



SECTION 11 61 63

STAGING CONCEPTS MODA® SEATING WAGON

PART 1-GENERAL

1.1 SUMMARY

- A. This specification section includes the engineering, fabrication, furnishing, delivery and installation of a new Staging Concepts MODA® Seating Wagon as specified.
- B. The seating wagons shall consist of a system of movable seating wagons which are manually positioned and locked in place on a lift or in storage to provide the configurations as indicated on the drawings.

1.2 SCOPE OF WORK

- A. Comply with the state, local and jurisdictional codes.
- B. Work under this section consists of the fabrication of new equipment and installation of new theatre and staging equipment. Work shall include the installation of all materials and equipment necessary for the proper operation of the equipment.
- C. Preparation and submission of complete engineered shop drawings for approval.
- D. Submission of required record documents.
- E. Coordination with other affected work, trades and inspections.
- F. Final assembly of components to provide a complete, operable system.

1.3 REFERENCES

- A. Aluminum Association (AA):
 - 1. AA Standard AA-M12C22A41.
 - 2. AA Standard AA-M12C22A42/44.
- B. American Institute of Steel Construction (AISC):
 - 1. AISC Manual of Steel Construction.
- C. American Plywood Association (APA)
 - 1. US. Product Standard PS 1-83
- D. American Society for Testing and Materials (ASTM):
 - 1. ASTM A36: Standard Specification for Structural Steel.
 - 2. ASTM A283: Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.

3. ASTM A307: Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
4. ASTM A325: Standard Specification for High-Strength Bolts for Structural Steel Joints.
5. ASTM A500: Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
6. ASTM A501: Standard Specifications for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
7. ASTM A570: Standard Specification for Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality.
8. ASTM B209: Standard Specification for Aluminum-Alloy Sheet and Plate.

E. American Welding Society (AWS):

1. AWS D1.1 Structural Welding Code-Steel.
2. AWS D1.3 Structural Welding Code-Sheet Steel, Second Edition.

F. Americans with Disabilities Act (ADA)

G. National Fire Protection Association (NFPA):

1. NFPA 102: Standard for Assembly Seating, Tents, and Membrane Structures.

H. Steel Structures Painting Council (SSPC):

1. SSPC SP3: Power Tool Cleaning.

1.4 RELATED SECTIONS

- A. Division 5 Metals
- B. Division 6 Carpentry
- C. Division 9 Finishes
- D. Division 11 Equipment
 - Section 11 61 23: Performance Platforms
 - Section 11 61 61 Theatrical lifts
- E. Division 12 Furnishings
 - Section 12 61 13 Fixed Audience Seating
- F. Division 26 Electrical

1.5 DESIGN REQUIREMENTS

- A. The following is to establish minimum safety requirements for the seating wagon. Federal, State and Local jurisdictional codes take precedence.
 1. Maximum member deflection: $L/360$
 2. Wagon floor framing level: 0.125 inches in a 10 foot radius circle.
 3. Sustaining capacity: 60 PSF + self-load.
 4. Concentrated load static or dynamic: 1,000 pounds in a 3 foot square area.
 5. Maximum gap tolerance between wagon edge and lift edge: 0.375 inches
 6. Maximum deviation from plumb in X and Y axes: 0.125 inches.
 7. Casters: Minimum 5 inch diameter.

1.6 SUBMITTALS

- A. Comply with Section 01 33 00 Submittal Procedures, unless otherwise indicated.
- B. Product Data: Staging Concepts specifications and technical data including the following:
 - 1. Detailed specification of construction and fabrication.
 - 2. Staging Concepts installation instructions.
 - 3. Certified engineer's reports indicating compliance with performance requirements specified herein.
 - 4. All shop drawings shall be stamped and certified by a professional engineer licensed in the state for which the work is being installed.
 - 5. Description of operations, including step by step set-up and take-down tasks.
- C. Shop Drawings: Prepared by Staging Concepts. Include dimensioned plans, sections and elevations showing Seating Wagon component sizes, arrangements and details of each condition of installation. Show fabrication and installation details for each system component and accessories.
- D. Samples: Provide samples by request of the owner, architect or consultant.
- E. Contract Closeout Submittals: Comply with Section 01 70 00 Execution and Closeout Requirements.
 - 1. Project record documents
 - 2. Operating and maintenance manuals.
 - 3. Complete parts and subassembly list.
 - 4. Periodic maintenance schedule.
 - 5. Warranty documentation.

1.7 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Not less than 10 years experience in the actual production of theatrical seating wagon construction and installation.
- B. Installer's Qualifications: Firm experienced in installation or application of systems similar in complexity to those required for this Project.
 - 1. Acceptable to or licensed by manufacturer.
 - 2. Not less than 3 years experience with systems.
- C. Welding and Connections:
Welds: Performed by welders certified for the process employed.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Packing and Shipping: Deliver products in original unopened packaging as applicable, with legible manufacturer's identification.
- B. Storage and Protection: Comply with manufacturer's recommendations.
 - 1. Store in a cool, dry place out of direct sunlight.
 - 2. Protect from the elements and from damage.

1.9 WARRANTY

- A. Special Warranty: Staging Concepts written warranty indicating Staging Concepts intent to repair or replace the Moda® seating wagon components that fail in materials or workmanship within three (3) years from the date of substantial completion. Paint and exterior surfaces are excluded. Failures are defined to include, but are not limited to the following:
1. Mechanical defects
 2. Damaged materials due to fabrication
 3. Material deterioration and discoloration other than normal wear and weathering conditions
 4. failure to maintain dimensional stability

PART 2- PRODUCTS

2.1 MANUFACTURER

- A. Basis of design: MODA® Seating Wagon based on the design by Staging Concepts.
1. Staging Concepts. 8400 Wyoming Ave. North, Suite 100, Minneapolis, MN 55445 763-533-2094. www.stagingconcepts.com

2.2 MATERIALS

- A. Materials shall conform to the following ASTM and ANSI standard specifications:
1. Structural steel shapes and plate shall be A36.
 2. Steel tube shall be A500.
 3. Grey iron casting shall be A48.
 4. Welding shall conform to AWS D.1.1 Structural Welding Code.
 5. Fasteners:
 - a. Comply with ANSI B 18.2.1 & 2 Specification for square and hex bolts and nuts.
 - b. Fasteners shall be rated for anticipated loads.
 - c. Fasteners shall be provided with approved marking indicating their rating.
 6. Provide assemblies, components, connections, equipment, hardware and linkages that are rated and designed for the application.

2.3 COMPONENTS

A. Surface:

Two layers of ¾ inch Structural 1 (S1) marine grade plywood over timber blocking to comply with the following:

1. Top face quality to be paint grade, attached to frame with countersunk self-drilling, self-tapping flat head screws and set flush with the finished surface.
2. Provide flame retardant coating on the underside of the plywood.
3. Provide access hatches as indicated on the drawings.
4. Coordinate seat attachments with Division 12 if applicable.

B. Sound Dampening:

1. Complete underside of wagons provided with 2" x 3 pound per cubic foot acoustical insulation, fastened with epoxy glue and mechanical fasteners.

- C. Frame: To receive and support the subfloor:
 - 1. A500 steel tubes for upper and lower frame.
 - 2. A36 steel plates.

- D. Rigid, V-groove and Tri-caster Assemblies:
 - 1. Caster assemblies selected for all anticipated loads.
 - 2. A500 steel tube caster support columns to be mounted to A36 steel caster plates.
 - 3. V-groove set of casters provided to ensure proper alignment and tracking of the seating wagon while in motion.

- E. Track Guide System: Fixed and Demountable.
 - 1. Steel surface tracks to be provided for the seating wagon to ride upon prevent wear on the orchestra lift.
 - 2. Track sections to have minimal gap to allow the casters to transition between the sections of track without any additional components.
 - 3. All tracks to be powder coated. Color to be determined by owner.
 - 4. Adjustable stops to be provided where indicated on the drawings.

- F. Registration pins/ locator device:
 - 1. Each wagon to be provided with a minimum of two high tolerance locator pins that can be set and locked manually.
 - 2. Provide sockets in storage.
 - 3. Flush mounted sockets and steel caps on lift to be provided.

- G. Signage:
 - 1. Signage shall be legible in construction and grammar. Sign surfaces and characters shall be textured or otherwise treated to minimize glare and veiling reflections.

2.4 ACCESSORIES

- A. Facia panels: Provide facia panels meeting the following requirements as directed by design:
 - 1. Material: Plywood, MDO or MDF substrate construction. Finish TBD by architect.
 - 2. Support angle and framing to be provided at the wagon perimeter attached to frame with countersunk self-drilling/ self-tapping screws and set flush with the finish face.

- B. Railings: Fixed and demountable per drawings.
 - 1. Material:
 - a. 1 ¼ inch Schedule 40 6105-T6 aluminum extrusion.
 - b. Optional A500 welded steel tube frame.
 - c. Plywood or metal infill.
 - d. Finish TBD by architect.
 - 2. Connection:
 - a. Steel sockets to accept aluminum pins for demountable railing.

- C. Wagon track storage rack:
 - 1. Material: 14 GA welded steel tube. A36 Steel flat bar.
 - 2. Flat bar anchored to wall with hex bolts and drop-in anchors.
 - 3. Finish: Black powder coat.

D. Railing Carts:

1. Material: Welded steel tube.
2. Casters: Provide 4 casters for each cart; 2 rigid and 2 swivel.
3. Caster Sizes: 8 inch diameter.
4. Provide removable end rails.
5. Finish: Black powder coat.

2.5 FINISHES

A. Finishes:

1. Plywood surface: Top side: Unfinished, surface material TBD by architect. Edges: Unfinished. Bottom side: Flame retardant paint.
2. Steel frame: Black powder coat
3. Hardware: Exposed: Black zinc. Concealed: Clear zinc.
4. Guide tracks: Powder coat color to be determined by owner.

PART 3- EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.

1. Do not proceed until unsatisfactory conditions have been corrected.
2. Field verify dimensions for all units prior to fabrication if indicated by the owner, architect or consultant.

3.2 INSTALLATION

A. Comply with manufacturer's recommendations.

B. Install seating wagons, guide rails, safety systems and all other systems required by the contract documents.

1. Install plumb and level.
2. Accurately fit, properly align, securely fasten, and install free from distortion or defects.

3.3 CLEANING

A. Clean exposed surfaces of seating wagons and accessories. Comply with Staging Concepts written instructions for cleaning and touchup of minor finish damage.

B. Repair or replace defective work as directed by the owner, architect or consultant upon inspection.

3.4 TRAINING AND DEMONSTRATION

A. Train Owner's personnel to assemble, adjust, operate and maintain the Moda™ seating wagon system and accessories.

END OF SECTION 11 61 63