

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



Aluminum Over-Head Beam Slide Gates
(For Gate Openings up to 60 ft. and Overall maximum clear heights of 16 ft.)

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. This section includes design, fabrication and installation criteria and detail for Aluminum slide gates with Overhead I-Beam and enclosed track and truck assemblies.

1.02 REFERENCES:

- A. ASTM F1184: Standard Specification for Industrial and Commercial Horizontal Slide Gates, Type 1, Class 2 (2.02).
- B. ASTM F1083: Specification for pipe, steel, hot-dipped zinc-coated (galvanized) welded, for fence structures. (2.02).
- C. ASTM A123: Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel. (2.02.D).
- D. American Welding Society Structural Welding Code AWS D1.1/D1.1M. and D1.2/D1.2M. (2.01.E).
- E. ASTM F2200: Standard Specification for Automated Vehicular Gate Construction (2.02.F).
- F. U.L. 325: Safety Standards by Underwriters 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).
- D. Proof of design to wind loads of [90] [110] MPH at wind exposure "C".

PART 2 - PRODUCTS

2.01 MANUFACTURER:

- A. Gate type shall be a I-Trac™ Series 6600 Overhead Beam 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 overhead beam sliding 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 D1.1/D1.1M and D1.2/D1.2M, manufacturer's fabricating plant shall provide proof of certification that:
 - 1) All weld processes conform to documented Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.1/D1.1M and AWS D1.2/D1.2M welding code.
 - 2) All welders employed for welding under this specification have successfully completed the qualification requirements using the procedures of the AWS D1.1/D1.1M and AWS 1.2/D1.2M code. Individual Certificates of Welder Qualification shall be provided upon request.(ref: 1.02.D and 1.03.C)

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2.02 INTERNAL ROLLER ALUMINUM SLIDE GATE

A. Gate Frame:

- 1) Materials to be in accordance with ASTM F1184, Type I, Class 2.
 - a. Grade: Structural aluminum: 6063-T52 unless otherwise specified.
 - b. Size/Weight:

Component	Tube dimension	Min. weight per linear ft (lbs)
Top Primary Members	2" x 5"	2.020
Bottom Primary Members	2" x 5"	2.020
Mid-rails (for splice)	(2) 1" x 2"	0.824 (ea)
End Vertical Members	2" x 2"	2.100
Primary Vertical Members	2" x 2"	1.126
Intermediate Vertical Members	1" x 2"	0.824
Diagonal Braces (4 PL in top panel only)	2" x 2"	1.126
Tension Bracing	2" x 2"	1.126

2) Construction:

- a. No distinction of left-hand or right-hand is necessary in specifying or fabricating this gate.
- b. Primary Vertical Members are to be equidistant and not to exceed 6 ft. spacing.
- c. Intermediate Vertical Members are to be equidistant between the Primary Vertical Members.
- d. Horizontal Tension Bracing is provided at each end of the panel.
- e. Overall gate length: [2 ft. greater than gate opening for manually operated gates]. [6 ft. greater than gate opening for automated gates].
- f. Trussing:
 - i. Each bay shall include four (4) ¼ in. thick aluminum gussets welded into each corner of the bay.
 - ii. 3/16 in. stainless steel wire rope is cross trussed diagonally between all Primary Vertical Members and attached to the gusset via 3/8 in. x 6 in. galvanized turnbuckles between the wire rope and each bottom corner gusset to allow for adjustment.
 - iii. Wire rope shall be secured to the gusset with a single cable thimble and a crimped cable clamp. The overhang shall be braced exactly as the lead front end of the gate.

B. Hardware:

1. All hardware for splicing of gate panels and I-Beam to be provided by manufacturer.
2. 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.
3. Latches shall have a provision for locking devices unless otherwise specified by architect.

C. Lower Gate Guides:

1. 3 in. guide rollers with covers will mount to the front gate post to stabilize the bottom gate frame member. (ref: 1.02.E and 1.02.F).
2. Bottom guide rail and guides (optional):
 - a. Galvanized steel T-rail pre-mounted to bottom of gate frame. Includes ¼ in. neoprene rubber gasket material for separation between aluminum and galvanized materials.
 - b. Mushroom guides for every 6 ft. of gate opening.

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Note: Bottom guide rails and guides are required for high wind conditions. Installer must maintain level grade through gate opening.

- D. Gate Frame Finish
 - 1. Choice of Natural Aluminum or Polymer Powder Coated to match fence color as specified and approved by the architect.
- E. Chain Link Fence Fabric Filler
 - 1. The chain link fabric filler shall be of the approved type and size as specified for the applicable fence project.
 - 2. The chain link fabric filler shall be stretched along the overall length of the gate including the tail section. (ref: 1.02.E)
 - 3. Assembly:
 - a. Attach the fabric to the gate frame by lacing 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 a steel tension band around 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 gusset in the corners of each bay. This ensures that the fabric filler is taut and secure, thus adding support to the entire gate frame.

2.03 I-BEAM, TRACK AND TRUCK ASSEMBLIES:

- A. An I-Beam of a size and weight as specified by the manufacturer to meet a [90] [110] MPH wind load is to be suspended through the gate opening and drawback area by means of hanger brackets mounted on posts and/or post assemblies located on either side of the gate opening and at the end location of full retraction.
- B. An extruded aluminum enclosed track shall be attached to the underside of the I-Beam by bolting 2 places each end and at minimum 24 in. on center alternating either side of the truck channel.
 - a. The aluminum tracks shall be of 6061-T6 aluminum alloy weighing no less than 4.6 lb/linear ft. each.
 - b. The track shall be rated to a 2,500 lb. load from each 10 in. truck assembly.
- C. Swivel type zinc steel truck assemblies are mounted to the top member of the gate frame by a galvanized steel 5/8 in. diameter shank at distances not to exceed 14 ft. spans. Each truck assembly to have eight wheel bearings and two horizontal alignment wheels.
 - 1. Each wheel bearing 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.
 - 2. The front and rear of the truck shall include two matching side-rolling wheels to ensure truck alignment in the track during all normal operations of the gate.
 - 3. Each 8-wheel truck assembly to be tested at a 9,500 lb. peak load capacity.

2.04 POSTS:

- A. Manufacturer to provide detailed drawings specifying post diameter and weight, style (single or double post assemblies), hanger brackets/hardware, post spacing and footings to meet designated wind load..
- B. All steel galvanized as per ASTM F1083. (ref: 1.02.B)
- C. The Design Team/Engineer/Architect to review all recommendations and provide final approval.

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PART 3 – EXECUTION

3.01 POST INSTALLATION

- A. Install posts per manufacturer's recommendation.
- B. Set posts in concrete. Excavate footings as specified in final submittal drawings. Crown the finished concrete at the top of the grade point to shed water.
- C. Check each post for vertical and top alignment.

3.02 I-BEAM and TRACK INSTALLATION

- A. Adjust hanger brackets on posts to desired clear height (note: must allow for gate, truck adjustment rod, track and I-beam).
- B. Remove clamping plates from hanger brackets.
- C. Elevate I-Beam and track assembly to bottom side of hanger brackets and clamp in place. With level, ensure beam is horizontal and true.
- D. If two sections of beam are required, elevate second beam assembly into place. Attach to previously mounted beam with splice pins and plates provided and fasten to bottom side of hanger bracket. With level, ensure entire beam is horizontal and true.

3.03 GATE INSTALLATION

- A. Position trucks in aluminum track in approximate location of use.
- B. Lay gate on ground in approximate location of position to slide into place.
- C. Unfold gate to full height. Using splice sleeves and hardware provided bolt top and bottom panels together.
- D. Stand gate upright. Slide into place under beam and in alignment with overhead track
- E. Lift gate into position installing truck bolts through mounting brackets. Install nuts on truck bolts. Adjust nuts on truck bolts to level gate and provide approximately 3 in. of ground clearance.
- F. Adjust truss cable turnbuckles to eliminate any waviness in bottom rail.
- G. Make sure that gate rolls free of binding.
- H. Attach latch and make sure that gate is received by latch in a secure manner.
- I. If bottom guide rails are used, mark line of travel of guide rail. Measure and mark 6 ft. intervals for position of guides through gate opening. Core 2 in. diameter holes. Locate mushroom guides (210605) in place. Reference drawing (210605). Check that gate slides free. Epoxy or cement guides in place.

3.04 CLEANING

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