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Guide Specification

SECTION 13125

PERMANENT GRANDSTANDS

PART 1 GENERAL

1.01 SECTION INCLUDES

Design, fabrication, and installation of permanent grandstands including:

1. Steel Structure
2. Aluminum Decking System
3. Concrete Foundation
4. Press Box Support
5. Press Box

1.02 SUBMITTALS

- A. Shop Drawings: Submit shop drawings sealed by a registered professional engineer indicating location, size, details, and quantity of all concrete, steel, and aluminum components and accessories.
- B. Color Chart: Submit for selection if applicable.
- C. Product Sample: Submit if applicable.
- D. Manufacturers product data. Submit if applicable.
- E. Certificates: Submit if applicable.

1.03 QUALITY ASSURANCE

- 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.
- B. Manufacturer Qualifications: Minimum 10 years experience in the design and manufacture of permanent grandstands.
- C. Installer Qualifications: Employ persons trained and experienced in the installation of permanent grandstands.
- D. Welders: AWS certified.

1.04 PROJECT CONDITIONS

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

1.05 WARRANTY

- A. Warranty permanent grandstands to be satisfactory as to design, workmanship, and materials for 1 year beginning after substantial completion of project. This warranty excludes any results of abnormal use in service, intentional damage, or accidental damage or other occurrence beyond the control of Sturdisteel.

1.06 MAINTENANCE

- A. Annual inspection and evaluation to be conducted by a qualified person retained by the owner. Required maintenance of grandstand to insure safe conditions by owner.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Sturdisteel Company
PO Box 2655
Waco, Texas 76702-2655
Tel (800) 433-3116
Fax (254) 666-4472.

2.02 PERMANENT GRANDSTANDS

- A. Size: _____ feet long by _____ rows. Gross seating capacity of _____. (Refer to Seating Capacity Chart for permanent grandstands.) To obtain the approximate number of net seats, multiply the gross seats by 0.85. Press box size ___ x _____. Press Box Support Length___ x _____.

- B. Design: Design shall be in accordance with American Institute of Steel Construction, AA -94 Aluminum Design Manual, and ACI.
- C. Design Loads:
1. Live Load: 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 and Handrail Loads: A single 200 pound concentrated or 50 plf distributed load applied in any direction, at any location.
 7. Note: Seismic loads never control the design of these systems.
- D. Shop Connections: Welded and capable of carrying stress put upon them.
- E. Welding: AWS standards.
- F. Steel Members:
1. Stringers: 6'-0" on center.
 2. Columns: Spaced at 18' on center longitudinal and 11'-18' on center transverse (standard). Spacing may vary from this depending on application.
 3. Cross bracing: Steel rod bracing or angles.
- G. Dimensions:
1. Front Walkway: 68 inches minimum
 2. Seat Height: 17 inches.
 3. Walkway Elevation: 48 inches above owner supplied benchmark grade (standard).
 4. Aisle Width: 48 inch minimum middle aisle width and 36 inch minimum end aisle width. Greater width as needed to meet code egress requirements.
- H. Decking/Seating:
1. Standard tread depths: 24",25",26",27",28",29",30",33" (30" required with backrests, 33" required with chairs).
 2. Standard riser heights: 8",9 ¾",10",11 ¼",12",13 ¼"
 3. Decking type:
 - a. Full
 - b. Closed

- c. Tongue & groove
- d. Tongue & groove – NTB (no thru bolting)
- e. Interlocking
- f. Interlocking – NTB (no thru bolting)
- g. Welded

4. Seating:

- a. 9 ¼" x 1 ¾" (front), 9 ¼" x 1 ½" (rear) - standard
- b. 11 ½" x 1 ¾" (front), 11 ½" x 1 ½" (rear) - optional
- c. KAL 100 aluminum chair - optional
- d. Custom chair - optional
- e. Backrest - optional
- f. Armrest - optional

5. Aisles:

- a. Midsteps required for rise above 8". Midstep treads approximately ½ tread width. Solid riser front required.
- b. Aisle midrails and end aisle handrails per building code.

- I. Guardrail: Furnish at all sides of bleacher, entry stairs, walkways, ramps, portals, and landings where 30 inches or more above adjacent area or grade. Material shall be anodized aluminum pipe with end plugs at ends of straight runs or elbows at corners. Secure to angle posts by galvanized fasteners. Top rail shall be 42 inches (min.) above walkways and entrances and 42 inches (min.) above any adjacent seat. Include 9 gauge galvanized chain link fencing fastened in place with galvanized fittings and aluminum ties.
- J. Handrails: Shall be provided at all ramps and stairs. 1 5/8" OD clear anodized aluminum with extensions and returns per building code .
- K. Stairs: 2 x 12 aluminum with maximum of 7" rise and minimum 11" tread. Guardrails and handrails per code.
- L. Accessibility: Incorporate ramps and wheelchair spaces within permanent 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.

2.03 MATERIALS

- A. Steel: ASTM A36, A529 GR50, or A992.
- B. Aluminum: Extruded alloy 6063-T6.
- C. Concrete Foundation: Minimum compressive strength of 3,000 psi at 28 days.
- D. Accessories:
 - 1. Structural Steel Bolts and Nuts: ASTM A325, galvanized. All structural connections are snug tight per RCSC 2000 specification.

2. Accessory and aluminum component bolts: ASTM A307, galvanized
3. Hold-Down Clip Assembly: Aluminum alloy 6063-T6.
4. End Caps: Aluminum alloy 6063-T6.

2.04 FINISHES

- A. Steel: Galvanized: Hot-dipped galvanized after fabrication in accordance with ASTM A123.
- B. Aluminum:
 1. Anodized: Aluminum seats, riser boards, backrests, stanchions and KAL-100 Chair, clear anodized 204R1, AA-M10C22A31, Class II. Powder coat (optional).
 2. Mill Finish: Aluminum footboards. (anodized optional)

PART 3 EXECUTION

3.01 FOUNDATIONS

- A. Install either drilled pier or spread footing foundations as determined by local soil conditions. Total dead and live loads shall not exceed the allowable soil bearing pressure.
 1. Drilled Piers: Extend minimum 5 feet below grade, unless solid rock is encountered.
 2. Spread Footings: Extend minimum 2'-6" below grade, unless solid rock is encountered.

3.02 INSTALLATION

- A. Install permanent grandstands complete in accordance with manufacturer's written instructions and approved shop drawings.

3.03 ADJUSTING

- A. Inspect completed permanent grandstands and make necessary adjustments to ensure proper installed conditions.

END OF SECTION