# INVITATION FOR BIDS

# AUDITORIUM SEATING EQUIOPMENT AND SUPPLIES
# BID #21-373

## Seating Specification Irwin Seating Company

**This specification may change without notice. Please contact the factory to insure it is current.**

## Model: 1.14.56.8 Crusader

## Part 1: General Specifications

**1.01 Scope:**
Deliver and install fixed auditorium/theatre chairs with plywood seat and back, and aisle and center standards, all as specified, floor mounted, with self-lifting seat which raises automatically to a uniform ¾ fold position.

**1.02 ADA:**
Comply with ADA (Americans with Disabilities Act) Rules and Regulations.

**1.03 Sizes:**
Varying lateral sizes of backs shall be used in accordance with approved seating plans, with standards in each row spaced laterally so that the end standards shall be in alignment from first to last row whether aisles are of constant of converging width.

**1.04 Shop Drawings:**
Submit a complete seating plan developed from the contract drawings, showing all chairs, sizes, and aisle widths. Assume complete responsibility for the accuracy of all chair measurements shown on the seating plan.

**1.05 Examination & Acceptance of Work in Place:**
Examine work in place on which seating work is dependent. Defects which may influence satisfactory completion and performance of seating work shall be corrected in accordance with the requirements of the applicable section of work prior to commencement of seating work.

**1.06 Field Measurements:**
Take field measurements to verify or supplement dimensions indicated. Be responsible for accurate fit of work.

**1.07 Materials and Workmanship:**

a. Provide new materials of types specified.

b. Turn over all work to the owner in undamaged condition.

c. Provide workmanship of the best quality by craftsmen skilled in their respective trades.

**1.08 Quality Assurance:**

To assure high and satisfactory quality, design, color and operation of products, reference has been made to brand names; however, it is not intended to limit competition and items of brands that are equal will be given full consideration.

Base Specification:

| | |
|---|---|
| Specified | Fixed Chair |
| Irwin Seating Company | 1.14.56.8 Crusader |

**1.09 Responsibility of Bidder:**
The bidder must provide the following with his bid:

Bidder shall submit a list of five (5) seating projects of similar size which have been in service for 5 years or longer. Projects submitted shall incorporate chairs with seats, backs and standards consistent with those offered on this project.

**1.10 Delivery:**
Deliver the seating at a proper time for installation that will not interfere with other trades operating in the building. Bid seating for installation and completion in as directed by owner after that date.

**1.11 Warranty:**

a. Provide a manufacturer's warranty covering the material and workmanship for a period of one year from date of final acceptance.

b. Repair or replace any part which becomes defective during the warranty period, except where the product has been subject to accident, alterations, abuse, misuse or neglect.

## Part 2: Material Specifications

**2.01 Steel:**
Steel shall be the primary structural material for chair support systems, including aisle and center standards, and back component attachment. Steel structural components shall be die-formed according to modern manufacturing methods, and assembled by means of state-of-the-art MIG welding processes. All steel shall have smooth surfaces and be of sufficient gauge thickness and designed to withstand strains of normal use.

**2.02 Wood:**
Plywood, exposed or concealed, shall be hardwood. All plywood shall be hot press laminated using high frequency process. Interior plies shall be Class 3 or better. Exposed exterior plies shall be Class 1, continuous, and selected as to color. Solid hardwood shall be clear and selected by color. All exposed hardwood shall be solid northern-grown maple, and veneer shall be rotary cut, Grade A, #1 white, maple. Medium Density Fiberboard shall be resin bonded of wood particles, 5/8” minimum thickness, 45 lb./cu. ft. density.

**2.03 Plastic Components:**

a. Not Applicable

**2.04 Padding Material:**
Seat and back padding material shall be of new (prime manufacture) polyurethane foam. Padding material shall comply with the flammability requirements outlined in the California Technical Information Bulletin #117, Resilient Cellular Materials, Section A & D, dated February 1975, when tested in accordance with Federal Test Method Standard 191, Method 5903.2.

**2.05 Fabric:**

A specification for upholstered chairs is expected to contain a description of upholstery fabric required; otherwise the seating contractor must base a bid on their own choice. A wide variety of upholstery materials are available from a multitude of sources. Designer has great discretion in the fabric to be used. It is recommended that auditorium chair upholstery fabrics offer resistance to abrasion, stretch, seam failure when sewn, crocking, and allow finished chairs to have a reasonable cost. Further, it is required that fabric shall meet Class 1 flammability requirements of the U.S. Department of Commerce Commercial Standard 191-53 per Bulletin #117 (California Code).

**2.06 Finish:**

a. Metal Parts:
   All exposed metal parts shall be powder coated with a hybrid thermosetting powder coat finish. The powder coat finish shall be applied by electrostatic means to a thickness of 2 - 5 mils, and shall provide a durable coating having a 2H Pencil hardness. Prior to powder coating, metal parts shall be treated with a three-stage bonderization process for superior finish adhesion, and after coating shall be oven baked to cause proper flow of the epoxy powder to result in a smooth, durable finish. Manufacturer's standard color range shall be used.

b. Wood Parts:
   All exposed surfaces shall be stained to color selected and coated with lacquer of sufficient film depth to afford wear resistance of institutional quality and oven baked.

c. Plastic Parts:
   Color of plastic shall be selected from manufacturer's standard color range.

d. Hardware:
   All assembly hardware shall be rust resistant, black plated.

## Part 3: Construction

**3.01 Plywood Veneer Backs:**

Backs shall be of 7-ply, symmetrical, cross banded, hot press glued construction, having a thickness of not less than 7/16". All plies shall be hardwood, and face plies shall be vertical-grain, continuous, and selected as to quality and color. Back shall have a true lateral radius of not more than 20 inches on the front face. All edges shall be sanded smooth and finished. Overall length of the back measured at the center line shall be 20" +/- 1/4". The back wings for attaching the complete back to the standards shall be not less than 14 gauge steel, securely riveted to the back, and shall have provision for 16 degree or 20 degree pitch.

**3.02 Plywood Self-Lifting Seats:**

Seats shall be rugged hardwood plywood contoured to fit the form of the seated individual, providing a crown to support the mid-thighs, while curving downward at the front to very gently support the Popliteal area. Seats shall be supported by sturdy formed steel seat-lift arms, and shall automatically self-lift to a three-quarter safety fold position when unoccupied; positioning the uplifted seat within the envelope of the chair armrests. The seats shall be certified to withstand a front-of-seat 600-pound static load, laterally distributed 3" from the leading edge of seat. The seat shall also be certified to pass a 100,000 cycle seat oscillation test, ASTM Designation F851-87 Standard Test Method for Self-Rising Seat Mechanisms.

a. Seats shall be fabricated of 7-plies of 1/16” thick hardwood veneer, symmetrical cross-banded construction, with maple veneer top and bottom exposed surfaces, and formed to fit the contour of the seated human form. All edges of the seats shall be sanded smooth and lacquer finished. The rear edge of seat shall be shaped to conform with the curvature of the back.

b. Self-lifting seat support arms shall be constructed of deep-formed steel for superior strength, and shall be through-bolted to the plywood seat with bolts having bright-plated exposed decorative heads. Seat uplift shall be accomplished automatically by means of a thoroughly tested and certified spring uplift system with cushioned upstops and downstops. Seat-lifting system shall cause seat to quietly and automatically rise to a 3/4 fold position when unoccupied, and store within the envelope created by the chair armrests. Seat support arms shall be formed and MIG-welded 12 ga. (0.105”) steel providing an unobtrusive hinge and uplift mechanism.

**3.03 Standards:**

a. Aisle Standards:
Aisle standards shall be of modern pedestal design with the rectangular decorator panels approximately 11-1/2" x 17-1/2” with radiused bottom corners. Aisle panels shall be constructed of medium density fiberboard (MDF), surfaced with wood veneer, stained as required and attached to a formed, 14 gauge (0.0747”) steel panel that is welded to the column. Structure of the aisle standards shall be provided by 1" x 3" rectangular columns of 14 gauge (.0747) steel. The top of the column shall be provided with two formed steel dovetail lugs for secure attachment of the armrests. Brackets for seat attachment shall be 7 gauge (.1875") buttressed steel welded on the inside of the standard.

b. Center standards shall be of welded steel, modern pedestal design, fabricated of 14 gauge (.0747") steel to a 1" x 3" rectangular column. Brackets for seat support shall be 7 gauge (.1875") steel for superior strength, formed with an integral support buttress, and wing plates for mounting backs shall be 14 ga. (.0747") steel; both MIG-welded to the pedestal column to form a coherent unit. The top of the column shall be provided with two formed steel dovetails for secure attachment of the armrests.

c. Floor mounted standards shall be provided with a formed 14 gauge (.0747) steel foot welded to the bottom of the rectangular column. This weldment shall be at all critical stress areas 360 degrees around the column, and concealed on the inside so as not to detract from clean appearance of the column. The foot dimension shall be 8" x 2-3/4" to provide maximum bearing surface to the floor. The standard shall be fabricated to be compatible with the floor incline, and to maintain proper seat and back height and angle.

**3.04 Armrests:**

Armrests shall be solid hardwood with all edges well rounded. Armrests shall be furnished with two (2) keyhole slots in the bottom and shall lock securely to dovetail lugs provided on aisle and center standards. Further, one (1) security screw shall be utilized.

**3.05 Handicapped Access Aisle Standards:**

Aisle standards designated on the contract drawings shall be designed to allow an individual to transfer from a wheelchair to the theatre chair. The aisle standard support column shall be inclined toward the rear by approximately 16 degrees, and shall be equipped with an armrest capable of lifting to a position parallel with the chair

back, opening sideways access to the seat. Aisle standards so equipped shall be provided with a label, displaying an easily recognizable "handicapped" symbol. Decorative requirements of aisle standards are waived for the handicapped access standards.

## Part 4: Execution

**4.01 Scope of Work:**
The installation shall be performed by the successful bidder, under the direction of a capable installation superintendent, in a manner satisfactory to the architect, and the job turned over to the owner with all chairs complete and ready to use.

**4.02 Method of Installation:**
The seating plan shall be reproduced on the floor, all dimensions checked against the plan and necessary adjustments made in the layout for all discrepancies.

Chairs shall be attached by means of an approved style of wedge-type, zinc plated expansion anchors installed strictly according to the manufacturers' instructions. Floor mount chairs shall be attached with 1/4" expansion anchors by not less than 2-1/4" long. There shall be two (2) bolts per standard.

**4.03 Cleaning:**
Remove all debris caused by this work from the premises.