

## **ELEVATED ALUMINUM ANGLE/TUBE FRAME BLEACHER SPECIFICATIONS – SECTION 13125**

### **PART 1 – GENERAL**

#### **1.01 System Description**

- A. Provide labor, material, equipment and supervision necessary to complete installation of aluminum elevated angle/tube frame bleachers, including the following:
  - 1. Aluminum Substructure
  - 2. Decking System
  - 3. Concrete Slab/Foundation
  - 4. Press Box Support
  - 5. Press Box

#### **1.02 Quality Assurance**

- A. Manufacturer Qualifications: Manufacturers must have ten years of experience in the manufacturing 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 grandstands.
- C. Source Quality Control: Mill Test Certification.
- D. The owner shall supply manufacturer with all state and/or local code requirements. Owner shall also supply manufacturer with applicable handicap regulations.

#### **1.03 Submittals**

- A. Manufacturer's Product Data: Submit manufacturer's descriptive product for project.
- B. Shop Drawings: Manufacturer to submit shop drawings sealed by a licensed professional engineer and schedules for type, location, quantity and details of steel and aluminum components required for project.
- C. Certificates:
  - 1. Insurance Certificate
  - 2. Bid Bond
- D. Product Sample: Submit one 12" seat sample.
- E. Color Sample: If applicable, submit sample.

#### **1.04 Site Conditions**

- A. Owner to verify site locations and make site accessible.
- B. Owner will locate all underground utilities and obstructions. Any utility relocation required will be completed by owner.
- C. Owner will furnish geotechnical report indicating soil conditions and allowable soil bearing pressure.
- D. Owner will verify grandstand location and benchmark elevation.

#### **1.05 Warranty**

- A. Bleacher shall be under warranty for a period of one year beginning at date of substantial completion for projects installed by manufacturer. The bleacher is warranted to be free from defect in materials and workmanship in the course of manufacture. This warranty excludes any other defects resulting from abnormal use in service, accidental or intentional damage or any occurrences beyond manufacturer's control. Any exposed mill finish aluminum surface will become discolored due to oxidation, which is a natural phenomenon. Bleacher manufacturer will not be responsible for discoloration of oxidized mill finish aluminum.

#### **1.06 Maintenance**

- A. Owner is to conduct annual inspection and required maintenance of grandstands to ensure safe conditions.

### **PART 2 – PRODUCTS**

#### **2.01 Acceptable Manufacturer**

- A. CBS Constructors  
P.O. Box 995  
McCook, NE 69001  
(308) 345-4280  
(308) 345-4281 (fax)  
Toll Free 1-800-847-7443
- B. Other manufacturers seeking approval shall submit product literature to owner/engineer seven days prior to bid date. This submittal shall include calculations by a licensed engineer showing any deviations meet or exceed the specified item they are intended to replace. Failure of manufacturer to comply with this requirement is cause for rejection.

## 2.02 Aluminum Angle/Tube Frame Bleacher

### A. Product Description

1. CBS Constructors bleacher design with gross seating capacity of \_\_\_\_\_ and net seating capacity of \_\_\_\_\_. \_\_\_\_\_ rows by \_\_\_\_\_ in length. Press box support structure \_\_\_\_\_ by \_\_\_\_\_. Press Box \_\_\_\_\_ by \_\_\_\_\_.
2. Frame Work: Support structure shall consist of structural aluminum angle/tube frames set on 6'-0" center-to-center spacing.
3. Aluminum angle sway bracing shall be installed in all bays to support wind and sway loads.

### B. Design: Design shall be in accordance with the Governing Building Code, American Institute of Steel construction, Aluminum Design Manual, and Concrete Reinforcing Steel Institute.

### C. Design Loads:

1. Live Loads: 100 Pounds per square foot (psf) gross horizontal area.
2. Perpendicular Sway Load: 10 pounds 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 Loads: A single 200-pound 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. Front Walkway:

1. Clear width \_\_\_\_\_ inches.
2. Elevated \_\_\_\_\_ feet \_\_\_\_\_ inches above grade at front center point of stand.

### F. Decking:

1. Rise per Row \_\_\_\_\_ inches.
2. Depth per Row \_\_\_\_\_ inches.
3. Seat height 18 inches.
4. Seating
  1. Bench
  2. Chair (optional)
  3. Backrest (optional)
5. Decking System Type
  1. Full plank.
  2. Standard plank closed deck.
  3. Tongue & Grove closed deck.
  4. Interlocking closed deck with gutter system.
6. Joint Sleeve: Pair of aluminum sleeves to insert in flat plank to maintain true alignment in joining together two plank pieces. Splice cover is unacceptable between two flat plank pieces joined in a straight line.

G. Aisles:

1. Aisles with seating on both sides to have 34-inch high handrail with intermediate rail at approximately 22 inches above tread.
2. Anodized aluminum handrails with rounded ends are discontinuous to allow access to seating through a space 22 inches (min) to 36 inches (max)
3. Aluminum tread nosing of contrasting color on aisle steps.
4. (If required) Half steps shall provide equal rise and run throughout aisle.

Each shall have aisle nosing of contrasting color.

H. Guardrail: To be at all sides of bleacher, entry stairs, walkways, ramps, portals, and landings where 30 inches or more above adjacent area or grade. Materials shall be anodized aluminum pipe with end plugs at ends of straight runs or elbows at corners. Secure guardrail to aluminum channel post by galvanized fasteners. Top rail shall be 42 inches (min) above walkways and nose of adjacent seat. Include 9 gauge galvanized chain link fencing fastened in place with galvanized fittings and aluminum ties.

I. Handrails: Shall be provided at all ramps and stairs 1 5/8" O.D. clear anodized aluminum pipe with extensions and returns per building code.

J. Stairs: 2 x 12 Aluminum planks with maximum of 7 inches rise and minimum 11 inch tread. Guardrails and handrails per code.

K. Accessibility: Incorporated ramps and wheelchair spaces within grandstand system in accordance with applicable code requirements and ADA. Wheelchair spaces to be equally dispersed along front walkway and other crosswalks. Companion seat required for each wheelchair space.

## 2.01 Materials

- A. Aluminum Structural Shapes: Extruded alloy 6061-T6
- B. Aluminum planking: Extruded alloy 6063-T6
- C. Aluminum guardrails: Extruded alloy 6061-T6
- D. Aluminum guardrail support post: Extruded alloy 6061-T6
- E. Concrete slab-on-grade foundations: minimum compression strength of 3,000 PSI at 28 days

## 2.02 Finishes

A. Aluminum:

1. Anodized: Aluminum seats, backrest, backrest stanchions, clear anodized 204RI. (Powder coat optional)
2. Mill Finish: Aluminum footboards & riserboards. (Anodized or powder coated riserboards optional)

## **PART 3 – EXECUTION**

### **3.01 Concrete Foundation**

- A. Foundations for seating facility shall consist of a concrete slab-on-grade placed on the ground surface beneath the facility. This slab shall (shall not) be the responsibility of the contractor.
- B. The aluminum structural frames shall be bolted to the concrete slab with anchor bolts of sufficient size and quantity to adequately resist required loads.

### **3.02 Installation**

- A. Install aluminum angle/tube bleachers complete in accordance with manufacturers written instructions and approved shop drawings.

### **3.03 Clean-up**

- A. Clean installed grandstand/bleachers exposed surfaces. Clean up all construction debris.
- B. On completion of installation, including work of other trades, adjust each Grandstand Bleacher unit to comply with manufacturers specification.