gate length exceeds transportation limitations, the box frame will be provided as a two-piece unit:
 - a. The splice location will be a minimum of one bay width (6 ft.) outside of the cantilever fulcrum point when in the 'full-open' and 'full-closed' position.
 - b. Abutting Primary Vertical Members provided at the splice point will consist of 1 in. x 2 in. 6061-T6511 Aluminum weighing no less than 2.1 lbs/linear ft. and be pre-drilled at a minimum of 16 in. on-centers over the total height of the vertical members.
 - c. The TrusTrac™ splice location and the gate frame splice location will not coincide within 6 ft. of each other. In the area of overlap, the track and gate frame will be predrilled for field assembly.
 - d. All hardware, chain-link filler and barbed wire are provided for field assembly.
8. The counter-balanced overhang of the gate shall be a minimum of 40% of opening size.

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- C. Track and Truck Assemblies:
1. A separate extruded one-piece aluminum enclosed track shall be attached to both sides of the top horizontal gate frame.
 - a. The track is welded to the top horizontal member on both the top and bottom of the extrusion at no more than 3 ft. on center.
 - b. The aluminum track shall be of 6061-T6 aluminum alloy weighing no less than 4.6 lb/linear ft.
 - c. The aluminum track is to be rated as adequate for a 3000 lb. total load from each 10 in. truck assembly.
 2. Four swivel-type 10 in. steel truck assemblies are supplied (2 for each track), each having (8) wheel bearings and (2) horizontal alignment wheels.
 - a. Each wheel bearing is to be 2 in. diameter by 9/16 in. wide with hardened and ground steel raceways encasing sealed cylindrical roller bearings. Each complete bearing to have a minimum capacity of 6,000 lbs. each.
 - b. The front and rear of the truck shall include (2) matching side-rolling wheels to ensure truck alignment in the track during all normal operations of the gate.
 - c. Each 8-wheel truck assembly is to be tested at a 9,500 lbs. peak load capacity.
 - d. The trucks shall be mounted to post brackets by a galvanized steel 5/8 in. diameter shank.
- D. Hardware:
1. All gate hardware; guide assemblies and hangers shall be manufactured from malleable iron, low carbon or pressed steel, galvanized as per ASTM A123 (ref: 1.02.B) after fabrication and furnished by the gate manufacturer.
 2. Latches shall have a provision for locking devices.
- E. Gate Frame Finish:
1. Choice of Natural Aluminum or Polymer Powder Coated to match fence color as specified and approved by the architect.
- F. Chain Link Filler Material:
1. Gates (regardless of manual or automated operation) shall not have any opening that would allow a 2-¹/₄ in. (or larger) sphere to pass through the body of the gate from grade level through 72 in. height for the entire length of the gate frame, including the tail section (ref 1.02.D and 1.02.E).
 2. The chain link fabric filler shall be of the approved type and size as specified for the applicable fence project.
 3. The chain link fabric filler shall be stretched along the overall length of the gate including the counter-balanced area.
 4. Assembly:
 - a. Attach the fabric to the gate frame by inserting a steel tension bar vertically through the last link of the fabric at both ends of the gate frame.
 - b. The tension bars are secured to the gate frame by attaching steel tension bands around the frame and through the last link of fabric containing the tension bar.
 - c. A tension wire shall be stretched and attached along the top and bottom of the fabric filler and attached to the gate frame with tie wires looped through provided slots in each of the aluminum gussets in the corners of each bay. This ensures that the fabric filler is taut and secure, thus adding support to the entire gate frame. Use standard fence industry ties to secure fabric in the middle to primary and intermediate verticals.

2.03 POSTS:

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- A. Double post assemblies are required for supporting the gate/track on each side of the frame. Each gate post is a minimum of 4 in. O.D. schedule 40 weighing 9.11 lb/ft or as per architect specifications. All posts shall be supported by concrete footings as specified. See (3.01).
- B. A minimum of 2 double gate posts are required for cantilevering the tail section of the gate. The latch post can be either a single gate post or double post assembly to match the cantilevering gate posts (total of 1 latch post and 2 double support posts minimum).

PART 3 - EXECUTION

3.01 POST INSTALLATION:

- A. Footing diameter and depth are functions of soil conditions, wind load, size of the gate and potentially other job-specific conditions. As such, the architect, engineer of record or other technically capable resource must determine the appropriate footing specifications.
 - Note: *Unless otherwise specified by the architect or engineer of record*, excavate footings to a diameter a minimum of 4 times the diameter and 6 in. deeper than the bottom of the gate post. Posts should be set a minimum depth of 36 in. for all cantilever gates. Crown the finished concrete at the top of the grade to shed water.
- B. Check each post for vertical and top alignment.

3.02 GATE INSTALLATION

- A. Install gate per manufacturer's instructions. Gate should be set level and travel freely, without resistance or binding.
- B. Ensure all safety devices and signs are installed and in proper working order.
- C. Attach latch and make sure that gate is received by latch in a secure manner.

3.03 CLEANING

- A. Clean up debris and remove from the site.