

# Bleacher Specifications

Non-Elevated Transportable Aluminum Angle Frame

**WARNING: Not intended for use on public roads (max speed 5 MPH)**

## SECTION 13125

### NON-ELEVATED TRANSPORTABLE ALUMINUM ANGLE FRAME

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Design and fabrication of Non-Elevated angle frame bleachers

##### 1.02 QUALITY ASSURANCE

- A. Manufacturer: National Recreation Systems, Inc.  
1300-D Airport North Office Park, Ft. Wayne, IN, 46825
- B. Manufacturer Qualifications: Manufacturer must have a minimum of ten years experience in the design and manufacture of bleachers.
- C. Welders must conform to AWS standards.
- D. Source Quality Control: Mill Test Certification.
- E. Codes and Standards: 2012/2015 International Building Code / ICC 300 2012.

##### 1.03 WARRANTY

- A. Warranty shall guarantee bleachers to be free from defect in materials and workmanship for a period of 1 year under normal use. Warranty period shall begin on date of completion for projects installed by manufacturer, or its subcontractors, **OR** warranty period shall begin on date of final delivery on projects installed by others.
- B. Anodized finish of plank extrusions shall be covered by a **5 year** warranty against loss of structural strength or finish deterioration due to exposure to weather conditions or UV rays. Discoloration of mill finish aluminum due to galvanic reaction not covered.

##### 1.04 PRODUCT LIABILITY INSURANCE

- A. Product liability insurance is carried for the life of the product in the amount of \$ 2,000,000.

##### 1.05 ENGINEERING

- A. Engineering certifications and calculations by a Registered Professional Engineer will be provided upon request at an additional fee.

#### PART 2 – PRODUCTS

##### 2.01 ACCEPTABLE MANUFACTURER

- A. National Recreation Systems, Inc.

##### 2.02 DESIGN

- A. Applicable Codes:  
INTERNATIONAL BUILDING CODE (IBC), 2012/2015 EDITION / ICC 300 2012  
Except aisle and handicapped requirements
- B. Design Loads:
  1. Live Loads: Uniform loading - Structure = 100 psf  
Uniform loading - Seat and Foot plank = 120 plf
  2. Sway Loads: Perpendicular to seats = 10 plf  
Parallel to seats = 24 plf
  3. Guardrail Loads: Uniform vertical load = 100 plf  
Uniform horizontal load = 50 plf  
Concentrated horizontal load = 200 pounds
  4. \*Wind Loads: Basic design wind speed = 150 mph (exposure "B")

**\*Note: Bleacher must be anchored to meet wind loads above**

##### 2.03 NON-ELEVATED ANGLE FRAME BLEACHERS

- A. Quantity and Size: Shall consist of 1 unit(s) 5 rows high x 24 long.  
Net seating capacity per unit 80 (excluding aisles, based on 18" per seat).
- B. Framework: Prefabricated aluminum angle spaced at 6' - 0" intervals joined by means of aluminum angle cross bracing.
- C. Shop connections: Welded to meet AWS standards and local code requirements

- D. Joint Sleeve Assembly: Internal splices, where required shall be two per joint, and shall penetrate the joint a minimum of 8" in each direction and be riveted at one end only to allow for contraction and expansion.
- E. Rise and Depth Dimensions: 8" vertical rise and 24" tread depth, Seat height is 17" above its respective tread.
- F. Seats: Nominal 2" x 10" anodized aluminum with anodized end caps.
- G. Treads: Nominal two (2) 2" x 10" mill finish aluminum with anodized end caps on rows 2 & up.
- H. Risers: Nominal two (2) 1" x 6" mill finish aluminum with mill finish end caps on top row.  
Nominal 1" x 6" mill finish aluminum with mill finish end caps on rows 4 & up.
- I. Guardrail: Rails shall be anodized aluminum vertical picket panels attached to support members. Rear rail support member to be aluminum channel. Side rail support member to be aluminum angles. Standard AA-M10C223A31(204R1). Panels shall consist of 1-5/8" O.D. round tube and extruded aluminum 5/8" square. Panels shall attach to rail support members by means of 5/16" dia. u-bolts, lock washers, and nuts. Panels shall connect together using internal splice and rivet. End panels shall be terminated using aluminum elbows, and aluminum round tube mechanically fastened.
- J. Transport: The unit shall be divisible in 5-row x 24'-0" maximum increments, include all extra bracing and hardware to make unit transportable, and be able to accept the following Transport Kit (wheel and tongue assembly).
  - 1. Transport Kit L: Consists of 2 wheel assemblies and one 1-7/8" ball hitch with 10" tongue and jack. Tires to be 5.30-12, 2 ply, 21" OD, load capacity 840# per tire. Only one kit needed to transport several systems.
- K. Ground sills: Shall be a minimum of 2"x 6" nominal lumber, pressure treated to render resistant to the elements (treated with ACQ per AWPA Standards), and fastened to bleacher base with galvanized plated lag screws.

## 2.04 MATERIALS / FINISHES

### A. Framework:

- 1. Aluminum: Structural fabrication with aluminum alloy 6061-T6 mill finish. Each frame shall be unit-welded, using metal inert gas method, under guidelines by the American Welding Society. After fabrication all steel is hot dipped galvanized to ASTM A-123 specifications. All crossbracing and horizontal bracing shall be aluminum alloy 6061-T6 mill finish.

### B. Extruded Aluminum:

- 1. Seat planks: Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II With a wall thickness nominally .078" for impact and deformation resistance.
- 2. Tread and Riser Planks: Aluminum alloy 6063-T6, mill finish. With a wall thickness nominally .078" for impact and deformation resistance.
- 3. Guardrail Pipe: 1-5/8 OD schedule 40 aluminum alloy 6105-T5, clear anodized 204R1, AA-M10C22A31, Class II.

### C. Accessories:

- 1. Channel End Caps: Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II.
- 2. Hardware: Bolts and Nuts shall be hot dipped galvanized.
- 3. Hold Down Clip Assembly: Aluminum alloy 6063-T6 mill finish.
- 4. Joint Sleeve Assembly: Aluminum alloy 6061-T6, mill finish.

## PART 3 – EXECUTION

### 3.01 INSTALLATION

- A. Install bleacher unit in accordance with manufacturer written instructions and shop drawings.

**Note: Building codes may vary from site to site. The customer is responsible for verification of local code requirements.**