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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The CSI Construction Specifications Practice Guide*.

This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers and titles are from *MasterFormat 2012 Update*.

SECTION 12 66 23

MOTORIZED TELESCOPING SEATING PLATFORMS

Specifier Notes: This section covers StageRight "TeleMatic 100" motorized telescopic seating riser system. Consult StageRight for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Motorized telescopic seating riser system.

1.2 RELATED REQUIREMENTS

Specifier Notes: Edit the following list of related sections as necessary. Limit the list to sections with specific information that the reader might expect to find in this section, but is specified elsewhere.

- A. Section [12 62 00] [] – [Portable Audience Seating] []: Chairs to be placed on motorized telescopic seating riser system.
- B. Division 26 – Electrical.

1.3 REFERENCE STANDARDS

Specifier Notes: List reference standards used elsewhere in this section, complete with designations and titles.

- A. AAMA 611 – Voluntary Specification for Anodized Architectural Aluminum.
- B. ACI 117 – Specification for Tolerances for Concrete Construction and Materials.
- C. ACI 318 – Building Code Requirements for Structural Concrete.
- D. ASTM A 36/A 36M – Standard Specification for Carbon Structural Steel.
- E. ASTM A 500/A 500M – Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- F. ASTM A 513/A 513M – Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.

1.4 PREINSTALLATION MEETINGS

Specifier Notes: Edit preinstallation meetings as necessary. Delete if not required.

- A. Convene preinstallation meeting [1 week] [2 weeks] before start of installation of motorized telescopic seating riser system.
- B. Require attendance of parties directly affecting work of this section, including Contractor, Architect, Owner, installer, and manufacturer's representative.
- C. Review materials, installation, adjusting, cleaning, demonstration, protection, and coordination with other work.

1.5 SUBMITTALS

Specifier Notes: Edit submittal requirements as necessary. Delete submittals not required.

- A. Comply with Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including the following:
 - 1. Detailed specification of construction and fabrication.
 - 2. Manufacturer's installation instructions.
 - 3. Description of operations, including step by step set-up and take-down tasks.
 - 4. Complete list of all deviations from specifications.
- C. Shop Drawings: Submit manufacturer's shop drawings, indicating dimensions, description of materials and finishes, general construction, specific modifications, component connections,

anchorage methods, hardware, and installation procedures, plus the following specific requirements.

1. Floor plans of each level indicating seating section numbers, row numbers, seat numbers, and seat count.
 2. Seat sizes and aisle widths.
 3. Railing locations and attachment details.
 4. Closure panel locations and details.
- D. Samples: Submit 2 sets of manufacturer's samples for color selection or verification of the following:
1. Color samples for deck.
 2. Color samples for understructure.
 3. Color samples for drapes, 6 inches by 6 inches, from standard color palette.
- E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- F. Manufacturer's Project References: Submit manufacturer's list of successfully completed motorized telescopic seating riser system projects, including project name and location, name of architect, and type and quantity of motorized telescopic seating riser system furnished.
- G. Installer's Project References: Submit installer's list of successfully completed motorized telescopic seating riser system projects, including project name and location, name of architect, and type and quantity of motorized telescopic seating riser system installed.
- H. Contract Closeout Submittals: Submit contract closeout submittals as follows:
1. Operating and maintenance manuals, including the following:
 - a. Operation, maintenance, adjustment, and cleaning instructions.
 - b. Troubleshooting guide.
 - c. Parts list.
 - d. Electrical wiring diagrams.
 - e. Detailed information required for Owner to properly operate and maintain equipment.
 2. Setup configuration layout and details to permit verification of safety design requirements.
 3. Project record documents.
- I. Warranty Documentation: Submit manufacturer's standard warranty.

1.6 EXTRA STOCK MATERIALS

- A. Provide extra stock materials as follows:

Specifier Notes: Edit the quantity of extra stock materials as necessary.

1. Tracking Castors: 15.
2. Guard Rail Handles: 10.
3. T-Molding: 10.

1.7 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Minimum 25 years of experience in the manufacturing of seating platforms.
 - 2. Experience shall include installation of seating platforms in 3 major arenas or similar projects in the last 5 years.
- B. Manufacturer's Quality Control:
 - 1. Manufacturer shall make or have made, under their control, all parts comprising complete motorized telescopic seating riser system.
 - 2. Maintain test and inspection procedures, to assure uniform high quality of all raw materials and finished product.
 - 3. Manufacturer shall have capacity and facilities to furnish quality and quantity required without delaying the Work.
- C. Installer's Qualifications:
 - 1. Experienced in installation or application of systems similar in complexity to those required for this Project.
 - 2. Acceptable to or licensed by manufacturer.
- D. Welder's Qualifications: AWS certified within past 12 months for each type of weld required.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
 - 3. Store materials in clean, dry area indoors.
 - 4. Protect materials and finish during storage, handling, and installation to prevent damage.

1.9 PROJECT CONDITIONS

- A. Field Measurements:
 - 1. Check actual dimensions of construction affecting motorized telescopic seating riser system by accurate field measurements before fabrication; show recorded measurements on final shop drawings.
 - 2. Coordinate fabrication schedule with construction progress to avoid delay of Work.
- B. Ambient Conditions:
 - 1. Maintain ambient conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results.
 - 2. Do not install products under ambient conditions outside manufacturer's absolute limits.

1.10 WARRANTY

- A. Warranty Period: 1 year from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Manufacturer: StageRight, 495 Pioneer Parkway, Clare, Michigan 48617. Toll Free 800-438-4499. Website www.stageright.com. E-mail stageright@rogersgrp.com.
- B. Substitutions: Not permitted.

2.2 SYSTEM DESCRIPTION

- A. Motorized Telescopic Seating Riser System: "TeleMatic 100" motorized telescopic seating riser system.
- B. Multiple-tiered seating rows comprised of deck components, risers, supportive understructure, and accessories as required.
- C. Operable on the telescopic principle, stacking vertically in minimum floor area when not in use.
- D. For motorized systems, all operable rows shall be mechanically locked, operable only upon activating controls.
- E. Manufactured product components shall be fully assembled before shipping to minimize installation time on site, when size permits.
- F. Installation Condition:

Specifier Notes: Specify **one** of the following **three** installation conditions. Consult StageRight for more information.

1. Permanent: Permanently secured to floor or building structure with concrete anchors, mechanical fastening to wall or floor.
2. Non-permanent: Secured to location in non-permanent method, to include one or both of the following methods:
 - a. Location-specific floor receptacles core drilled into floor and accepting location pin attached to steel framework of risers.
 - b. Non-location-specific random placement in open area by setting on stationary pads on back level.
3. Non-permanent: Non-permanent mounting methods allow for several options for movement and transportation.
 - a. When closed in fully retracted position, riser may be transported or moved by one method or combination of the following methods (dependent upon the size of unit, transportation equipment available, and clearance for movement and storage):
 - 1) Fully engineered, on-board, pneumatic-deployed caster system using standalone air compressor and closed-loop system. By attaching compressor and filling closed-loop pneumatic system, airbags deploy dual-swivel caster systems to lift and allow for movement.
 - 2) Fully engineered and integrated fork-truck hoops welded or attached to system structure to provide balanced lifting and transportation point.

- 3) Fully engineered and integrated fork-truck hoops welded or attached to system structure to provide balanced lifting and transportation point and supplement with manually deployed transportation casters that are deployed after fork-truck lifts system and are pinned in place for manual transportation, towing, or other methods.

- G. Fork Tubes: Each unit shall have 2 built-in structural steel tubes spaced appropriately for standard (manufacture specified) forklift use from the front or back of unit for delivery and installation.
- H. Capable of using beam-mounted loose chairs or nose-mounted chairs from a variety of major chair manufacturers.
- I. Operation: Requires no more than 2 people for operation; 1 to operate controls and 1 to observe motion for safety.

2.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Design, engineer, fabricate, and erect systems to withstand specified design loads within limits and under conditions required.
- B. Design platform to support and resist, in addition to its own weight and the weight of all added accessories, the following minimum forces:
 1. Live Load: 100 pounds per square foot, uniformly distributed.
 2. Side Sway Loads: 24 pounds per linear foot of row, parallel to seats.
 3. Perpendicular Sway Load: 10 pounds per linear foot of row.
 4. Sway forces shall not be considered simultaneously applied.
- C. Rail Loads:
 1. Structurally design to support a concentrated load of 200 lbs. at any point and a uniform load of 50 lbs. per foot applied in any direction.
 2. Concentrated and uniform loading conditions shall not be required to be applied simultaneously.

2.4 MATERIALS

- A. Structural Steel Shapes, Plates, and Bars: ASTM A 36, except where higher strength steel is indicated or standard with manufacturer.
- B. Uncoated Steel Sheet:
 1. ASTM A 36, commercial quality, cold-rolled sheet, and stretcher leveled.
 2. Minimum Thickness: 14 gage.
- C. Steel Tubing: ASTM A 500 or ASTM A 513.
- D. Extruded Aluminum: Manufacturer's standard extrusions of sizes and profiles required to achieve tread and riser dimensions indicated, Alloys 6005, 6061, 6063, or 6105, Temper T5 or T6.
 1. Minimum Thickness: 0.094 inch.

- E. Fasteners:
 - 1. Size and material standard with manufacturer.
 - 2. Vibration proof.

2.5 FABRICATION

- A. General:
 - 1. Smoothly round corners, edges, and exposed fasteners, to eliminate snagging and pinching hazards.
 - 2. Form exposed metal with flat, flush surfaces, true to line and level.
 - 3. Perform welding by operators and processes complying with AWS requirements.
- B. Understructure System:
 - 1. Non-drive Levels, Rolling Horizontal Member: Tubular steel to increase overall rigidity of unit.
 - a. Tubular Steel: Size and shape necessary to support design loads.
 - 2. Wheels: Non-marring phenolic, 5 inches by 1.5 inches, with a minimum of 5 wheels per leg.
 - 3. Primary Vertical Support Columns:
 - a. Tubular Steel: Size and shape necessary to support design loads.
 - b. Fully welded to rolling horizontal member.
 - 4. Plastic Guide Bumpers: Secure to rolling horizontal members to maintain proper level-to-level spacing.
 - 5. Horizontal Relationships Between Subsequent Levels:
 - a. Maintained with free roller bearing guided by a minimum 0.25-inch-thick vertical guide rail.
 - b. Horizontal relationship cannot be maintained by 2 rigid surfaces interacting with each other.
 - 6. Rolling Horizontal Members:
 - a. Incorporate a fully protected hidden 0.75-inch automatic locking pin to securely lock each level while in a fully deployed state.
 - b. Locking Pin: Only release during retraction of the unit in a sequential manner from front of riser to rear.
 - c. Levels cannot be locked utilizing an unprotected gravity locking system.
 - 7. Understructure Steel Components: Powder coating or zinc plating.
- C. Decking System:
 - 1. Deck: Composite structure fully laminated and bonded in a 1-step process.
 - a. Composite Structure: Interior tubular steel skeletal structure assembled within a 3-sided aluminum extrusion outer frame.
 - b. Pockets Formed by Steel and Aluminum Frame: Filled with vertical aluminum honeycomb or equivalent.
 - c. Aluminum Skin Sheeting: Bonded to both top and bottom of described framework and filler components.
 - d. Walking Surface: Non-skid vinyl; light grey concrete color.
 - 2. Front Aluminum Exposed Edging: Provide for aisle lighting and other accessories to be integrally mounted.
 - 3. Intermediate Accessory/Closure Panels: Steel tubing and fabricated steel sheet.
- D. Seating:

1. Understructure/Decking System: Accommodate both riser/beam-mounted seating and nose-mounted seating from a variety of major chair manufacturers.

Specifier Notes: Include section number for seating installed on motorized telescopic seating riser system.

2. Seat mounting hardware and components: Specified in Section [12 60 00] [_____].

2.6 PROPULSION SYSTEM

A. Operation Controls on Telescopic Unit:

1. Pendant: Two-button wired pendant.
2. Selections: Forward to deploy and reverse to retract unit.
3. Steering: Manually steer units or banks of units by operator at pendant.

B. Friction-Belt Drive:

1. Telescopic Risers: Extend and retract as powered by a minimum of 2 motors and 2 powered belts.
2. Chain Drive Systems: Not acceptable.
3. Power Friction Systems Using Wheels or Drums: Not acceptable.
4. Belt Surface: Greater than 40 sq. in. of contact with floor to eliminate slipping.
5. Belt Surface Coating: Non-marking high-traction coating.
6. Each Drive Pulley: Direct driven by electrical motor sized for weight and design of unit.
7. Steering: Manually or automatically varying relative speed of drive motors.

C. Wiring from power source within 20 feet of center of each unit at back.

Specifier Notes: Automatic guidance system is optional. Delete if not required.

D. Automatic Guidance System:

1. During deployment and retraction modes to ensure consistent and accurate positioning.
2. Can be deployed on 1 individual riser or banks of risers to match configuration needs.
3. Vertical Line Laser: Mounted to rear of structure, adjustable to provide straight and accurate reference path of travel for unit as it deploys and retracts.
4. Sensor: Mounted to front of telescopic unit that provides feedback based on laser line, as to the current position of the riser during deployment and retraction.

E. Electrical Power: Specified in Division 26.

1. 120 v single-phase power provided behind each riser that requires power.
2. Electrical Disconnect: Required by code.
3. Amperage: Specified by telescopic manufacturer dependent on number of drive units required.

2.7 ACCESSORIES

A. General: Provide the following accessories at locations indicated on the Drawings or as required.

Specifier Notes: Delete accessories not required.

- B. Transport Carts:
 - 1. Storage of demountable guardrails/aisle rails, T-molding gap closures, and fabric end closures.
 - 2. Welded-steel tube or aluminum-channel construction with fork truck access.
 - 3. Two swivel 6-inch-diameter castors with heavy-duty frames.
 - 4. Contain their intended load in a secure and organized manner.

- C. Transport Systems for Portable Units:
 - 1. Integral Airlift System: Provide each portable seating section with a minimum of 2 self-contained integral airlift units.
 - 2. Heavy-gauge steel to support overall weight and the forces applied in relocating seating unit.
 - 3. Swiveling Caster Assemblies: Total number and type of caster determined by manufacturer, based on overall weight and flooring surface.
 - 4. Quick-disconnect air valves at both ends of section for ease of operation.
 - 5. One 1-1/2 HP, 125 psi portable air compressor with tank.
 - 6. Architect will coordinate compatibility of portable seating and floor surface with flooring manufacturer.

- D. Aisle Lights:
 - 1. Strip LED aisle lights to fully light width of aisle at each face of riser and each aisle step riser, unless otherwise indicated.
 - 2. Minimum 1 foot-candle on horizontal surface of each aisle tread.
 - 3. Lighting Control:

Specifier Notes: Specify lighting control from the following options.

- a. Individual switch on telescopic banks.
 - b. Wired into house panel control.
 - 1) Wired to safety/fire circuit and dimming.
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- E. Removable End Rails and Back Rails:
 - 1. Steel.
 - 2. 30-inch-high painted front and side rails.
 - 3. 42-inch-high guardrails and end of aisles and adjacent to steps.
 - 4. Removable without use of tools.
 - 5. 1-1/2-inch-diameter tubular supports and vertical round pickets to fulfill design criteria and meet 4-inch-sphere passage requirements.

 - F. T-Molding Gap Closures:
 - 1. Removable thresholds to close spaces between units and fixed seating bowl construction.
 - 2. Thresholds: Minimum 4-inch-wide extruded rubber with tapered edges to minimize tripping hazards, retained by oversized self-centering feature.

 - G. Closure Drapes:

1. Removable end (and back if required) closure drapes for seating platforms when in open position.
2. Attachment: Friction adhesive strips.

H. Vertical Aisle Center Handrails:

1. Removable, 34-inch-high, sloped, dual-post, single-level rail, fully welded, along centerline of each vertical aisle, discontinuous at not more than every 3 rows.
2. Hand Rails: Comply with code requirements.

I. Transitional Steps:

1. At each vertical aisle location where required by code.
2. Steps: "Boxed" fully-enclosed type with solid, full-width, aluminum stair treads.

2.8 FINISHES

A. Aluminum: Clear anodized, AA-M12C22A41, AAMA 611.

B. Steel:

1. Surface Preparation:
 - a. Solvent-clean surfaces to remove dirt, oil, grease, and other contaminants that could impair paint bond.
 - b. Remove mill scale and rust, if present, from uncoated steel.
2. Powder-Coat Finish:
 - a. Immediately after cleaning and pretreatment, apply manufacturer's standard, non-glare, baked-on powder-coat finish.

Specifier Notes: Specify color of powder-coat finish. Black is standard. Consult StageRight for availability of custom colors.

- b. Color: [Black] [_____].

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive motorized telescopic seating riser system.
- B. Verify surfaces to support motorized telescopic seating riser system are clean, dry, flat, plumb, level, square, stable, and rigid.
 1. Surface Variation: Less than 1/8 inch per 8 feet.
 2. Concrete Surface Tolerances: ACI 117.
- C. Verify adequate wall or floor strength for attachment and operation of wall or floor attached motorized telescopic seating riser system in accordance with ACI 318.
- D. Verify that areas to receive motorized telescopic seating riser system are free of impediments likely to interfere with installation or operation.

- E. Field check site conditions and dimensions before starting installation of motorized telescopic seating riser system.
- F. Notify Architect of conditions that would adversely affect installation or subsequent use.
- G. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

- A. Install motorized telescopic seating riser system in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Install motorized telescopic seating riser system plumb, level, and square.
- C. Provide accessories indicated and anchors, fasteners, inserts, and other items required for installation of units and permanent attachment of units to adjoining construction.
- D. Secure by structural bolts with prevailing torque lock nuts or free-spinning nuts in combination with lock washers the structural connections not indicated to be welded.

3.3 ADJUSTING

- A. Lubricate, test, and adjust motorized telescopic seating riser system for proper operation in accordance with manufacturer's instructions.
- B. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- C. Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by Architect.

3.4 CLEANING

- A. Clean motorized telescopic seating riser system promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh cleaning materials or methods that could damage finish.

3.5 DEMONSTRATION

- A. Demonstration:
 - 1. Demonstrate to Owner's personnel that system functions properly in every respect.
 - 2. Demonstrate recommended procedures for operation of motorized telescopic seating riser system and accessories into different event configurations.
 - 3. Perform demonstration at final system inspection by factory-trained and certified representative of manufacturer.
- B. Instruction and Training:
 - 1. Provide instruction and training of Owner's personnel in the operation and maintenance of system.

2. Provide instruction and training by factory-trained and certified representative of manufacturer.

3.6 PROTECTION

- A. Protect installed motorized telescopic seating riser system from damage or deterioration at time of Substantial Completion.

END OF SECTION