

**SPECIFICATION
FOR CHAIRS, SIDE AND DESK TYPE,
WOOD, UPHOLSTERED, OFFICE**

(This specification is released for procurement purposes until revised or rescinded.)

SCOPE

This specification covers upholstered wood office side chairs and upholstered wood non-ergonomic swivel-tilt desk chairs as defined herein, of traditional, transitional, and contemporary design. Any manufacturer whose line of chairs, in the State's sole judgment, is predominately of a style not suited for the State's various types of offices may be rejected on that basis. Ergonomic chairs, and sofas, lounge chairs, love seats, multiple seating, dining room seating, and other types of seating are covered by separate specifications.

IMPORTANT: All chairs shall be the manufacturer's current standard production model, and shall be represented as such in the manufacturer's current published literature and current price book. For purposes of the QPL, the State at its sole discretion may accept or reject models which are priced in a published document other than the manufacturer's current price book (e.g. models which are listed in a published price book supplement rather than the current price book itself). In addition, each model offered on the bid must have been in production for one (1) full year before the deadline for submittals for the Qualified Products List (QPL) associated with this specification. The State, at its option, may require certified documentation from the manufacturer to verify the claimed length of production time. Any chair which does not comply with these requirements shall not be acceptable. Consistent with the State's intent to solicit sidechair lines which provide users a maximum choice of styles, it is necessary that the manufacturer submit a different model for each of the classes specified herein for the QPL.

I. CLASSIFICATION

The classes of side chairs and desk chair below are defined by basic chair features which are verifiable from manufacturers' catalogs or other published literature in most cases. In general, for individuals of average size and build, the more comfortable chairs fall in classes with higher designations (e.g. Class 5 chair more comfortable than Class 1 chair). It is realized that such relationship may not occur in all cases with all models of chairs, but exceptions would not compromise the suitability of these classes for the bidding purposes intended here.

The classes below exclude the following types of chairs: armless, stackable and sled-based side chairs, and swivel-tilt desk chairs (Class 6) with only four prongs on the base. Though these chairs may not be placed on the QPL, they are acceptable on the resulting contract if they meet all other specifications, and if the IFB does not otherwise restrict such models. Except for the models on the QPL, strict adherence to dimensional requirements is not required.

Class 1: Side chair, non-upholstered or upholstered arms, open back, upholstered seat and back, wood frame, seat suspension system as called for herein, minimum seat depth 17"

Class 2: Side chair, non-upholstered or upholstered arms, closed back, upholstered seat and back, wood frame, seat suspension system as called for herein, minimum seat depth 17"

- Class 3: Side chair, fully upholstered arms, open back, upholstered seat and back, wood frame, seat suspension system as called for herein, minimum seat depth 18"
- Class 4: Side chair, fully upholstered arms, closed back, upholstered seat and back, wood frame, seat suspension system as called for herein, minimum seat depth 18"
- Class 5: Side chair, fully upholstered arms, closed back, upholstered seat and back, wood frame, seat suspension system as called for herein, minimum seat depth 18", minimum overall height 36"
- Class 6: Desk chair, non-ergonomic, swivel-tilt type (seat tilts, back fixed with respect to seat; or seat has one or more discrete fixed positions, back tilts), arms (upholstered or unupholstered), closed back, upholstered seat and back, wood frame, seat suspension system as called for herein, pedestal type base with minimum five wood-capped metal prongs with caster on each prong, adjustable seat height, control for tilt tension, minimum seat depth 18". It is acceptable for optional bases to be offered if such are shown in the price book (e.g. a five-prong optional base in lieu of a four-prong standard base). The minimum seatback height dimension, measured with a straightedge positioned against front side of seatback and in its plane of symmetry, from the point the straightedge contacts seat cushion to the point where straightedge intersects a horizontal plane touching the highest point on the back, is 21". (Ergonomic chairs are covered by another specification and therefore are not included nor acceptable in this class.)

II. APPLICABLE SPECIFICATIONS AND STANDARDS

Referenced specifications and standards shall be the latest issue in effect of the date of the Invitation For Bids. Copies of referenced materials may be obtained from the issuing organizations at the addresses shown. The documents below form a part of this specification. All chairs shall comply with all applicable provisions of each such document, including but not limited to particular provisions therein which may be called out elsewhere in this specification.

ASTM D3574-08 Standard Test Methods for Flexible Cellular Materials--Slab, Bonded, and Molded Urethane Foams
American Society for Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103-1187

Federal Test Method Standard No. 191A, Method 5903.1, Flame Resistance of Cloth; Vertical
Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

Technical Bulletin 117. Requirements, Test Procedure and Apparatus for Testing the Flame Retardance of Resilient Filling Materials Used in Upholstered Furniture
State of California, Department of Consumer Affairs
Bureau of Home Furnishings and Thermal Insulation
3485 Orange Grove Avenue
North Highlands, CA 95660-5595

ANSI/BIFMA X5.1-2002. American National Standard for Office Furnishings --- General-Purpose Office Chairs ---Tests
American National Standards Institute, Inc.
11 West 42nd Street
New York, NY 10036

ASTM Z34.2-1987. American National Standard for Certification --- Self-Certification by Producer or Supplier.
American National Standards Institute, Inc.
11 West 42nd Street
New York, NY 10036

ASTM D 3597-02 Standard Specification for Woven Upholstery Fabrics --- Plain, Tufted, or Flocked
American Society of Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103-1187

ASTM D 4157-07Standard Test Method for Abrasion Resistance of Textile Fabrics (Oscillatory Cylinder Method)
American Society of Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103-1187

III. REQUIREMENTS

A. WOOD PARTS

All woods used shall be kiln dried to commonly accepted tolerances before machining.

1. Exposed Wood Parts

All exposed wood parts shall be clear cutting and free of knots, splits, or checks. Unless otherwise called for in the Invitation For Bids, species shall be as specified on the purchase order, and will be selected from any species listed as available in the manufacturer's published literature for model offered.

2. Interior Wood Parts

Interior wood parts shall be of suitable hardwoods free of any defects that may affect the structural integrity of the chair.

3. Steam Bent Wood Parts

Steam bent wood parts shall be of specie suitable for bending and if exposed shall have grain and finishing characteristics similar to other exposed wood parts.

B. CASTERS

Class 6 chairs shall be equipped with the minimum number of casters specified elsewhere herein. Casters shall be black dual-wheel non-metallic, non-abrasive, non-marking type, minimum 2" diameter, unless otherwise specified on the purchase order. Manufacturer's standard casters may be used for BIFMA tests.

C. GLIDES

Unless otherwise specified on the purchase order, side chairs shall be equipped with nail type glides, minimum nominal 3/4" diameter, with caps of rust-proof material. Glides less than 11/16" in diameter at the largest cross-section are not acceptable. Nylon or other durable composition may be used in lieu of nickel or chrome plated steel.

D. GLUE

Glue shall be of good commercial quality, and gluing processes shall be according to best industry practice to assure joints of maximum strength.

E. ROTARY MECHANISMS

All Class 6 chairs shall have a suitable metal rotary mechanism having four attachment points to the underside frame of the seat, a spiral-spring-tension adjustment for tilt and a positive adjustment for height of seat of not less than 2" in range. The materials used shall be free from hazardous surfaces, rust, and other defects which affect the appearance or which might affect the safety of the user, or the durability or serviceability of the finished mechanisms. Tension adjustment for tilting shall be by means of a suitable handwheel conveniently located on the chair rotary mechanism. Adjustment for seat height shall be by means of a suitable handwheel or gas cylinder located concentrically on the swivel axis of the chair and shall be self-locking and permit swiveling. Minimum actual height adjustment is 2 1/2". The mechanisms shall operate easily and rotate freely without causing the base to turn, and shall be free from excessive play and wobble. All moving parts shall be properly lubricated or graphited. Mechanisms shall be smoothly enameled in a color compatible with the finish of the chair.

F. SCUFF PLATES

All Class 6 chairs shall be furnished with scuff plates on the legs where such is standard for model offered. They shall be molded of phenolic resin compound or equivalent. Antiqued brass is also acceptable. The color of the scuff plates shall be compatible with the furniture finish.

G. UPHOLSTERY

All fabrics used in upholstering the chairs shall comply with all applicable requirements in ASTM D 3597-02. When tested by Method 5903.1, in Federal Test Method Standard No. 191A, fabric shall not exceed two seconds after-flame time nor exceed a char length of 3".

If a 100% nylon fabric is specified on the purchase order, then unless otherwise allowed or called for, such fabric is to be minimum 14 oz. per lin. yd. (54" width) and is to meet the surface abrasion requirement for heavy-duty fabric (i.e. 15,000 double-rub cycles) in ASTM D 3597-02 when tested in accordance with ASTM D 4157-07.

All upholstery tailoring shall be performed in accordance with accepted best industry practice. Appearance shall likewise be typical of results obtained by such tailoring techniques. Patterns, where used, should be in proper alignment between the various upholstered surfaces of the chair. Seams should not be placed on a heavy-wear location of the chair (such as on the centerline of the upper surface of the arm).

Upholstery on arms, where required, must cover at least the top face and one side face of the horizontal portion of each arm. (However, it is not required that the entire horizontal length of the arm be covered.)

H. BUMPERS

Bumpers are required on the backs of Class 6 chairs where they are standard on model offered.

I. JOININGS

All joints and joinings of chairs shall be done in a secure and rigid manner in accordance with best industry practice. Dry joints, poorly fitted joints, or joints where glue appears on a finished surface are not acceptable. All exposed screws and bolts that are not decorative shall be countersunk and plugged for finished appearance except where established as part of the design and shown acceptable by customer usage. Dowells, tenons, chucking and boring with adequate glue applied shall be used where applicable, with appropriate mechanical reinforcements used where necessary and practical. Reinforcing cleats and/or corner blocks shall be used where necessary for secure fastening.

J. SEATS

1. The following types of seat suspension systems are acceptable: drop-in prefab metal spring units, sinusoidal "No-Sag" type, conventional eight-way hand tied coil springs, "woven mesh" type web construction, and "permanent sheeting" type construction (where the suspension is cut as one continuous sheet rather than from wide strips which are then woven together as in the woven mesh construction). However, the suspension system provided must be the standard type for the model offered, unless specifically otherwise allowed in the Invitation For Bids or requested by the user. All springs shall be adequately tied and covered with padding of quality and composition acceptable in best industry practice. Padding shall be such that the seat maintains proper shape and comfort in continued daily use.
2. Polyurethane foam which may be contained in the chair seat must meet the following requirements:

The urethane foam shall be a flexible polyurethane material suitable for use as furniture cushioning. It shall be manufactured from pure polyether type polyurethane without the addition of fillers. Pigments may be used to designate grades etc. The foam shall be open cell structure, 100% new material, and shall be such that odors and absorbed materials from alcohol, body fluids, and other substances shall be readily removed by washing with soap and mild detergents without damage to the urethane foam.

Urethane shall be tested in accordance with ASTM-3574, and shall conform to the following minimum standards (Section numbers refer to the D3574-08 issue):

- a) Density - The procedure as outlined in Sections 9-14 shall be followed to determine the density. The minimum density shall be 1.5 lbs/cu.ft. (24.0 kg/cu. m) for seats. The minimum density for backs and miscellaneous padding shall be 1.2 lbs/cu.ft. (19.2 kg/cu. m).
- b) Compression Set - Constant Deflection-Sections 37-44 shall be used to determine the compression set. The maximum set shall be 10% of the original thickness of the specimen when compressed to 90%. Report this value as C_t .
- c) Load Deflection - Indentation Force Deflection Test- Specified Deflection Test B1. Sections 16-21 shall be used to determine the Indentation Force Deflection (IFD). The specimen size shall be 15"x 15" x 4" consisting of a single piece of material. The IFD ranges at 25% deflection, shall be as follows:

| | |
|--------|---------|
| Firm | 30 - 38 |
| Medium | 24 - 29 |
| Soft | 18 - 23 |

- d) Fatigue Test - Static Force Loss Test at Constant Deflection Test I1. Sections 77-84 shall be used. After testing, the specimen shall show no breakdown in physical structure. Permanent set (loss in thickness) shall not be more than 5% of the original thickness. The loss in IFD shall not be more than 30%. Use the same size sample as used in (c) above.
3. All polyurethane foam and other padding used in the construction of the seat shall comply with all applicable requirements of State of California Technical Bulletin 117.

K. BACKS

Upholstered chair backs shall be padded with adequate quantity, quality, and composition of padding materials in accordance with best industry practice to maintain proper shape and comfort in continued daily use.

All polyurethane foam and other padding used in the construction of the back (and in miscellaneous components) shall comply with all applicable requirements of State of California Technical Bulletin 117.

L. FINISH

Unless otherwise called for in the Invitation For Bids, finish shall be as specified on the purchase order, selected from any finish listed as available in the manufacturer's published literature for model offered, and shall be of top quality materials from a reputable furniture finish supplier. It shall be applied in accordance with recommendations of supplier to provide a finish that is durable and uniform in appearance.

M. MEASUREMENT OF SEAT DEPTH

Seat depth measurement is to be made in accordance with one of the following procedures, as applicable:

For closed back chairs, seat depth is the horizontal distance, measured along the centerline of the chair, from the forwardmost point of the upholstered seat cushion to the intersection of the seat cushion with the seat back.

For open back chairs of all types, seat depth is the horizontal distance, measured along the centerline of the chair, from the forwardmost point of the upholstered seat cushion to the intersection of the seat cushion with a vertical line dropped from the forwardmost point of the seat back. In chairs in which this vertical line passes rearward of the seat cushion, then the rearmost point of the seat cushion (at the chair's horizontal centerline) becomes the rear limit of seat depth.

Where seat depth as stated in manufacturer's published literature exceeds the dimension as determined by the applicable method above, bidder shall clearly identify this circumstance in the bid and state the dimension as determined by the above method. In such circumstances the dimension as determined above shall govern on this bid.

In cases where the published literature shows that the seat depth is exactly the dimension required in this specification, it is permissible for sample to be a maximum of 1/8" less than the required seat depth dimension as measured by the above procedures.

IV. WARRANTY

The contractor warrants to the owner that all chairs furnished under this specification and on the resulting contract will be new and of fully acceptable material and workmanship. The entire chair will be warranted for three (3) years after date of acceptance, except for casters, glides, swivel-tilt bases, gas cylinders, and spring and alternate type seat suspensions, which all will be warranted for five (5) years after date of acceptance, and except for the covering material itself (fabric, leather, etc.), which if supplied by the chair manufacturer (vs by customer) shall be warranted against visible and latent defects in materials and workmanship.

The contractor agrees to replace promptly any components which by means of defective material or workmanship shall fail under normal use, free of negligence or accident, for the respective periods specified above. Such replacement shall include all parts (or entire chairs), labor, freight, and roundtrip travel (if required) to user's site, and shall be free of any charge to the owner or his representative. Repairs made under this warranty shall be likewise warranted by contractor for the above specified respective periods after completion of the repair.

V. SERVICE, PARTS, AND MANUALS

Each Class 6 (swivel-tilt) chair is to be provided with a copy of the manufacturer's standard instructions for the chair.

VI. ACCEPTANCE EVALUATION AND QUALITY ASSURANCE

1. In addition to samples required for the QPL, samples may be required after bids are opened and during the life of the contract at any time the State deems this necessary and appropriate.

On sample chairs, the State reserves the right to disassemble chairs and remove upholstery and/or cambric to inspect the chairs as necessary with no obligation to repair or replace the sample chair or to reimburse the supplier for any loss of value of the sample.

2. Each chair shall comply with all tests of ANSI/BIFMA X5.1-2002 which are applicable to its particular configuration. Any chair which does not comply is not acceptable. At the State's option, bidder shall be required to furnish evidence satisfactory to the State that the chair(s) offered or sold under the contract fully complies with these tests. Such evidence may be required at any time during the bid solicitation process or during the life of the contract, and is due within thirty (30) consecutive days after request unless otherwise stated in the Invitation For Bids.
3. All foam and other filling materials shall comply with State of California Technical Bulletin 117. All fabric upholstery shall comply with Federal Test Method Standard 191A, Method 5903.1, Flame Resistance of Cloth, Vertical, as particularly specified in paragraph III.G, Upholstery, herein. Each chair sold under the contract which is provided in compliance with these requirements shall have affixed to the cambric or other appropriate component a "law label" or equivalent tag-type notification specifically attesting to such compliance.

Bidder is to furnish, with seven (7) consecutive days of request or otherwise within the time period specified in the IFB, proof, in a form satisfactory to the State, that the foam, other filling material as applicable, and upholstery used in the chairs fully comply with the applicable documents above.

4. Bidder is to furnish, within seven (7) consecutive days of request or otherwise within the time period specified in the IFB, a "Master Specification Sheet" (detailed drawing and parts list) for any chair for which such is requested.
5. Upon delivery of furniture purchased under this specification, the owner or his representative may call for an acceptance inspection for compliance with this specification and the contract.

VII. DELIVERY AND PAYMENT

Delivery of and payment for chairs under this specification shall be in accordance with the contract. The contractor shall be responsible for any packing, packaging, or protection required to insure delivery in an undamaged and clean condition.

All chairs delivered under the resulting contract are to be delivered fully assembled and ready for use.

VIII. ORDERING DATA

Purchasers should exercise any desired option offered herein and should specify the following in the requisition and/or Invitation For Bids, as applicable:

1. Title, number, and date of this specification.
2. The class(es) of chairs required. (See I. CLASSIFICATION)
3. Species of exposed wood parts, if other than as called for herein.
4. Finish, if other than as called for herein.
5. Fabric, if other than as called for herein.
6. If samples are required, and if so whether before bidding or after bid opening.
7. Time period for receipt of various compliance and certification documents and drawings by Purchase and Contract, if other than the respective default periods specified herein. (See sections VI.2, and VI.3, and VI.4.)