



*SafeGlide® Macro Box Cantilever Sliding Gate System up to 80
Foot Opening – Chain Link*

Specification Section 32 31 00

Part 1 General

1.01 SECTION INCLUDES:

- A. Gate system shall facilitate installation of a top-hung, internal roller type cantilever box style sliding gate system with twin enclosed tracks, as per ASTM F 2200 gates i.e., designs using external rollers or other support systems, shall not be acceptable. All forms of measurements contained herein are furnished to establish minimum acceptable standards.

1.02 REFERENCES:

- A. ASTM F 2200 Standard Specification for Automated Vehicular Gate Construction.
- B. ASTM 1184 Standard Specification for Industrial and Commercial Horizontal Slide Gates, Type II, Class 2.
- C. ASTM B 221-14 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire Profiles and Tubes.
- D. ASTM B 209 -14 Standard Specification for Aluminum Sheet and Plate.
- E. ASTM A 153 Standard Specification for Zinc Coating (Hot Dipped) On Iron and Steel Hardware.
- F. American Welding Society AWS D1.2 Structural Welding Code.
- G. Underwriters Laboratory Gate Operator Requirements (UL 325)

1.03 SUBMITTAL:

A. Product Data:

- 1. Provide manufacturers cut sheets including written specifications and installation instructions.
- 2. If the gate is to be mechanically operated, supply sufficient copies of operation and maintenance information for all mechanical components.

B. Shop Drawings:

- 1. Provide shop drawings depicting the entire gate system and any mechanical components.
- 2. Supply details on dimensions, gate fabrication and post spacing requirements.

C. Performance:

- 1. Gate system manufacturer shall furnish certification detailing that the gate system is designed to use material and components that ensure to perform reliability with durability and endurance. Substitute or alternate designs fabricated with lesser materials or to lesser standards that do not meet the following criteria will not be approved.
 - a. Gate track system shall be 6061-T6 structural-grade aluminum alloy of 3/8" thickness and a weight of 4.74 Lbs. per lineal foot.

- b. Gate system counterbalance will meet or exceed the ASTM F 2200 Standard Specification minimum requirement of 40%.
- c. Trolley and wheel guide assembly brackets shall be hot dipped galvanized or powder coated steel with a minimum of ½” thickness.
- d. Trolley hanger brackets shall be gusseted for additional strength.
- e. Trolley assemblies shall be proven to withstand continuous duty with pre-lubricated bearings, captured seals and shock resistant races.
- f. Internal-roller trolley assembly shall be self-aligning, swivel ball-and-socket type running on four bearing wheels. Bearing wheels shall have a minimum 2-inch diameter and 9/16-inch width, rated as heavy duty, with a basic dynamic load rating of 2,750 pounds per bearing. Truck body shall be a one-piece structural grade 356-T6 aluminum alloy casting, equipped with milled steel guide wheels with oilite bushing to ensure lateral alignment within the track. Guide wheel axle shall extend through the top and bottom of the truck body to assure that, regardless of wear, the guide wheels cannot come loose from the axle and lodge in the track. Internal-roller trolley assembly shall be affixed to the trolley hanger bracket by means of a 5/8-inch-diameter industrial-grade rod end/center bolt, with a maximum static load rating of 10,000 pounds. Attachment of the center bolt to the truck body shall be by means of a swivel joint to ensure equivalent and consistent loading on all bearing wheels and internal track surfaces throughout the travel of the gate. Internal-roller truck assembly shall have the same reaction load as the enclosed track.

D: Certifications:

- 1. *ASTM F 2200 Standard Specification for Automated Vehicular Gate Construction.*
- 2. *ASTM F1184 Standard Specification for Industrial and Commercial Horizontal Slide Gates.*
- 3. UL Sticker on Mechanical Operator if used.
- 4. Welders and fabricators must be certified per AWS D1.2 structural welding code.
- 5. *ASTM A 123 Standard Specification for Zinc Coating (Hot Dipped) On Iron And Steel Hardware.*
- 6. *ASTM B 221-14 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire Profiles and Tubes.*

PART 2 – PRODUCTS:

2.01 CANTILEVER SLIDE GATE MANUFACTURERS:

- A. The SafeGlide® Macro Box cantilever gate system shall be manufactured by Pro Access Systems Inc., 116 Paul Street, Elburn, Illinois 60119 800-800-3356, fax 630-620-0063. G8PRO.COM
- B. Gate manufacturer or supplier must certify that gate is manufactured in accordance and compliance with *ASTM F 2200 Standard Specification for Automated Vehicular Gate Construction.*
- C. Upon request, gate manufacturer must furnish independent certification that it followed a documented Welding Procedure Specification and appropriate Procedure Qualification Record ensuring conformance to the AWS D2.1 welding code and/or

Individual Certificates of Welder Qualification documenting the completion of the requirements of the AWS D1.2 code.

2.02 GATE DIMENSIONS:

- A.** SafeGlide® Macro Box Cantilever Slide Gate dimensions shall be as specified on the detailed drawings.

2.03 GATE FABRICATION DETAILS:

A. Materials:

1. Gate frame shall be fabricated from 6063-T6 grade aluminum alloy tubing and extrusions and shall meet the *ASTM B 221-14 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles and Tubes*.
2. Any non-structural aluminum trim components will be 6061-T6 grade aluminum alloy and shall meet the *ASTM B209-14 Standard Specification for Aluminum Sheet and Plate*
3. Hardware components are fabricated from ½" hot dipped galvanized steel per *ASTM A 153 Standard Specification for Zinc Coating (Hot Dipped) On Iron And Steel Hardware*. If specified, optional corrosion resistant colors are available for the gate and any hardware components.

B. Gate Frame

1. Gate frame shall be fabricated from a minimum of 2" x 2" 6063-T6 grade aluminum alloy tubing weighing a minimum of 1.1 pounds per foot. Macro Box gates measure 24" from the outside surface to the outside surface on the secure side of the gate. Gate frames shall be welded at all corners to form a rigid unit. Gate shall be fabricated as a single weldment up to a gate opening size of 30' or an overall length of 42'6" Gates for openings greater than 30' or overall length of 42'6" may require a splice for purposes of shipping. Spliced gate frames will include sleeved splices in each horizontal component and non-sleeved splices in the diagonal components for infield bolted connections and final assembly using eight (8) 3/8" bolts at each splice.
2. Gate frame shall have diagonal bracing of 2" x 2"-inch, 6063-T6 grade aluminum alloy, weighing a minimum of 1.1 pounds per lineal foot. Combined with tubular aluminum, installed in the vertical plane throughout the gate proper and the counterbalance to add further rigidity to the gate and eliminate the need for vertical chord adjustment.
3. 1 ½" x 1 ½" 6063 -T6 grade aluminum alloy tubing weighing a minimum of .85 pounds per foot are installed in alternating direction between the 2" x 2" standoffs in both the horizontal and vertical components.

C. Vertical and Horizontal Components:

1. Internal vertical and horizontal members shall be no less than 2" x 2", 6061-T6 grade aluminum alloy, weighing a minimum of 1.1 pounds per lineal foot. Internal verticals shall be spaced apart no more than four (4) feet

D. Gate Track:

1. Enclosed tracks shall be a one-piece extrusion of 6061-T6 structural-grade aluminum alloy, weighing a minimum of 4.74 pounds per foot for gate openings up to 40 feet. Spliced Track shall be formed to enclose the internal-roller truck assemblies and structurally adequate to serve as the load-bearing surface for the gate panel. Reaction load rating of the track shall be a minimum of 2,000 pounds.

D. Welding Standards:

1. All welding on the gate conforms to the Welding Procedure Specification and Procedure Qualification Record to the AWS D2.1 welding code and all welders are certified under the AWS 2.1 welding code.

E. Gate Mounting:

1. The gate frame is suspended and supported by four (4) self-aligning trolley assemblies each equipped with four (4) vertical wheel bearings and two horizontal guide rollers. See 1.03 (F) Each of these trolley assemblies is mounted with a gusseted ½" hot dipped galvanized per *ASTM A 153 Standard Specification for Zinc Coating (Hot Dipped) On Iron And Steel Hardware*. steel trolley hanger bracket. Trolley hanger assembly shall consist of a minimum ½" thick steel plate, gusseted, which is to be affixed to a 4-inch O.D. post by means of 1/2-inch diameter U-bolts. Optional 6 5/8-inch round; 4- and 6-inch square are also available. All mounting hardware shall be hot dipped galvanized or if specified, optional corrosion resistant colors are available for the gate and any hardware components.
2. Bottom guide assembly shall consist of a ½" galvanized steel mounting bracket with one (1) 3" diameter phenolic roller wheel bearings mounted in such a way as to limit or contain gate lateral movement without binding. These are furnished with wheel covers to comply with UL 325, Roller wheels shall be braced top and bottom by the essential construction of the bottom guide in such a fashion as to prevent lateral gate movement which could deform the axles of the wheels and defeat the bottom guide assembly. Bottom guide roller assembly is mounted to a 6 5/8" round O.D. post by means of 1/2-inch diameter U-bolts. Optional 6 5/8" square U-bolts are also available.
3. Any gaps between the gate frame and any gate posts greater than 2 ¼" must be filled with the provided baffle kits in accordance with ASTM F2200-05 regulations.

F. Diagonal Components:

1. Gate frame shall have diagonal bracing of 2" x 2"-inch, 6063-T6 grade aluminum alloy, weighing a minimum of 1.1 pounds per lineal foot. Combined with tubular aluminum, installed in the vertical plane throughout the gate proper and the counterbalance to add further rigidity to the gate and eliminate the need for vertical chord adjustment.

G. Gate Infill:

1. Chain link fabric provided and installed by others to fill the entire length of the gate (mechanically operated gates require the counterbalance to have fabric to prevent reach through and comply with ASTM F 2200, see 1.03C.1) Fabric shall be attached at each end of the gate frame by standard fence industry tension bars and tied at each 2" x 3" or 2" x 4" leading or trailing vertical member with standard fence industry tension bands provided with the gate. Per ASTM F 2200 the means of attachment eliminates any protrusions from the leading or bottom edge exceeding 1/2".

2.04 GATE POSTS:

- A. Two (2) pair or "sets" of 6 5/8-inch round or square posts spaced 2'11" apart with welded horizontal bracing at the top of the posts (provided by others) are required. 6 5/8" inch round or and 6 5/8" square hardware components are included if required for those post sizes and shapes. Completed gate assembly shall be erected on a pair of 6 5/8-inch O.D. round schedule 40 galvanized steel pipe or equal, or 6" square posts with 1/4" wall thickness. Variation of wall thickness and footing requirements shall be specified by engineer and suitable for the soil conditions. Posts shall be installed plumb and must follow critical spacing dimensions provided.

2.05 FINISH:

- A. Standard gate finish is mill finish aluminum. Standard finish of the hardware components is hot dipped galvanized per *ASTM A 153 Standard Specification for Zinc Coating (Hot Dipped) On Iron And Steel Hardware*. If specified, optional corrosion resistant colors are available for the gate and any hardware components.

2.06 WARRANTY:

- A. System components manufactured and supplied by Pro Access Systems shall have a three-year limited warranty against defects in materials and workmanship.

PART 3 – EXECUTIUON:

3.01

- A. Installation conditions should be surveyed and confirmed that they are in accordance with the site plan and installation instructions

3.02 INSTALLATION:

- A. The equipment and related accessories of this specification section are to be installed in accordance to the equipment provider's written instructions unless otherwise specified or depicted on the project drawings.
- B. If the gate system includes any mechanical or automatically divides for opening or closing of the gate, the installation must comply with ASTM F 2200 and UL 325 standards.

- C. The gate and gate functions must adhere to ASTM F 1184 standards for aluminum cantilever slide gates, Type II, Class 2.

3.03 SYSTEM VALIDATION:

- A. The entire system, including any automated or mechanical operators shall be calibrated to assure proper functionality.
- B. The entire system shall be operated and tested for a enough time to ascertain that the system is functioning dependably.
- C. Training on Gate systems that include automated operators is required.
 - 1. Provide written instructions for all mechanical, electrical, automated operator and safety components for everyone who will be operating the gate system.
 - 2. Install all warning placards (provided by others) in unobscured positions on each side of the gate.
 - 3. Discuss the safety features and operational functionality of the gate system with the end user or owner to verify their understanding.

Note: This specification is for gates up to 10 feet in height. Taller gates are available but may be subject to subtle deviations from this specification.

Note: Pro Access Systems Inc. reserves the option to modify or make changes as necessary without prior notification.