

## SECTION 12612

### FIXED THEATRICAL SEATING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Fixed Theatrical Seating and accessories.

##### 1.02 GENERAL DESCRIPTION OF THE WORK OF THIS SECTION:

- A. Work includes furnishing and installing theatrical seating with automatic seat return.
- B. For bidding purposes, all bids shall be based on the number of seats indicated in the drawings. Provide a unit price per seat to be used in determining cost if final seating layout shows other than the numbers indicated in the drawings. The unit price shall cover the cost to the Contractor, less applicable trade discounts: of the specified services, materials and equipment delivered at the site, including unloading, uncrating, and storage; and installed by the Contractor. The Contractor shall include his markup for overhead and profit related to the unit price in his Proposal.

##### 1.03 RELATED WORK OF OTHER SECTIONS:

- A. Coordinate work of this Section with work of other Sections as required to properly execute the Work and as necessary to maintain satisfactory progress of the work of other Sections.

##### 1.04 REFERENCES

- A. Americans with Disability Act (ADA) Accessibility Guidelines for Buildings and Facilities, Edition as applicable by authorities having jurisdiction.
- B. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, April 1, 1994 with latest amendments.
- C. ASTM E 1352 - Standard Test Method for Cigarette Ignition Resistance of Mock-Up Upholstered Furniture Assemblies; 1999.
- D. ASTM E 1537 - Standard Test Method for Fire Testing of Upholstered Furniture; 1999.
- E. NFPA 261 - Standard Method of Test for Determining Resistance of Mock-Up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes; National Fire Protection Association; 1998.
- F. NFPA 266 - Standard Method of Test for Fire Characteristics of Upholstered Furniture Exposed to Flaming Ignition Source; National Fire Protection Association; 1998.

##### 1.05 DESIGN REQUIREMENTS

- A. Theatrical Seating: Seating shall be provided which displays a continuity of design, and all components (specified or required) shall complement one another in form, style, and texture relaying an appearance of a complete and finished installation.
  - 1. Stagger seating widths indicated in drawings from row to row where required to optimize sightlines.
  - 2. All theater seats shall be upholstered seat and back, gravity self-rising, and fixed floor-mounted type.
  - 3. Provide seating and signage to meet accessibility requirements where indicated in drawings.
    - a. Clearly indicate locations in shop drawings.
  - 4. Provide seat profile within dimensional limits indicated in drawings.
  - 5. Provide seat width allowances for sanctuary chairs as indicated in drawings. Provide seat

widths in 19", 20", 21", and 22" sizes as required to obtain maximum sightlines from all seats. Provide 20" wide seats for as many locations as possible, utilizing other sizes where necessary to maintain optimum spacing and sightlines.

6. Seating manufacturer to determine back pitch based on project sightlines, floor slopes, risers heights, and any other information deemed necessary by the manufacturer or requested by the Architect.
7. Varying lateral sizes of backs shall be used for individual chair seating in accordance with approved seating plans, with standards in each row spaced laterally so that the end standards shall be in alignment from first row to last row, whether aisle are of constant width or converge.

#### 1.06 PERFORMANCE REQUIREMENTS

- A. Conform to applicable codes for flame spread and smoke developed requirements for seating materials.
- B. Fire Retardance of Upholstered Seating: Self-extinguishing when mock-up is exposed to smoldering cigarettes in accordance with ASTM E 1352 or NFPA 261 and with the State of California, Bureau of Home Furnishings Technical Bulletin 116 and padding in compliance with Technical Bulletin 117..
- C. Fire Retardance of Fixed Theater Seating: Maximum instantaneous net peak rate of heat release of 250 kW or less, and total energy released during first 5 minutes of 40 mJ or less, when tested in accordance with NFPA 266 or ASTM E 1537.

#### 1.07 SUBMITTALS

- A. Product Data: Provide complete data and specifications on seating, components and material that are specific for this project. Provide information showing compliance with contract documents.
- B. Shop Drawings: Indicate a complete seating plan developed from the drawings and supplemented by field measurements showing **all of the following information**:
  1. All chairs and aisle widths:
    - a. Provide total seat count and total number of each size chair (19-inch, 20-inch, etc)
    - b. Indicate which drawings and details were used to develop the seating plan.
    - c. If seating configuration varies from drawings, identify differences and locations where they occur. Submit written statement as to the reason configuration varies from referenced drawings.
  2. Clearly indicate in the drawings ambulatory accessible seating locations and number.
  3. Show section with profile dimensions of the chair with back-to-back dimensions.
  4. Assume complete responsibility for the accuracy of all chair measurements shown on the seating plan.
  5. Indicate back pitch of chairs selected and their locations.
  6. Indicate method of installation and proposed fasteners for substrates specific to this project. Standard manufacturer details are not acceptable. Submit manufacturer's installation recommendations.
  7. Indicate chair manufacturer name, address, contact person and telephone number or email address on drawings.
  8. If the chair manufacturer requests electronic drawings files (CAD) and if the file(s) is provided, the manufacturer shall not submit the same electronic file for submittal review purposes. Seating manufacturer shall produce their own electronic drawing file(s) which shall only be based on the design intent from the electronic file provided. Seating manufacturer shall be responsible for field verifying the information and any subsequent documents.
    - a. Seating manufacturer shall send the Architect an electronic seating plan file (CAD) for informational purposes only after completion, if submittal drawings were completed

with CAD.

- C. Selection Samples: Manufacturer's color charts and swatches for fabric upholstery, indicating full range of materials, colors, and patterns available.
  - 1. Submit the following samples:
    - a. Four 12" square samples of each fabric in each color/pattern/texture required.
    - b. Four 6" square samples of plastic laminate in each color/pattern/ texture required.
    - c. Four 6" square samples of steel sheet and 6" long samples of steel tubing finished with baked enamel coating in each color required.
    - d. Four chair arm samples of wood species and finish required.
- D. Verification Samples: Two full-size seats, fabricated sample of each type of chair specified, including all accessories and end panel type specified, illustrating all finishes and workmanship to be expected in the finished Work; approved sample may be incorporated into the Work.
- E. Certificates: Certification from manufacturer that products of this section meet or exceed specified requirements.
- F. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner 's name and registered with manufacturer.

#### **1.08 QUALITY ASSURANCE**

- A. Provide each type of seating by a single manufacturer, including accessories, mounting, and installation components.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years of documented experience including:
  - 1. Minimum of five (5) projects of comparable size, scope, and complexity and in service for a minimum of five years.
  - 2. Approved by the manufacturer.
- C. Field Measurements: Before fabricating fixed theater seating, verify seating layout by field measurements, and record field dimensions on shop drawings.

#### **1.09 WARRANTY**

- A. The seating manufacturer shall warrant its products against failures and manufacturing defects for the life of the product. This warranty applies to the original purchaser and is non-transferable. The seating manufacturer will provide parts and labor to replace defective parts for the first two years after the installation. Thereafter, the manufacturer will provide replacement parts for the life of the product.
- B. The warranty shall not cover damage from abuse, misuse, neglect, or acts of God. Damage caused by modifications to the product by anyone other than an authorized seating manufacturer technician will void this warranty. This warranty does not apply to fabrics or products not installed by authorized seating manufacturer technicians.

#### **1.10 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver chairs to project site in unopened containers clearly labeled with manufacturer's name and identification of contents. Work of this Section includes packing, shipping, freight, express charges, hauling charges, unpacking, assembly or setup, delivery to and installation of seating as indicated in the Drawings.
- B. Store chairs in dry and clean location until needed for installation. During installation, handle in a manner that will prevent marring and soiling of finished surfaces.

#### **1.11 PROJECT CONDITIONS**

- A. Environmental Conditions: Do not install seating until space is enclosed and weatherproof, wet

work in space is complete and dry, installation of finishes including painting is complete and ceilings are complete. Do not install seating until ambient temperature and humidity conditions are continuously maintained at final occupancy values.

### 1.12 EXTRA MATERIALS

- A. Provide the following items neatly boxed and labeled as to contents and place in storage location as directed by the Owner at Date of Substantial Completion. Package materials with protective covering and identify with labels describing contents.
  - 1. Fabric sufficient for reupholstering five percent of installed seating, for Owner 's use in maintenance from the same production run as the materials installed for this project.
  - 2. Hardware: One percent of total number installed additional hinge mechanisms including seat lift springs.
  - 3. Standards: One percent of the total number installed additional standards.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. Provide all seats, components, and accessories from a single manufacturer.
- B. Theatrical Seats:
  - 1. Seating Concepts. [www.seatingconcepts.com](http://www.seatingconcepts.com)
  - 2. Or equal.

### 2.02 PRODUCTS

- A. As selected.

### 2.03 MATERIALS

- A. Provide all hardware items required in the assembly and installation of seating with rust-resistant black oxide finish.
  - 1. Provide rounded cover caps for both ends of all fasteners exposed in the finished work. Fasteners with integral rounded ends will be acceptable provided they remain unmarred at completion of the installation.
- B. Sheet Steel: ASTM A 591/A 591M, Commercial Steel (CS) or Drawing Steel (DS) electrogalvanized sheet, 40Z (12G) coating class; chemically treated for baked enamel finish.
- C. Steel plates, bars, and tubes: ASTM A 36/A 36M.
- D. Exposed Hardwood: Solid lumber selected for absence of visible defects; birch, northern hard maple, or white oak.
- E. Upholstery Fabric: ASTM D 3597 heavy-duty plain woven nylon fabric, treated to resist cigarette ignition and staining; color and pattern as selected from manufacturer's standards.

### 2.04 FABRICATION - GENERAL

- A. Fabricate the seating in contoured form for maximum comfort using materials, which are carefully selected to be free from defects, objectionable projections, or irregularities. Smooth corners and edges to present the least possible snagging and pinching hazards.
- B. Assemble various parts required using specified components and accessories with a minimum of exposed fasteners. There shall be no exposed hardware on the rear, or face, of the back. Provide rounded cover caps as specified for all fasteners exposed in the finished work.

### 2.05 MOUNTING

- A. Fabricate seating units for floor attachment, using standards which have been manufactured to conform to the slope of the floor (where required) while maintaining seat and back in the same

angular relationship to standards throughout.

## 2.06 STANDARDS

- A. Support Standards: Tubular steel with welded mounting points for backs, seats, and arm rests, and welded floor anchor plates. Fabricate movable bases from welded steel members to provide a stable assembly with rigid connections with holes for attachment of the standards.
- B. Standard Anchoring Devices: Minimum 1/4-inch expansion bolt by not less than 2 1/2-inches long or as recommended by manufacturer to suit application.
  - 1. Color: Matching support standard color. Installer's option to use bolt cover caps in color matching support standard color. Paint to match if matching color not available.

## 2.07 UPHOLSTERED CHAIRS

- A. Fixed seating system designed to permit installation using common middle support standards in each row and aisle standards aligned as indicated on drawings. Width of seats not less than 20 inches, except seat locations may be reduced to 19 inches to complete specific row dimensions.
- B. Backs: Fixed type; two-panel construction with fabric covering over padding and protective back panel, with installed height not less than 32 inches above finished floor.
- C. Seats: Hinged type, constructed to permit reupholstering without removing seat from chair.
- D. Hinges: Self-lubricating, noiseless steel hinges with brass alloy bearings or nylon bushings, equipped with spring mechanism or counterweight system that causes unoccupied seat to rise automatically to uniform 3/4 fold, with 100 percent fold when additional pressure is applied for lifetime silent operation.
- E. Arm Rests: Locate at aisles and between chairs; mount to support standard with concealed fasteners; exposed surfaces as selected.
- F. End Panels: One piece panels fastened securely to aisle standards with concealed fasteners, configured as follows:
  - 1. Shape: As selected.
  - 2. Finish: As selected.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify that field dimensions correspond with approved shop drawings.
- B. Examine the work in place on which seating is dependent. Defects which may influence satisfactory completion and performance of seating work shall be identified and corrected in accordance with the requirements of the applicable section of work in question before commencement of seating work.
- C. The seating plan shall be reproduced on the floor, all dimensions shall be compared with the approved shop drawings and necessary adjustments made in the layout for all discrepancies and compliance with applicable codes. If field adjustments are necessary which reduce any means of egress, the seating manufacturer shall notify the Contractor before continuing with installation.

### 3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install seating in new condition, free of defects, such as scratches, dents, abrasions, and stains, in the locations shown in the Drawings.
- C. All hardware, brackets, and similar items shall be securely installed, in a neat and workmanlike

manner, adjusted, and left in new, properly operating condition.

- D. Anchor support each standards securely to substrate encountered with a minimum of two anchoring devices that produce seating free of instability under conditions of actual use.
  - 1. Place standards in each row laterally so the standards at the aisle will be in alignment.
  - 2. In curved rows, install standards to form smooth radius, without breaks or angled chords.
  - 3. Comply with Accessibility Guidelines and Building/Life Safety requirements for row and aisle widths indicated in drawings.
  - 4. Vary width of seats as required from row to row to optimize sightlines. This includes locations where sections of seating have the same size row width unless only one size seat will fit for the entire width.
  - 5. Where row dimensions require the use of 19-inch seats, locate the 19-inch seats towards the center of the row. Install seat widths larger than 19-inches closer to or at the aisle.
  - 6. Where multiple seat widths are in a row, locate the seats width closest in size next to each other (i.e. 19-inch adjacent to 20-inch, 20-inch adjacent to 21-inch, 21-inch adjacent to 22-inch and so forth).
    - a. Only install seats adjacent to each other that exceed one size where row sizes and combination of seat widths make it impractical and where approved by the Architect.
  - 7. Attach components to standards with sufficient flexibility to compensate for convergence of seats toward the center.
- E. Install bolt cover caps or paint all exposed standard floor anchoring devices.

### **3.03 ADJUSTING**

- A. Adjust seat mechanisms to ensure that seats in each row are aligned when unoccupied.
- B. Repair seat units with minor abrasions and imperfections in painted finishes with a coating that matches factory-applied finish; replace units that cannot be repaired to unblemished appearance.
- C. Replace seating upholstery fabric damaged or soiled during installation.
- D. Make all minor adjustments and similar final corrections as directed by the Architect.
- E. Repair, refinish, and make good all damage to the finishes resulting from installation operations. This shall include any damage to wallcovering, paint, floor, and all other finished work. All repaired or replaced work shall be as good or better than existed prior to damage as determined by Architect.

**END OF SECTION**