



CONTINUOUS ALUMINUM ANGLE FRAME BLEACHERS

PART I -GENERAL

1.01 SYSTEM DESCRIPTION

Design, fabrication, and installation of continuous aluminum angle frame bleachers.

1.02 QUALITY ASSURANCE

- A. Manufacturer Qualifications:** Manufacturers must have five years of experience in the manufacture of bleachers and grandstands; welders must be AWS certified; manufacturing capability according to various code compliances.
- B. Installer Qualifications:** Factory-trained and experienced in the proper installation of bleachers
- C. Source Quality Control:** Mill Test Certification.

1.03 SUBMITTALS

- A. Manufacturer's Product Data:** Submit manufacturer's descriptive product data for project.
- B. Shop Drawings:** Manufacturer to submit shop drawings and design calculations sealed by a registered professional engineer in the State of the project and schedules for type, location, quantity, and details of steel and aluminum components required for project. Submittal of calculations is for determining compliance with specifications and will not be a review of calculations. The submittal does not relieve contractor and engineer from responsibility.
- C. Product Sample:** Submit one 18-inch seat sample.

1.04 SITE CONDITIONS

- A.** Owner will verify site location.
- B.** Owner will locate all underground utilities and obstructions.
- C.** Owner will furnish geotechnical report indicating soil conditions and allowable soil bearing pressure.
- D.** Owner will verify grandstand location and benchmark dimensions and elevation.

1.05 BUILDING CODES

A. Codes and Standards: Design, fabrication, and installation shall be in accordance with applicable codes, regulations, and accessibility requirements(ADA). Owner will furnish local code requirements.

1.06 WARRANTY

A. Bleachers shall be under warranty for a period of one year beginning at Date of Substantial Completion for Projects installed by Manufacturer. The Grandstand is warranted to be free from defect in materials and workmanship in the course of manufacture. This warranty excludes defects resulting from abnormal use in service, accidental or intentional damage, or any occurrences beyond Manufacturer's control.

1.07 MAINTENANCE

A. Owner will conduct inspections and required maintenance of grandstand to assure safe conditions. Contractor shall instruct Owner's maintenance personnel on inspecting the grandstand and provide detailed instruction of how to inspect and maintain the structure.

PART 2 -PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. The design for the bleacher seating grandstands is based on designs by Southeastern Seating, Tampa Florida, 800-248-2099
Other manufacturers seeking to be approved must submit product literature on horizontal beam design to the Owner for review and receive approval from Owner seven days prior to bid date.

Site visitation is required prior to bidding this project. Any problems with the site or design that could have been foreseen by a site visitation are the responsibility of the contractor.

2.02 PORTABLE BLEACHERS AND CONTINUOUS ANGLE FRAME BLEACHERS

- B.** Design: Design shall be in accordance with all State and Local codes
- C.** Design Loads:
 - 1. Live Load: 100 pounds per square foot (psf) gross horizontal projection.
 - 2. Perpendicular Sway Load: 10 per linear foot (plf) of seat plank.
 - 3. Lateral Sway Load: 24 plf of seat plank.
 - 4. Wind Load: Per local building code requirements.
 - 5. Live Load for Seat and Tread Planks: 120 plf.
 - 6. Guardrail and Handrail Loads: A single 200 pounds concentrated or 50 plf distributed load applied in any direction, at any location.
- D.** Shop Connections: Welded and capable of carrying stress put upon them.
- E.** Welding: AWS standards.
- F.** Framework: Space prefabricated angle bleacher frames at 6 foot intervals and connect by crossbraces.
- G.** Rise and Depth Dimensions:
 - 1. Vertical Rise and Horizontal Depth per Row: 8 inches by 24 inches.
 - 2. Seat Above its Respective Tread: 17 inches.
- H.** Riser: 1" x 6" mill finish aluminum board. .
- I.** Seats: 1 3/4" x 9 1/2" anodized aluminum board, with end caps.
- E.** Aisles:
 - 1) Aisles with seating on both sides to have 34-inch high handrail with

intermediate rail at approximately 22 inches above tread.
2) Handrails with rounded ends are discontinuous to allow access to seating through a space 22 inches (min.) to 28 inches (Max.).

F . Decking:

- 1) Rise per row SEE DRAWINGS
Depth per row SEE DRAWINGS
- 2) Each seat 17 inches above its respective tread.
- 3) Decking Arrangement: SEE DRAWINGS

G. Seating Selection:

1. Aluminum Bench Seat to be 2 x 10 nominal

H. Guard railing: To be at all sides of bleacher, entry stairs and ramps, portals, and landings. Railing to be anodized aluminum with end plugs at ends of straight runs and/or elbows at corner. All guardrails shall be secured to angle rail risers by galvanized fasteners. Railing shall be 42" above walkways and entrances. Railing shall be 42" above any adjacent aisle surface. Guard railing on sides and back shall include VERTICAL ALUMINUM PICKET SAFETY FENCE

I. Ramps:

- 1) Slope: 12:1.
- 2) Guardrail to be 42 inches above ramp with intermediate rail spacing at 4 inches.
- 3) Lower Ramps at their landings to have handrail extension. The handgrip portion of handrails shall not be less than 1 1/2 inches or more than 2 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners. The top of handrails and handrail extensions shall be placed not less than 34 inches or more than 38 inches above the ramp or landing surface. Handrails shall be continuous the full length of the ramp and shall extend in the direction of the ramp not less than 12 inches beyond the end of the ramp.

J. Handicap Provision:

- 1) Quantity of wheelchair spaces: As shown in drawing
- 2) Riser area adjacent to wheelchair spaces to have intermediate construction so a 4 inch (4") sphere cannot pass through opening.

A. Materials/Finishes:

- 1) Substructure: aluminum angle
- 2) Extruded Aluminum:
 - a. Seat Planks: Extruded aluminum alloy, 6063-T6: Clear anodized
 - b. Tread Planks, Riser Planks: Extruded aluminum alloy, 6063-T6 Mill finish

B . Joint Sleeve Assembly to be inserted in flat plank to maintain true alignment in joining together two plank pieces. Extruded aluminum alloy, 6063-T6, mill finish, Splice cover is unacceptable between two flat plank pieces joined in a straight line.

3. Accessories:

- (1) Bolts, Nuts: Hot-dipped galvanized.
- (2) Hold-down Clip Assembly: Aluminum alloy 6061-T6, mill finish.

C. Fabrication:

1. Design Loads:
 - a. See drawings.

2. All manufactured connections to be shop welded.
 - a. Manufactured by certified welders conforming to AWS Standards.

PART 3 -EXECUTION

3.01 INSTALLATION

- A. All work performed by factory-trained technicians experienced in bleacher seating installation.
- B. Project as per approved shop drawings.

3.02 FIELD QUALITY CONTROL

A. Foundation. Drilled shaft foundations for the Grandstand shall provide sufficient bearing area at bottom to support all loads of the grandstand. Depth and design of footings shall be as shown on the drawings. Hot-dipped galvanized anchor bolts shall be set by template and shall be embedded in the concrete foundation as required by manufacturer's design calculations. Concrete shall attain working strength of 3,000 psi at 28 days.

3.03 CLEAN-UP

- A. Clean up all debris caused by work of this section.