

PURCHASE DESCRIPTION  
CONTEMPORARY OAK, SEATING PIECES

This Purchase Description was developed by the Engineering Division, Integrated Workplace Acquisition Center, Federal Acquisition Service, Washington, DC 20406 and is based upon currently available technical information. It is recommended that Federal agencies use this in procurement and forward recommendations for changes to the preparing activity at the address shown above.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This purchase description covers minimum requirements for open frame seating pieces for dormitories. All measurements are in metric-SI (Systems International) units.

1.2 Classification. The seating pieces shall be of the following types and finishes (see 6.1). Dimensions are overall (excluding glides) and are in millimeters (mm).

Type I - Chair, lounge, set-up, reversible seat and back cushions  
720 mm W x 830 mm D x 790 mm H

Type II - Sofa, two seat, set-up, reversible seat and back cushions  
1320 mm W x 830 mm D x 790 mm H

Type III - Sofa, three seat, set-up, reversible seat and back cushions  
1920 mm W x 830 mm D x 790 mm H

Type IV - Intentionally left blank

Type V - Intentionally left blank

Type VI - Intentionally left blank

Type VII - Intentionally left blank

Type VIII - Chair, desk,

Style A - Sled base without arms, upholstered seat and wood back, 470 mm W x 540 mm D x 810 mm H

Style B - Sled base with arms, upholstered seat and upholstered back, 470 mm W x 540 mm D x 810 mm H

Style C - Sled base without arms, upholstered seat and upholstered back, 470 mm W x 540 mm D x 810 mm H

Style D - Two Position sled base with arms, upholstered seat and upholstered back, 524 mm W x 689 mm D x 818 mm H

Style E - Two Position sled base without arms, upholstered seat and upholstered back, 524 mm W x 689 mm D x 818 mm H

Style F - Leg base with arms, upholstered seat

and upholstered back, 470 mm W x 540 mm D x 810 mm H

Style G - Leg base without arms, upholstered seat  
and upholstered back, 470 mm W x 540 mm D x 810 mm H

Type IX - Chair, desk/lounge with arms, upholstered seat and back,  
560 mm W x 650 mm D x 820 mm H

Type X - Bar Stool, without arms, upholstered seat and back,

Size 1 - 480 mm W x 560 mm D x 950 mm H, 610 mm seat height.  
Size 2 - 480 mm W x 560 mm D x 1105 mm H, 760 mm seat height.

All above seating is available in the following two finishes:

Finish 1 - English Oak  
Finish 2 - Natural Oak

## 2. APPLICABLE DOCUMENTS

2.1 Publications. The following documents form a part of this purchase description to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of Invitation for Bids or request for proposal shall apply.

### GSA IWAC Purchase Description:

FNE 80-214A - Upholstered Furniture Test Method

Copies are available from GSA, Integrated Workplace Acquisition Center, Engineering Division, 3Q5AB, Washington, DC 20406.)

### Federal Specifications:

CCC-A-680 - Artificial Leather (Cloth-Coated), Vinyl Resin,  
Expanded Layer (Upholstery).

### Federal Test Method:

Standard No. 191 - Federal Standard for Textile Test Methods.

## 2.2 Commercial and State Standards and Publications.

### American National Standards Institute Publications:

ANSI/ASQC Z1.4	- Sampling Procedures and Tables for Inspection by Attributes
ANSI/AHA A135.4	- Basic Hardboard
ANSI A208.1	- Particleboard, Mat-Formed Wood
ANSI/BIFMA X5.1	- American National Standard for Office Furnishings - General Purpose Office Chairs - Tests.
ANSI/HPVA HP-1	- Hardwood and Decorative Plywood

(Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036.)

### American Society for Testing and Materials Standards:

D 905	- Standard Method of Test for Strength Properties of Adhesives in Shear by Compression Loading.
D 2061	- Methods of Strength Tests for Zippers.

- D 3359 - Standard Test Methods for Measuring Adhesion by Tape Test
- D 3597 - Woven Upholstery Fabrics - Plain, Tufted or Flocked.
- D 3770 - Standard Specification for Flexible Cellular Materials- High Resilience Polyurethane Foam.
- D 3776 - Mass per unit area (weight) of Woven Fabrics.
- D 3884 - Abrasion resistance of textile fabrics (Rotary Platform, Double Head Method).

(Copies of ASTM Specifications may be obtained from American Society for Testing Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2925.)

State of California Technical Information Bulletin:

Bulletin 133 - Flammability Test Procedure and Seating Furniture for Use in Public Occupancies.

(Available from California Department of Consumer Affairs, Bureau of Home Furnishings, North Highlands, CA 95660-5595).

### 3. REQUIREMENTS

3.1 Materials. The following paragraphs describe minimum requirements for materials used in construction and assembly.

Regulatory requirements. The Offerer/contractor is encouraged to use recovered materials in accordance with Public Law 94-580, as amended, to the maximum extent practicable. A minimum of 25% (based on cost) of the solid wood used in furniture components shall be certified by a recognized forest management system such as American Tree Farm System, FSC, or SFI.

3.1.1 Wood species. Tropical hardwood components shall only come from forests managed for sustainability. Exposed wood frames shall be solid red oak, white oak or white ash. Built-up stock shall be maximum two full length pieces. Built-up stock not permitted on arm rests. Other unexposed parts shall be domestic hardwood.

3.1.1.1 Wood Characteristics. The wood shall be clear, sound stock without brashness, honeycomb, splits, knots, worm holes, shake, or other defects which may affect appearance or serviceability of the finished product.

3.1.2 Dowels. Dowels shall be of birch, maple, beech, or hickory, and shall be dried to a moisture content of from 2 to 5 percent at the time of assembly. They shall be longitudinally or spirally grooved.

3.1.3 Seasoning. All wood shall be air-seasoned and then kiln dried to a moisture content of from 6 to 8 percent at the time of assembly. All wood shall be allowed to equalize approximately two weeks before milling.

3.1.4 Adhesive. Block shear strength: 19 300 kPa minimum. See test procedure paragraph 4.4.1.

3.1.5 Hardboard. ANSI/AHA A135.4, Class 2 (standard), S1S.

3.1.6 Hardwood Plywood. ANSI/HPVA HP-1, Type II bond or better, Veneer thickness, 0.8 mm minimum.

3.2 Upholstery materials and flammability requirements. All upholstery component material components in seating pieces shall pass California Technical Bulletin 117.

3.2.1 Vinyl. Vinyl shall have a terry loop knit polyester base cloth. Vinyl shall meet the following requirements when tested in accordance with the methods in 4.4.6.2.

- Thickness: 1.2 mm minimum
- Total weight: Minimum 678 g/m<sup>2</sup>
- Breaking strength, Minimum: 266 N Wales, 266 N Courses
- Elongation, Maximum: 5% stretch, Wales, 25% stretch Courses
- Tear strength, Minimum: 44.4 N Wales, 44.4 N Courses
- Crocking (colorfastness, resistance to rubbing): Good
- Abrasion resistance: No signs of the finish wearing through (except for gloss changes) after 30,000 double rubs.

Vinyl colors shall be as specified in 3.5.1.

3.2.2 Upholstery fabric. The upholstery fabric shall be a 100 percent polyolefin. The fabric shall comply with all the following test requirements.

- Weight: 494 g/m (16.0 ounces per linear yard)
- Abrasion: 250,000 cycles (wire screen)
- Colorfastness to light: 400 hours - Class 5
- Pilling: Class 4

The fabric shall meet the flammability requirements of CA 117 and shall comply with all test requirements in 4.4.6.1.

Fabric colors shall be as specified in 3.5.2.

3.2.3 Sheet fabric. For use over foundation springs. Wire woven into fabric, 101 g/m<sup>2</sup> minimum. (Test procedure 4.4.3).

3.2.4 Cambric. Black or grey non-woven fabric, 64 g/m<sup>2</sup> (minus 2.7 g/m<sup>2</sup>). (Test procedure 4.4.3).

3.2.5 Garnetted batting. Garnetted material, smoothly carded, clean and free of foreign matter, made in unbroken laminated sheets.

Felt weight: 634 g/m<sup>2</sup> minimum (Test procedure 4.4.3).

3.2.6 Sateen. Sateen shall be rayon polyester, cotton polyester or polyester, minimum 183 g/m<sup>2</sup> final weight. (Test procedure: 4.4.3). Color shall be dark brown.

3.2.7 Polyester fiberfill batting. Garnetted (not resinated), min. 5.27 g/m<sup>2</sup> (test procedure 4.4.3), hollow and slickened, 5.5 to 16 denier, branded polyester fiber (banded by fiber producer).

3.2.8 Polyurethane foam.

- Seat: Slab or molded, high resilience type, polyurethane foam with a minimum 35.2 kg/m<sup>3</sup> polyurethane polymer density. (IFD) (25 percent deflection) is specified herein. (+13 N IFD tolerance).
- Back: Slab or molded, conventional or high resilience type polyurethane foam with a minimum 24 kg/m<sup>3</sup> polyurethane polymer density. IFD (25 percent deflection) is specified herein. (+13 N IFD tolerance).

All foam shall have a minimum recovery ratio of 70% when tested as specified in 4.4.4 and meet flame retardant requirements in 3.2. Flame retardant additives are permitted. Foam for cushions shall be buffed to provide a minimum of 25 mm thicker center than the edges.

3.2.9 Slide fastener (zipper). Minimum 311 N cross-wide pull required when tested as specified in 4.4.5. Pin lock or cam lock required unless a pocket pleat is provided in upholstery fabric to serve as lock.

3.2.10 Intentionally left blank.

3.2.11 Intentionally left blank.

3.2.12 Glides, nail type. Single or three prong stainless steel, as large as base or legs permit. Prong length, 17 mm minimum.

### 3.3 Construction

3.3.1 Design. The design of the seating pieces shall be as shown in the applicable figures.

3.3.1.1 Seating comfort. Seats shall be moderately firm and not "bottom out". Back shall be moderately firm. Upholstered backs shall be adequately padded to provide uniform back support. Acceptability of comfort will be determined during pre-award and first article sample evaluations.

3.3.2 Tolerances/joinery. The following tolerances shall be permitted, except where otherwise indicated herein.

#### 3.3.2.1 Overall tolerances.

- |                                      |                           |
|--------------------------------------|---------------------------|
| (a) Overall width, depth, and height | - plus 13 mm, minus 13 mm |
| (b) Height of seat                   | - plus 5 mm, minus 5 mm   |
| (c) Height of arms at front          | - plus 5 mm, minus 5 mm   |
| (d) Height of arms at rear           | - plus 5 mm, minus 5 mm   |
| (e) Depth of seat                    | - plus 5 mm, minus 5 mm   |

#### 3.3.2.2 Component part tolerances.

- |  |                         |
|--|-------------------------|
| (a) Dimensions of any solid wood part      | - plus 5 mm, minus 2 mm |
| (b) Any dimension, not otherwise specified | - plus 5 mm, minus 1 mm |
| (c) Plywood or hardboard thickness         | - plus 2 mm, minus 2 mm |

3.3.2.3 Joinery. When item descriptions do not contain joinery requirements, use the following: Joints shall be mortise and tenoned or doweled. KD fasteners are not acceptable. Machine parts so all glued joints are tight.

Thickness of tenons and dowels: Not less than 1/3 thickness of member being joined or less than 9 mm.

Length of tenons: Minimum three times its thickness unless limited by size of members being joined. (When using tenons in chairs they must fit tightly on four sides. Minimum tenon length 32 mm, unless limited by size of members).

Width of tenons: As wide as practicable.

Length of dowels: Six times its diameter unless limited by size of members being joined.

Dowel spacing: Two dowels minimum, unless limited by the size of the part, spaced as far apart as practicable.

#### 3.3.3 Types I, II and III set up lounge chair, two and three seat sofa with reversible seat and back cushions.

3.3.3.1 Wood and metal frame members. Wood frame members shall be constructed of solid exposed wood in accordance with paragraph 3.1.1. All lounge pieces shall have sled base design as shown in Figure 1. All bottom supports shall have glides in accordance with paragraph 3.2.12. The pieces shall have an internal metal frame that provides support to the cushions. The seat and back cushions shall be reversible and shall attach securely to the frame without the use of tools.

### 3.3.3.2 Seat cushion.

**Springs:** Seat cushion shall have a sinuous spring system that provides the seating comfort specified in paragraph 3.3.1.1. The seat cushion shall have a minimum of 5 sinuous springs per side. The sinuous springs shall be minimum 9 gauge. The sinuous springs shall be covered with sheet fabric (3.2.3). The sheet fabric shall be covered with polyurethane foam.

**Sheet fabric:** All springs shall be covered with wire reinforced sheet fabric (3.2.3).

**Upholstery cover:** The cover shall be cut to pattern and luggage (saddle) stitched with a tape backup or seam and top stitch. The thread color shall match the upholstery material color. The cover shall be secured with concealed stapling. Barrier material in accordance with paragraph 3.2 is permitted.

**Cushion height:** 190 mm (150 mm side panels with 40 mm crown).

### 3.3.3.3 Back cushion.

**Springs:** Seat cushion shall have a sinuous spring system that provides the seating comfort specified in paragraph 3.3.1.1. The seat cushion shall have a minimum of 4 sinuous springs per side. The sinuous springs shall be minimum 12 gauge. The sinuous springs shall be covered with sheet fabric (3.2.3). The sheet fabric shall be covered with polyurethane foam.

**Sheet fabric:** Springs shall be covered with wire reinforced sheet Fabric (3.2.3).

**Upholstery cover:** The cover shall be cut to pattern and luggage (saddle) stitched with a tape back-up, or seam and top stitch. The thread color shall match the upholstery material color. The entire back cushion shall be covered and secured by concealed staples.

**Cushion thickness:** 240 mm thick at bottom tapering to 150 mm thick at top. (200 mm side panels at bottom to 115 mm at the top with a 40 mm crown.)

3.3.4 Intentionally left blank.

### 3.3.5 Type VIII desk chair

**Style A** - Sled base without arms, upholstered seat and wood back.

**Chair frame:** Solid exposed wood (3.1.1). Design as shown in figure 2. Glides (3.2.12).

**Slip seat:** 9 to 13 mm veneer core plywood (3.1.6), MDF or 13 mm particleboard (1-M-2, ANSI A208.1-1993) base with four 13 mm diameter vent holes. Minimum 5 mm radius required on top edge of base panel. Upholstery material shall be neatly applied (3.2) and securely attached to bottom.

**Back pad:** Solid exposed wood (3.1.1). Design as shown in figure 2.

**Style B** - Sled base with arms, upholstered seat and upholstered back.

**Chair frame:** Solid exposed wood (3.1.1). Design as shown in figure 3. Glides (3.2.12).

**Slip seat:** 9 to 13 mm veneer core plywood (3.1.6), MDF or 13 mm particleboard (1-M-2, ANSI A208.1-1993) base with four 13 mm diameter vent holes. Minimum 5 mm radius required on top edge of base panel. Upholstery material shall be neatly applied (3.2) and securely attached to bottom.

**Back pad:** Design as shown in figure 3. 25 mm veneer core plywood or laminated panel (3.1.6), curved to provide a comfortable back. Entire back panel shall be padded with 151 N (IFD), 20 mm thick polyurethane foam (3.2.8). Upholstery material shall be neatly

applied (3.2) and securely attached at sides and bottom with no exposed seams. The back pad shall be securely attached to the back posts with screws covered with matching wood plugs or other suitable concealed fastening system that permits back removal for upholstering and meets all test requirements.

**Style C** - Sled base without arms, upholstered seat and upholstered back.

Chair frame: Solid exposed wood (3.1.1). Design as shown in figure 4. Glides (3.2.12).

Slip seat: 9 to 13 mm veneer core plywood (3.1.6), MDF or 13 mm particleboard (1-M-2, ANSI A208.1-1993) base with four 13 mm diameter vent holes. Minimum 5 mm radius required on top edge of base panel. Upholstery material shall be neatly applied (3.2) and securely attached to bottom.

Back pad: Design as shown in figure 4. 25 mm veneer core plywood or laminated panel (3.1.6), curved to provide a comfortable back. Upholstery material shall be neatly applied (3.2) and securely attached at sides and bottom with no exposed seams. The back pad shall be securely attached to the back posts with screws covered with matching wood plugs or other suitable concealed fastening system that permits back removal for upholstering and meets all test requirements.

**Style D** - Two Position sled base with arms, upholstered seat and upholstered back. Two position sled base chairs shall be designed or weighted so that they return to their upright position when not in use.

Wood Frame and Sled Runners: Front posts shall be joined to the arm and sled runner by either a mitered, minimum seven finger interlocking finger joint, a through tenon joint, or a double dowel joint with arm and sled runner overlapping the front post.

Back posts shall be bandsawed to shape with the upper portion at a 5° angle and the lower portion at a 27° angle. Back posts shall be joined to the sled runner by either a mitered, minimum seven finger interlocking finger joint, a through-tenon joint, or a double dowel joint with sled runner overlapping the back post.

Runners shall be bandsawed to shape with the back portion at a 13° angle and shall have a uniform 15 - 16 mm radius on the outside edges. Join sled runner to the front and back posts as described earlier in this paragraph.

Front and Back Seat Rails and Stretchers: Front and back rails shall be securely double doweled to the side assemblies. Four glued and screwed hardwood corner blocks shall be required under the chair seat.

Slip seat: 9 to 13 mm veneer core plywood (3.1.6), MDF or 13 mm particleboard (1-M-2, ANSI A208.1) base with four 13 mm diameter vent holes. Minimum 5 mm radius required on top edge of base panel. Foam may be form molded. Upholstery material shall be neatly applied (3.2) and securely attached to bottom.

Back pad: Design as shown in figure 5. 25 mm veneer core plywood or laminated panel (3.1.6), curved to provide a comfortable back. Upholstery material shall be neatly applied (3.2) and securely attached at sides and bottom with no exposed seams. The back pad shall be securely attached to the back posts with screws covered with matching wood plugs or other suitable concealed fastening system that permits back removal for upholstering and meets all test requirements.

**Style E** - Two Position sled base without arms, upholstered seat and upholstered back. Two position sled base chairs shall be weighted so that they return to their upright position when not in use.

Wood Frame and Sled Runners: Front posts shall be joined to the arm and sled runner by either a mitered, minimum seven finger interlocking finger joint, a through tenon joint, or a double dowel joint with arm and sled runner overlapping the front post.

Back posts shall be bandsawed to shape with the upper portion at a 5° angle and the lower portion at a 27° angle. Back posts shall be joined to the sled runner by either a mitered, minimum seven finger interlocking finger joint, a through-tenon joint, or a double dowel joint with sled runner overlapping the back post.

Runners shall be bandsawed to shape with the back portion at a 13° angle and shall have a uniform 15 - 16 mm radius on the outside edges. Join sled runner to the front and back posts as described earlier in this paragraph.

Front and Back Seat Rails and Stretchers: Front and back rails shall be securely double doweled to the side assemblies. Four glued and screwed hardwood corner blocks shall be required under the chair seat.

Slip seat: 9 to 13 mm veneer core plywood (3.1.6), MDF or 13 mm particleboard (1-M-2, ANSI A208.1) base with four 13 mm diameter vent holes. Minimum 5 mm radius required on top edge of base panel. Upholstery material shall be neatly applied (3.2) and securely attached to bottom.

Back pad: Design as shown in figure 6. 25 mm veneer core plywood or laminated panel (3.1.6), curved to provide a comfortable back. Upholstery material shall be neatly applied (3.2) and securely attached at sides and bottom with no exposed seams. The back pad shall be securely attached to the back posts with screws covered with matching wood plugs or other suitable concealed fastening system that permits back removal for upholstering and meets all test requirements.

**Style F** - Leg base with arms, upholstered seat and upholstered back.

Chair frame: Solid exposed wood (3.1.1). Design as shown in figure 7. Glides (3.2.12). Arms shall be double doweled to chair frame and shall be made of exposed wood.

Slip seat: 9 to 13 mm veneer core plywood (3.1.6), MDF or 13 mm particleboard (1-M-2, ANSI A208.1-1993) base with four 13 mm diameter vent holes. Minimum 5 mm radius required on top edge of base panel. Upholstery material shall be neatly applied (3.2) and securely attached to bottom.

Back pad: Design as shown in figure 7. 25 mm veneer core plywood or laminated panel (3.1.6), curved to provide a comfortable back. Upholstery material shall be neatly applied (3.2) and securely attached at sides and bottom with no exposed seams. The back pad shall be securely attached to the back posts with screws covered with matching wood plugs or other suitable concealed fastening system that permits back removal for upholstering and meets all test requirements.

**Style G** - Leg base without arms, upholstered seat and upholstered back.

Chair frame: Solid exposed wood (3.1.1). Design as shown in figure 8. Glides (3.2.12).

Slip seat: 9 to 13 mm veneer core plywood (3.1.6), MDF or 13 mm particleboard (1-M-2, ANSI A208.1-1993) base with four 13 mm diameter vent holes. Minimum 5 mm radius required on top edge of base panel. Upholstery material shall be neatly applied (3.2) and securely attached to bottom.

Back pad: Design as shown in figure 8. 25 mm veneer core plywood or laminated panel (3.1.6), curved to provide a comfortable back. Upholstery material shall be neatly applied (3.2) and securely attached at sides and bottom with no exposed seams. The back pad shall be securely attached to the back posts with screws covered with matching wood plugs or other suitable concealed fastening system that permits back removal for upholstering and meets all test requirements.

3.3.7 Type IX chair, desk/lounge, with arms, upholstered seat and back. See figure 9.

The Type IX chair shall be constructed the same as the Type VIII Style B chair except for the dimensions and the back. The back shall extend from the seat  
Exposed "O" frames: (2) 57 x 32 mm exposed wood (3.1.1).

Exposed front and back rails: (2) 76 x 25 mm exposed wood (3.1.1).

Exposed bottom cross stretcher: 57 x 25 mm exposed wood (3.1.1).

Interior seat frame: All members unexposed wood (3.1.1).

Side rails: (2) 64 x 25 mm.

Front and back rails: (2) 60 x 25 mm.

Interior back frame: All members unexposed wood (3.1.1)

Side rails: (2) 64 x 25 mm.

Top rail: 51 x 25 mm.

Bottom front rail: 89 x 25 mm. Bottom back rail: 38 x 25 mm. Back panel: 3 mm hardboard (3.1.5).

Frame joinery:

"O" frame, thru-tenon all joints.

All other frame joinery, dowel or tenon (3.3.2.3).

Upholstered seat:

Four sinuous wire springs (4.11 mm dia.) running front to back shall be attached with insulated clips. The spring shall be stabilized side to side with two cords (3.2.11) running side to side. The cords shall be clipped to each spring. The spring shall be installed with a 19 to 25 mm crown.

Insulator: wire reinforced polypropylene.

Padding: see figures.

Upholstery material: fabric (3.2.2) or vinyl (3.2.1), shall be neatly applied as illustrated with no welt or boxing. See 6.1c. The bottom of the seat shall be covered with cambric (3.2.4).

Upholstered back:

Four sinuous wire springs (3.43 mm dia.) running top to bottom shall be attached with insulated clips. The spring shall be stabilized side to side with two cords (3.2.11) running side to side. The cords shall be clipped to each spring. The spring shall be installed with a 6 to 13 mm crown above edge of back frame. Insulator and upholstery material are same as seat. Padding, see figure.

Glides: Glides shall be the nail type in accordance with paragraph 3.2.12.

3.3.8 Type X Bar Stool. The size 1 and size 2 bar stools shall have the same basic construction as the Type VIII, Style G chair except for the dimensions and the foot rest. See figures 10 and 11.

3.4 Exposed wood finish. All parts shall be sanded smooth and cleaned. Finish shall match as closely as possible FSS-L-01008 English Oak or FSS-L-01027 Natural Oak as specified by the ordering activity. See 6.1(b). Stain to equalize color. Suitable clear natural or synthetic top coat, 2 coat process with adequate "build" with a 25 to 45 sheen, semi-open pore finish required. Final finish shall pass finish tests (4.4.2)

3.5 Upholstery colors. Standard samples are available from GSA-FAS-Integrated Workplace Acquisition Center, 3QSAB, Arlington, VA 22202. See 6.1 (d).

3.5.1 Fabric standard sample colors shall be as follows:

Red	FSS-F-19001	Beige	FSS-F-19005
Burgundy	FSS-F-19002	Brown	FSS-F-19006
Green	FSS-F-19003	Gray	FSS-F-19007
Dark blue	FSS-F-19004	Black	FSS-F-19008

3.5.2 Vinyl standard sample colors shall be as follows:

Red	FSS-V-13001	Beige	FSS-V-13005
Burgundy	FSS-V-13002	Brown	FSS-V-13006
Green	FSS-V-13003	Gray	FSS-V-13007
Dark blue	FSS-V-13004	Black	FSS-V-13008

3.6 Identification marking. Each item shall be marked permanently, neatly, and with a label not removable by hand without defacement after being affixed for four hours. The label shall be placed on the item in such a manner that the label remains accessible after assembly and use, but is not normally visible when the furniture is in use. The label shall contain the following information legibly marked in contrasting ink: National Stock Number, Date of Manufacture, Name of Manufacturer, Contract Number, Specification Number. Label shall not oversprayed by finishing material.

3.7 Workmanship. Method of machining, construction, joinery, gluing, and assembly, shall conform to best commercial practice for sofas and chairs suitable for use in barracks and dormitories used in homes and dormitories. Joints shall be tight, well fitted and securely glued. Chairs and sofas shall have a neatly tailored appearance. Seams shall be straight and uniform. Loosely fitted upholstery or uneven padding is not acceptable.

All surfaces exposed to view in normal use shall be smoothly machined and sanded. The application of materials, drying time, cleaning, and rubbing shall be controlled to produce items of quality appearance.

All surfaces shall be smoothly machined and sanded. Dovetails and other joints shall be tight and well fitted. Units shall be free of splinters, sharp edges, and sharp corners to prevent injury to personnel or damage to their clothing. Unexposed surfaces shall be smooth and clean.

The natural grain of the wood shall not be clouded by the finishing materials. The application of materials, drying time, sanding, cleaning, and rubbing shall be controlled to produce items of uniform finish without sags, runs, orange peel, overspray or other defects detrimental to a smooth quality appearance. Unexposed parts shall be finished as required. Drips and runs on unexposed parts are not acceptable.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless

disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 First article inspection and testing. The required samples shall be inspected and tested by the contractor for all the requirements of the contract. A record of this inspection and test, including certificates of conformance for materials, shall be submitted to the Government for approval. The Government reserves the right to witness the contractor's inspection and tests. The sample required for first article inspection and testing shall be examined and tested for all the requirements of this purchase description. The samples shall be manufactured in the same manner, using the same materials, equipment, processes, and procedures as used in regular production. All parts and material including packaging and packing, shall be obtained from the same source of supply as used in regular production. Use first article samples as manufacturing standards. Manufacturer shall maintain first article samples until the last order is shipped, received, and accepted. New first article samples are required for each new contract. Old first article samples shall not be reused.

4.2.1 Sampling of production items for inspection and acceptance. Sampling for inspection and acceptance shall be performed in accordance with the provisions set forth in ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection by Attributes, except where otherwise indicated.

4.3 Inspection levels and acceptance quality levels (AQL's). Inspection levels and acceptable quality levels expressed in percent units defective shall be as shown below.

Acceptable quality levels in accordance with ANSI/ASQC Z1.4.

For examination in	Inspection level	AQL's
4.3.1, 4.3.1.1, 4.3.2	II	4
4.3.3	S-2	4

4.3.1 Visual examination of production items. During production, contractor shall examine items for compliance with the requirements of all paragraphs in section 3 paying special attention to 3.7 Workmanship. Score areas of noncompliance with requirements as defects. No item shall be shipped unless it fully conforms with all contract requirements. Sampling in accordance with paragraph 4.3.

4.3.1.1 Overall examination. In addition to workmanship and dimensional examination, inspect each sofa and chair at a viewing distance of 6 feet for the following defects. Reject the item if one or more of the following defects is found. Sampling in accordance with paragraph 4.3.

Wood finish streaked, not uniform.

Piece over 6 mm off level.

Scratch or bruise marks on wood.

Poor fit of upholstery as evidenced by wrinkles at sides and corners.

Seams not straight.

4.3.2 Dimensional examination. Inspection shall be made for compliance with dimensions specified. Any dimension not within tolerance specified shall be classified as a defect.

4.3.3 Packaging, packing, marking examination. Examine items for compliance with requirements stated in this document and the contract. Sampling in accordance with paragraph 4.3.

4.4 Testing. Testing is required for first article inspection. Test results shall be not more than one year old at time of First Article Inspection. Subsequent shipments during the contract period are not required to be tested, however, the component supplier shall certify that these shipments will meet all applicable test requirements. Retest items in accordance with applicable test requirements whenever there is a change in the construction, materials or hardware since first article testing was performed. Finish and adhesive tests may be performed before first article inspection. Failure to comply with test requirements will be cause for rejection.

4.4.1 Test for adhesives.

Component	Characteristic	Requirement reference	Test Method
Adhesive	Block shear test	3.1.4	ASTM D 905

Rerun test if all three of the following criteria are met: the average shear strength of all samples is below 19 300 kPa; there is a 10 percent or greater difference between high and low specimen values, and at least one test specimen broke at more than 19 300 kPa.

Disregard a test specimen in computing the average if it breaks at less than 19 300 kPa; and it has 50 percent or more wood failure.

4.4.2 Finish test and requirements. (See 3.4) The following tests shall be performed on a sample panel finished in the same manner as units are finished in production. Perform all finish tests at first article inspection and again one year after the start of the schedule contract period. Perform test (d) once a month during the contract period. All test panels shall be produced from finish materials currently being used in production. All samples tested shall meet the following test requirements.

Finish Shrinkage and Heat Resistance Test. Finish panel shall comply with ANSI/KCMA A161.1, 9.1 Shrinkage and Heat Resistance.

Finish Hot and Cold Check Resistance Test. Finish panel shall comply with ANSI/KCMA A161.1, 9.2 Hot and Cold Check Resistance.

Finish Chemical Resistance Test. Finish panel shall comply with ANSI/KCMA A161.1, 9.3 Chemical Resistance

Finish Detergent and Water Resistance Test. Finish panel shall comply with ANSI/KCMA A161.1, 9.4 Detergent and Water Resistance.

Finish Adhesion Test. Finish panel shall comply with ASTM D3359, Method B. After performing finish adhesion test, finish shall have a 3B or better Classification (% of Area Removed). Cross Cut blade cutter spacing shall be determined as specified in ASTM D3359.

Model P-A-T Paint Adhesion Test Kit used to perform ASTM D3359 and a copy of the test method is available from Paul N. Gardner Company, Inc., 316 N.E. First Street, Pompano Beach, FL 33060,  
<http://www.gardco.com/pages/adhesion/PATkit.cfm#cutter>.

4.4.3 Test method for determining weight of material per square area. 5041 of Fed. Test Method Std. 191 or ASTM D - 3776. See test requirements in 3.2.3, 3.2.4, 3.2.5, 3.2.6, 3.2.7.

4.4.4 Test method for determining recovery ratio of Polyurethane foam. ASTM D - 3770, Recovery ratio. Use this test method for both conventional and high resilience type foam. See test requirement in 3.2.8.

4.4.5 Test for slide fastener (zipper). ASTM D - 2061, Crosswise Strength Test. See test requirement in 3.2.9.

4.4.6 Tests for upholstery components.

4.4.6.1 Tests for upholstery fabric. (See 3.2.2) Test fabric in accordance with ASTM D 3597.

4.4.6.2 Vinyl test methods.

Test	Method
Breaking Strength	ASTM D 751 - Grab Method
Elongation	SAE J 855
Tear Strength	ASTM D 1117 Trapezoid Tear
Crocking	AATCC 8
Abrasion Resistance	ASTM D 3884

4.5 Performance tests.

4.5.1 ANSI Desk Product Test X5.5. Failure to comply with test requirements will be cause for rejection. Tests shall be performed at furniture manufacturer's plant or at an independent test laboratory. Test certification from suspension supplier will not be acceptable.

Required test paragraphs in X5.1 →	6	8	11	12	13	14	16	18	19	20	Test per par. 4.5.2
Type III - Sofa, 3 seat											X
Type VIII, Style C Chair, desk, sled base w/o arms	X	X	X 1/	X			X	X 2/			
Type VIII, Style E Chair, two position, sled base w/o arms	X	X	X 1/	X			X	X 2/			
Type VIII, Style F Chair, leg base with arms	X	X	X 1/	X	X	X	X			X	
Type IX, Chair, desk/lounge with arms	X	X	X 1/	X	X	X	X	X 2/		X	
Type X, Size 2, Bar Stool	X	X	X 1/				X	X	X		

1/ Perform only 11.3 Impact Test  
 2/ Perform only 18.4 Side Load Test.

4.5.2 Type I, II, III chairs/sofas. Shall meet the heavy service acceptance level as defined in FNE 80-214A. Test report as required in test method shall be submitted at time of First Article Inspection. If the construction of the sofas and chair are identical except for cross rail lengths and number of cushions, the chair and two seat sofa will be accepted on the basis of the 3 seat sofa test.

5. PREPARATION FOR DELIVERY.

5.1 Packaging, packing, palletization and marking. Shall be as specified in the solicitation.

6. NOTES

6.1 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:



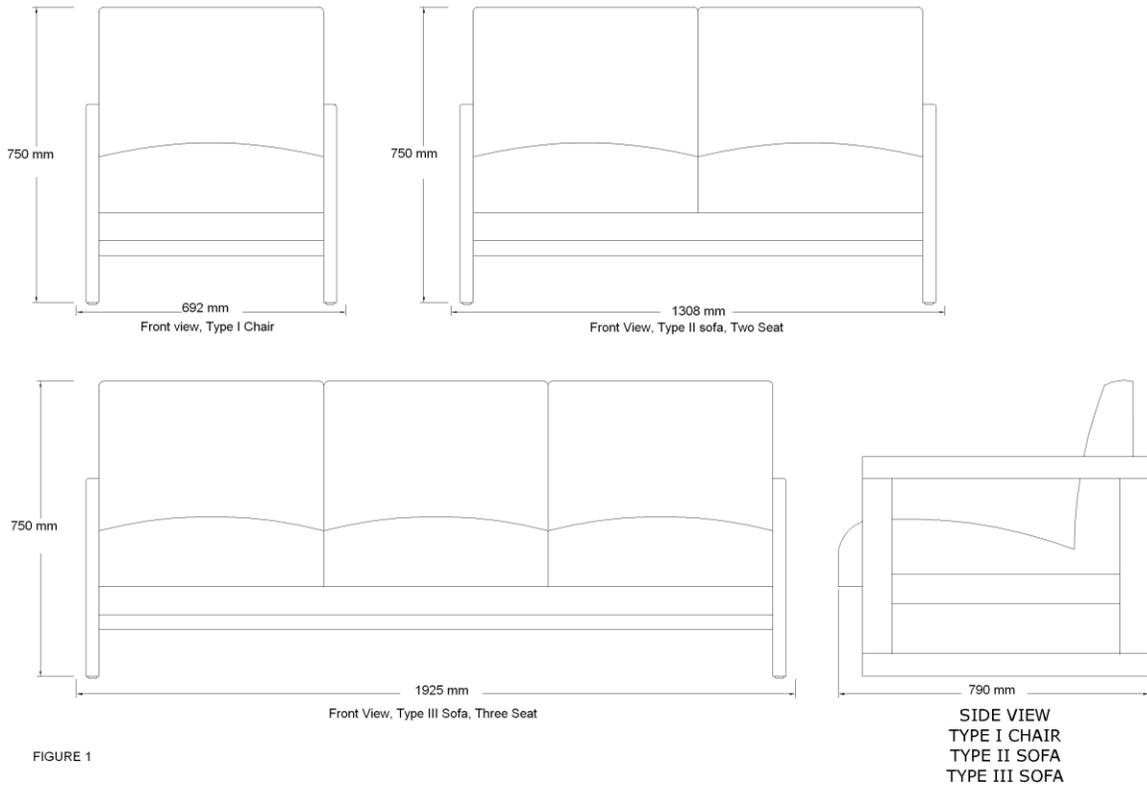
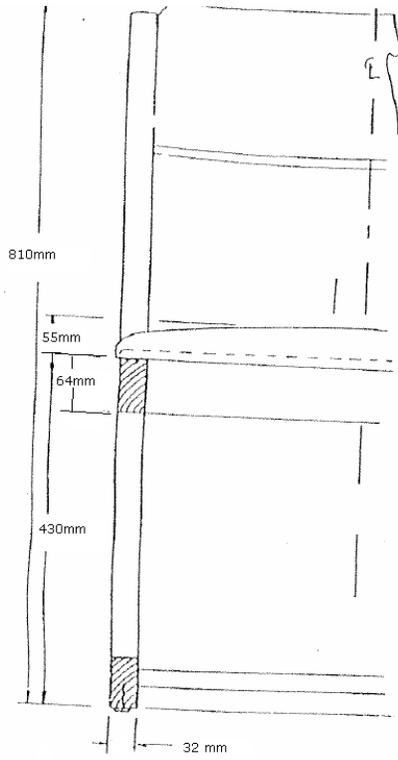


FIGURE 1



1. All joints shall comply with 3.3.2.3.
2. Break all exposed frame edges.
3. 13 mm chamfer or radius.
4. 30 mm x 64 mm corner blocks required at four corners of chair frame under slip seat.

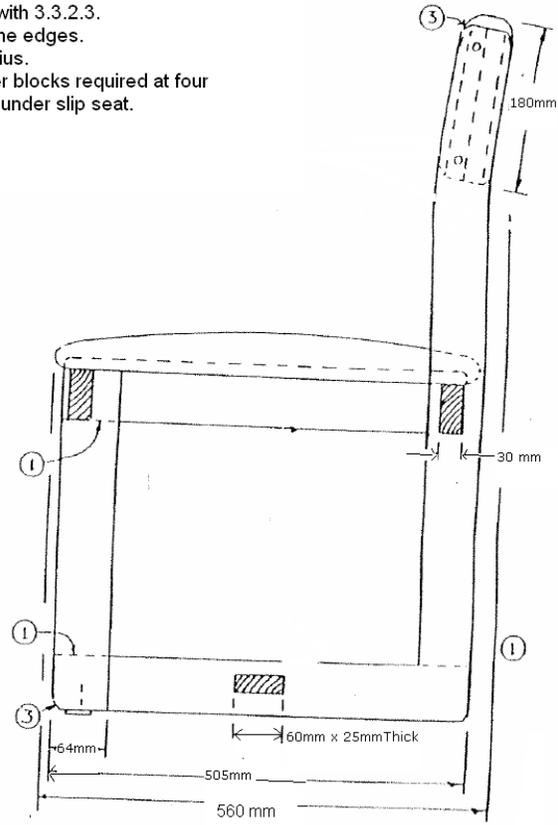
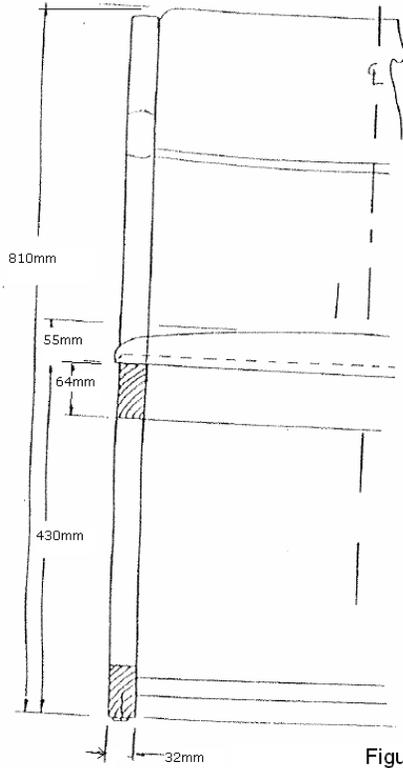
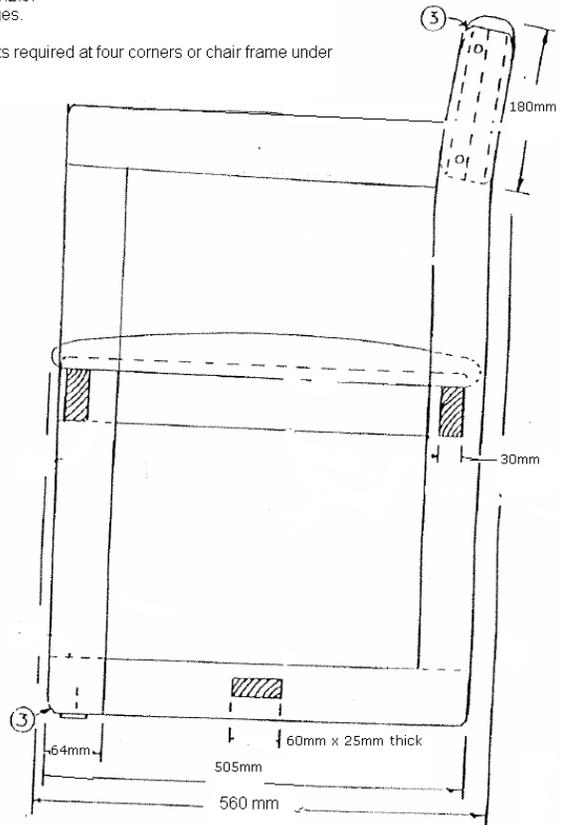


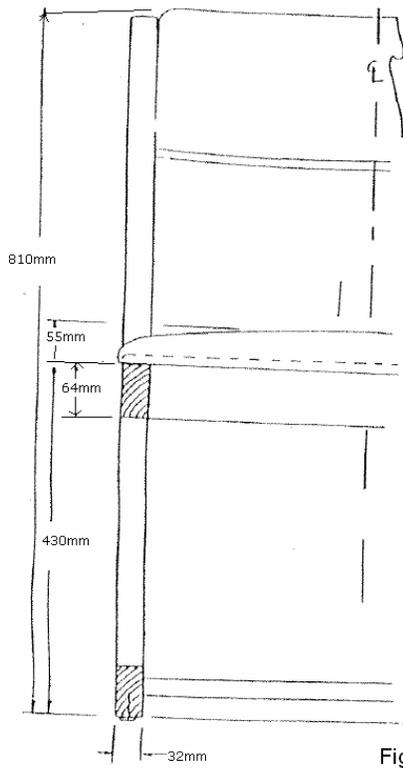
Figure 2  
 Type VIII, Style A  
 Sled base without arms  
 upholstered seat, wood back



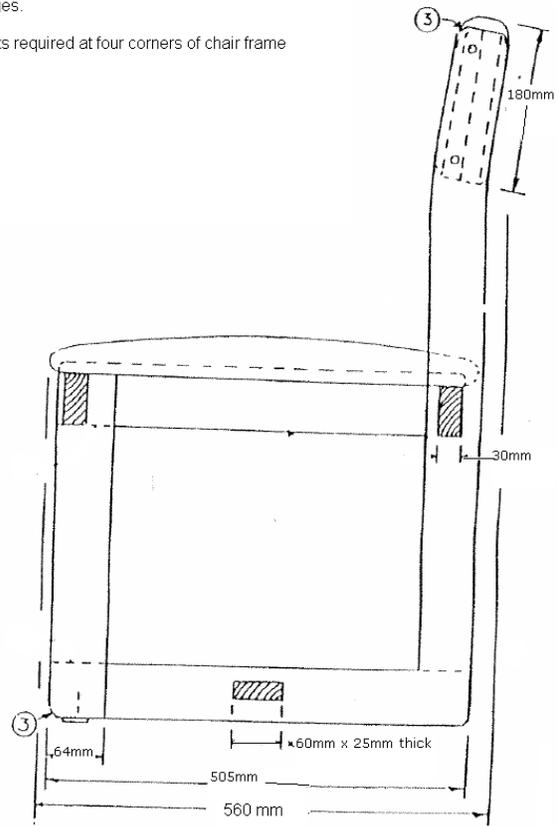
- 1. All joints shall comply with 3.3.2.3.
- 2. Break all exposed frame edges.
- 3. 13 mm chamfer or radius.
- 4. 30 mm x 64 mm corner blocks required at four corners or chair frame under slip seat.

Figure 3  
Type VIII, Style B  
Sled Base with Arms  
Upholstered seat and back





1. All joints shall comply with 3.3.2.3.
2. Break all exposed frame edges.
3. 13 mm chamfer or radius.
4. 10 mm x 64 mm corner blocks required at four corners of chair frame under slip seat.



**Figure 4**  
**Type VIII, Style C**  
**Sled base without Arms**  
**Upholstered seat and back**

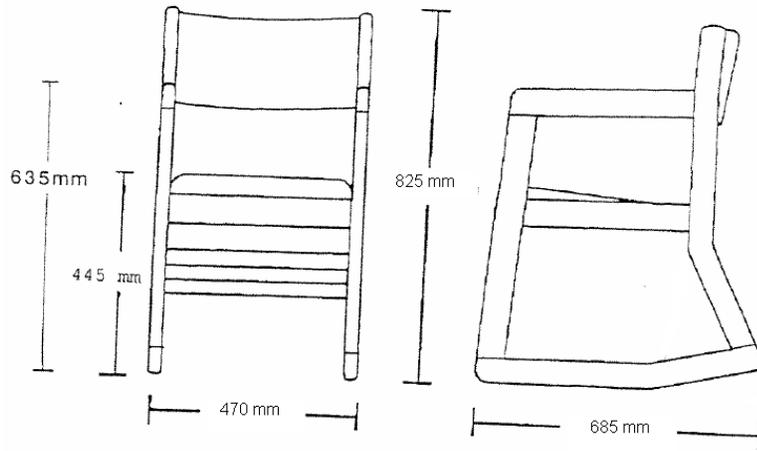


Figure 5  
Type VIII, Style D  
2-Position sled base with arms  
Upholstered seat and back

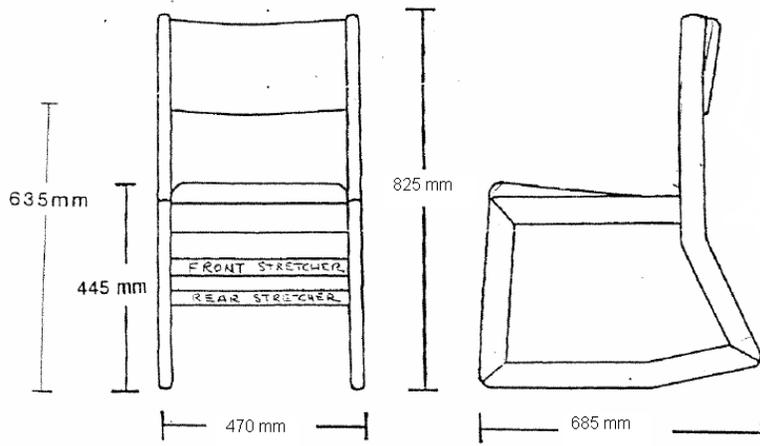
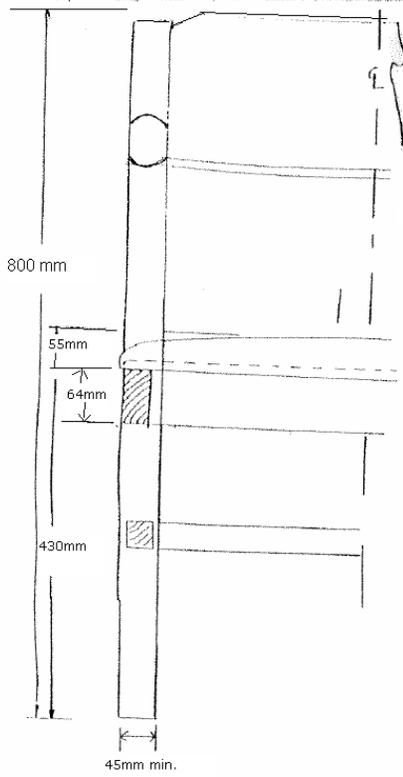


Figure 6  
Type VIII, Style E  
2-Position Sled base without arms  
Upholstered seat and back



1. All joints shall comply with 3.3.2.3.
2. Break all exposed frame edges.
3. 13 mm chamfer or radius.
4. 30 mm x 64 mm corner blocks required at four corners of chair frame under slip seat.

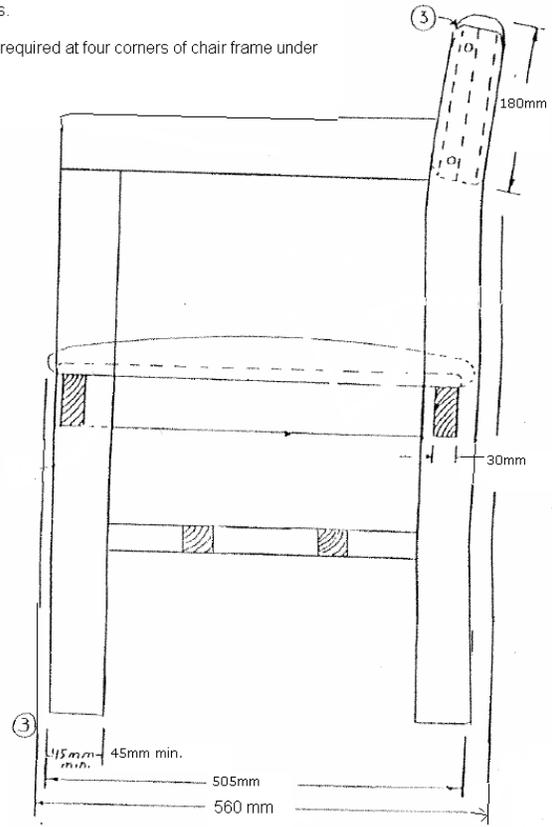


Figure 7  
Type VIII, Style F  
Leg base with arms  
Upholstered seat and back

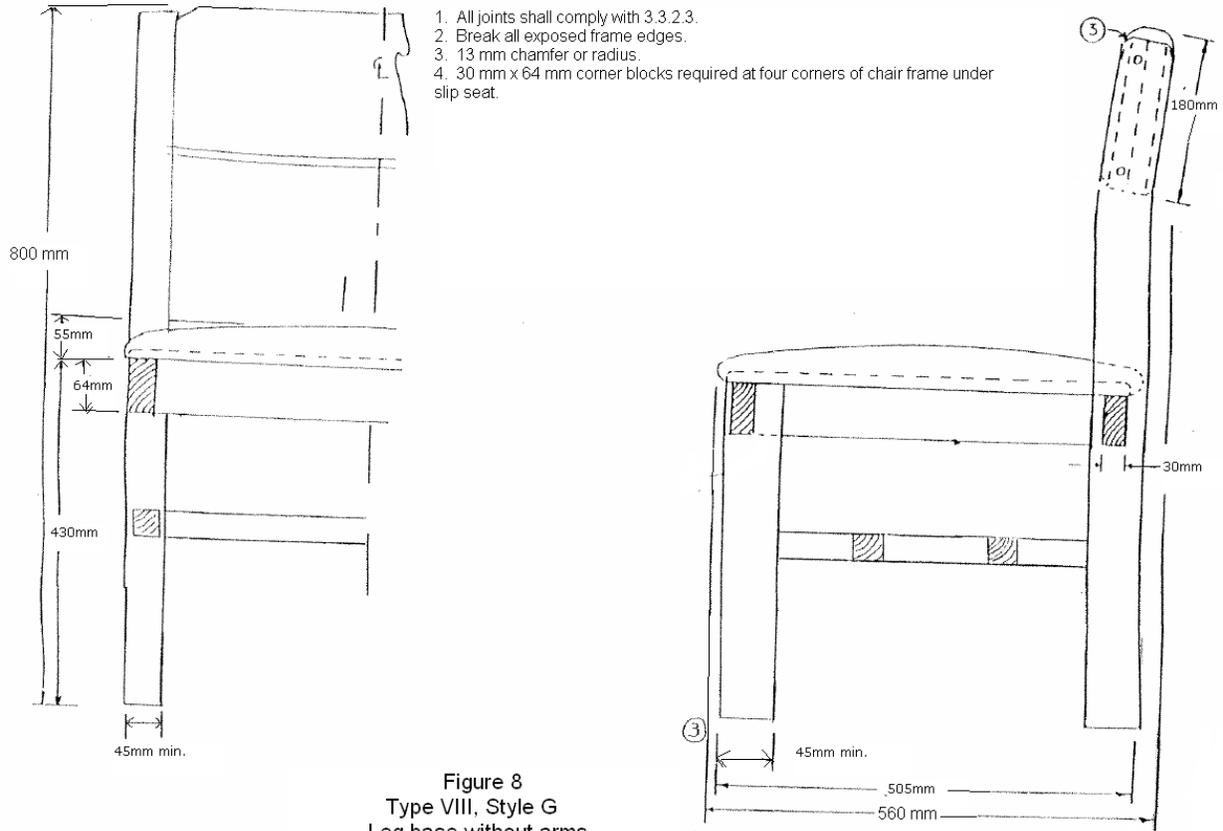
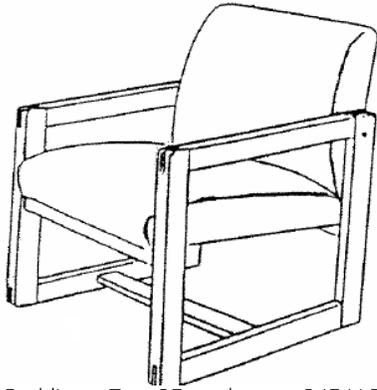
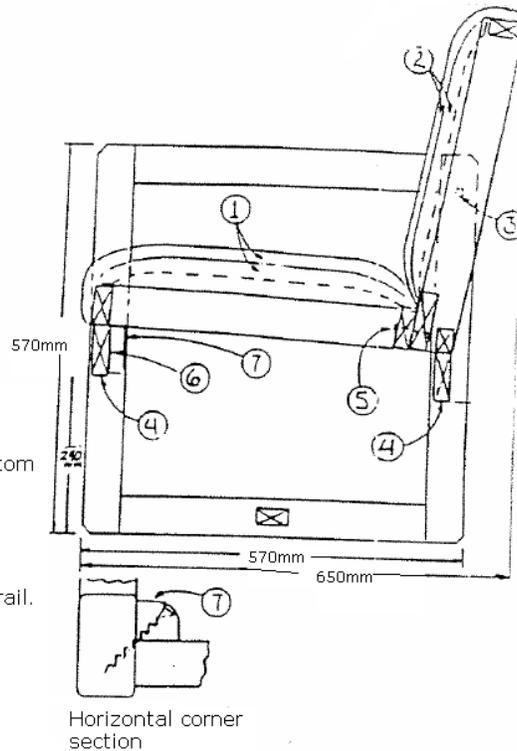


Figure 8  
 Type VIII, Style G  
 Leg base without arms  
 Upholstered seat and back



1. Seat Padding: Two 25mm layers, 245 N IFD polyurethane (3.2.8). Cover both sides of seat with 6mm, 223-267 N IFD polyurethane (3.2.8).
2. Back Padding: Two layers polyurethane (3.2.8). Bottom layer: 25mm, 138-174 N IFD. Top layer: 12mm, 107-134 N IFD. Cover sides and back with 6mm, 138-174 N IFD.
3. Screw with allen drive. Decorative black or antique brass/bronze head.
4. Attach seat/back assemblies thru rails with two per rail.
5. Attach seat and back frames together with two M-6 (1/4-20)x 50 mm bolts and T-Nuts.
6. 25 mm x 125 mm min. instruction label. See below. Glue in position as illustrated. Label shall not be removable.
7. Corner blocks shall be glued and screwed.
8. 13 mm chamfer.

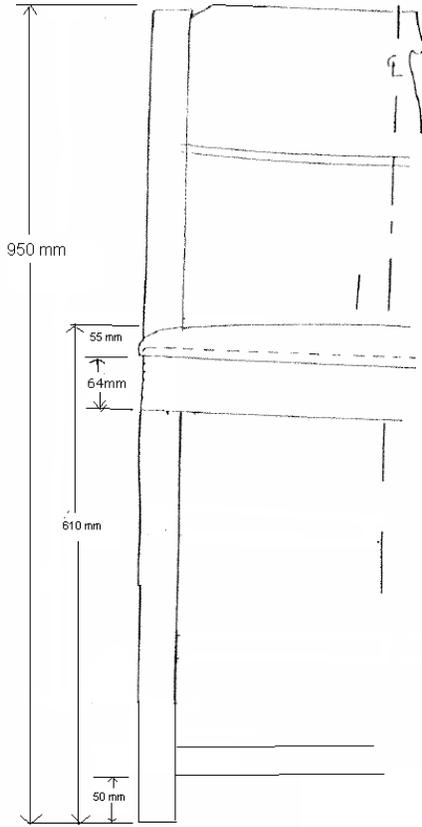


#### Chair Disassembly instructions for reupholstering

1. Remove 2 screws in front support rail and two screws in rear support rail.
2. Remove 2 allen drive screws which support back.
3. Remove seat and back assembly from exterior frame.
4. Remove fabric from bottom of seat.
5. Remove two bolts holding seat and back together.

Type IX Desk/Lounge Chair

**Figure 9**



1. All joints shall comply with 3.3.2.3.
2. Break all exposed frame edges.
3. 13 mm chamfer or radius.
4. 30 mm x 64 mm corner blocks required at four corners of chair frame under slip seat.

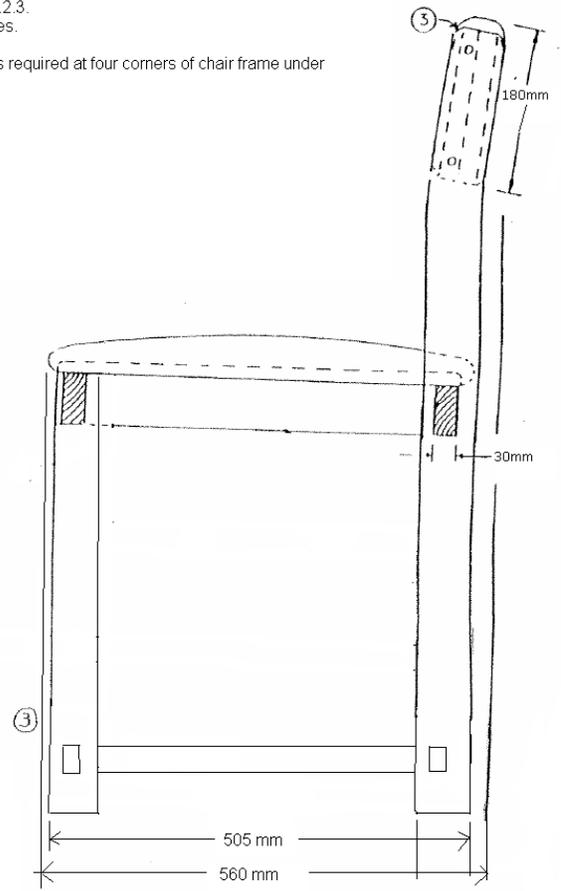
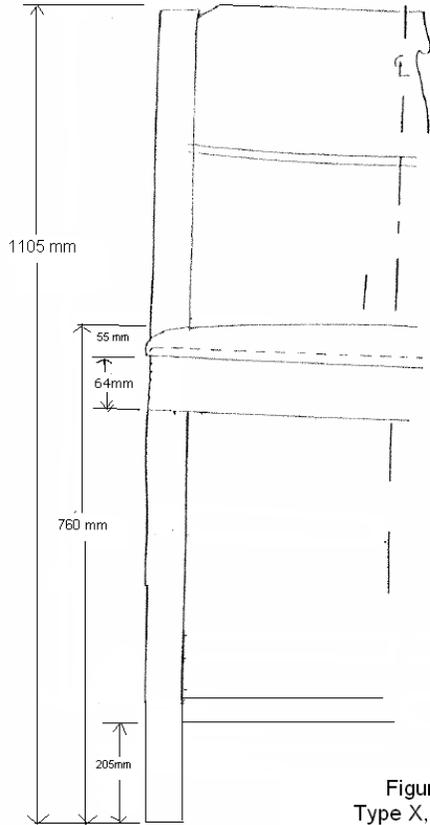


Figure 10  
Type X, Size 1  
Bar Stool



- 1. All joints shall comply with 3.3.2.3.
- 2. Break all exposed frame edges.
- 3. 13 mm chamfer or radius.
- 4. 30 mm x 64 mm corner blocks required at four corners of chair frame under slip seat.

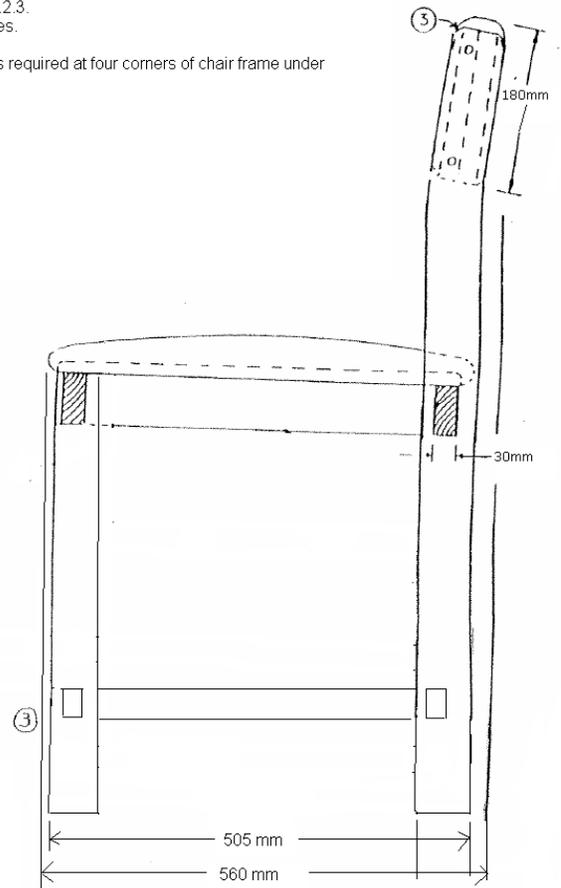


Figure 11  
Type X, Size 2  
Bar Stool