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A-A-3173A
January 13, 1999
SUPERSEDING
A-A-3173
November 5, 1998

COMMERCIAL ITEM DESCRIPTION
OFFICE FURNITURE, WOOD, UNITIZED

The General Services Administration has authorized the use of this commercial item description as a replacement for AA-O-250/1, AA-O-250/2, and AA-O-250/6 for all federal agencies.

1. SCOPE. This commercial item description covers the general and detailed requirements for three items of unitized, wood executive office furniture. It incorporates the remaining items in this line of executive wood furniture which are required for continuity and intermixing of the executive furniture items.

2. CLASSIFICATION. The types and sizes of furniture are as follows:

Type I - Bookcase, with two glass doors

Type II - Credenza, two pedestals, with knee space

Type III - Tables, leg style

Size 1 - 1500 L x 750W x 750 H
Size 2 - 1800 L x 860W x 750 H
Size 3 - 2400 L x 960W x 750 H
Size 4 - 3000 L x 1200W x 750 H

3. SALIENT CHARACTERISTICS

3.1 Design and Materials. The items shall be fabricated in accordance with the attached figures, construction details and materials.

3.1.1 Tolerances. Where tolerances are not specified, the following tolerances are permitted:

Overall dimensions: plus, minus 6.5 mm; tables – plus 50 mm, minus 2 mm.
Solid wood part dimensions: plus 4 mm, minus 2 mm.

3.1.2 Adhesives. Adhesives used in fabricating the tables shall be any that will develop an average block shear strength of 19 300 kPa minimum.

3.1.3 Wood. The solid wood shall be one of the following species: beech, birch, cherry, maple, oak, pecan, walnut, hickory and mahogany (khaya or swietenia). Corner blocks may be poplar. It shall be bright, well-sanded, and free from brashness, discoloration, worm holes, honey-comb, splits and shakes.

Beneficial comments, recommendations, additions, deletions, clarifiactions, etc. and any other data which may improve this document should be sent to: General Services Administration, National Furniture Center (3FNE-CO), Washington, DC 20406.

All component wood parts shall be uniformly kiln dried to a moisture content of from 5 to 8 percent and then properly conditioned.

3.1.4 Tops. The plastic laminated tops shall have a balanced construction with lumber, veneer or particleboard core, surfaced with decorative plastic laminate and backing sheet. The overall thickness shall be 19 mm, except for tables, which shall be min 32 mm. The face and back laminates shall be securely applied, providing a tight, uniform bond. All edges of the tops shall be banded with exposed full length solid wood strips, minimum 8 mm thick, lap or butt-jointed at the corners. All banding strips shall be applied to the core before application of the plastic laminate. Round all corners of the top and chamfer all top edges a minimum of 1.5 mm, at a 45 degree angle.

3.1.5 Plywood. All plywood shall be fabricated according to the requirements of ANSI/HPVA 1994. The plywood shall have a balanced construction, minimum 5-ply with a lumber, veneer or particleboard core and shall be designed to prevent panel warping or telegraphing. Glue bond shall be Type II or better. Lumber-core panels shall be Regular Grade with full length core strips.

3.1.6 Particleboard. The particleboard shall be in accordance with ANSI A 208.1-1993, Grade 1-M-2, except that panels less than 22 mm thick shall have a minimum average screw holding capacity of 1046 N on the edges and 1268 N on the faces.

3.1.7 Plastic laminate. Decorative face sheets shall conform to General Purpose Type 1 HPDL, in accordance with NEMA LD 3-1995. The color of the plastic laminate shall match the GSA standard Walnut laminate sample (FSS-L-01002).

3.1.8 Hardware.

3.1.8.1 Hinges. Hinges shall be brass plated steel with a clear topcoat, secured with 6 brass plated flat head screws. Knife type hinges shall have the hinge knuckle protrude maximum 6 mm when the door is closed. The butt type hinges shall be 64 mm long.

3.1.8.2 Glides. The upper surface shall be brass, satin chrome, or nickel plated and the floor contact surface shall be stainless steel or high impact plastic, 38 to 51 mm diameter. They shall have a minimum 38 mm adjustment.

3.1.8.3 Shelf standards and supports. Surface mounted supports, 16mm wide, of steel or anodized aluminum. They shall have 12 mm adjustments on the length dimension, numbered every 25 mm.

3.1.8.4 Legs. Legs shall be 16 ga. square steel tubing welded to a square steel mounting plate 5 mm thick. A threaded nut assembly shall be securely fastened to the bottom end of the tube to receive a leveling glide. The mounting plates shall have four holes drilled for 5/16 inch machine bolts with the holes positioned for mounting to the underside of the unit and aligned with the "T" nuts in the pedestal base. After being cleaned and surface prepared, the entire assembly shall be finished with a coat of black baked or air dried enamel coating which shall pass the test in 4.3.4.

3.2 Construction.

3.2.1 Welding. The parts to be joined by welding shall be by the processes of Arc welding or Torch brazing. Each weld shall be properly fused, sound, neatly accomplished, free of cracks, pits, flash and shall have a finished appearance and the exposed butt joint welds shall be finished flush with the base metal.

3.2.2 Joinery. Accurately machine and securely glue all joints to prevent breakage or loosening of any joint during handling, shipping, heavy daily usage or subsequent moving (see 4.3.3). Use wood glue blocks/screw cleats where necessary to reinforce joints. When particleboard is used for the core material use sheet metal screws for attachment.

3.2.3 Components and Units.

3.2.3.1 Assembly cleats. Assembly of the case shall provide a sturdy, quality piece of furniture suitable for use in offices with the major components joined and assembled with tenons, toe screws, or screw cleats 19 mm square. Cleats shall be nearly full length and glued in place.

3.2.3.2 Assembly of components. Join and assemble the major components as specified herein. Tenon the base rail and back panel into the end panels. The top surface of the bottom panel shall be flush with the top edge of the base rail. The bottom panel shall be tenoned into the base rail, end and back panels. The back panel shall lap the bottom panel. Screws shall penetrate the top, back panel, and end panels a minimum of three fourths of their thickness. The leg cleats shall adjoin the end panel, base rail, and back panel. A minimum of two screws shall secure each leg cleat to the underside of the case bottom. Cleats, extending approximately the entire distance of the bottom panel.

3.2.3.3 Type I. The bookcase as shown in Figures 1 and 2 shall have two wood framed glass doors, securely hung on three butt hinges and the glass shall be retained by ¼ round wood or plastic moulding which is securely pin nailed or retained in a groove. Corners shall be neatly miter cut and fit in the corners. The doors shall swing freely within the opening and have a uniform clearance. Each door shall have two catches, an upper magnetic catch recessed into the parting rail and a lower bullet catch with the female socket mounted into the bottom of the door frame and the male portion positioned and recessed into the bottom of the case so the two parts will intermember smoothly when the door is closed.

3.2.3.3.1 Case. All parting rails shall be tenoned and glued into end panels and the lower rail toe-screwed from the under side to each end panel. Each end panel shall have a full height veinline 1.6 mm in depth and width, 28 mm from the back and front edge. The back panel shall be rabbeted into the end panels and lap the bottom panel and upper rear parting rail.

3.2.3.3.2 Shelves. A full depth fixed shelf, tenoned into the inside face of each end panel, supported by cleats, glued and screwed to the underside of the shelf and the end panels and a minimum of four screws through the back panel into the edge of the shelf. A full depth adjustable shelf shall be supported on two shelf standards, 610 mm long, minimum. They shall be surface mounted, 150 mm apart o.c., 76 mm o.c. from the front panel edge. Each end of the shelf shall have cutouts, finished walnut color, to accommodate the supports.

3.2.3.3.3 Top. The top shall overhang the front and both sides 13 mm and be flush with the back panel, with the front corners rounded and back corners eased. The top shall be secured with screws through the upper front and back parting rails and by a full depth cleat screwed and glued to the underside of the top and inside face of each end panel.

3.2.3.4 Type II. The case of the credenza shall be as shown in Figure 3 and consist of two identical pedestals, a kneespace area with a fixed shelf, and a full height, common back panel. One adjustable shelf and one door is required in/on each pedestal. The parting rails, cleats, leg support cleats, and back shall be assembled as specified in 3.2.3.2 and the 19 mm thick adjustable shelves as described in 3.2.3.3.1. The 19 mm thick fixed shelf shall be inset 38 mm from the front edge of the pedestal and be

tenoned into the inside end panels of the pedestal. The doors, min. 19 mm thick, banded on top and both side edges mounted on knife hinges, shall fit freely within the opening with equal clearance around its perimeter. Two, dark brown or antique brass, catches and strike plates for each door will hold the door securely closed without looseness. Leg support cleats shall be glued and screwed to the underside of the bottom panel with not less than 2 screws. The mounting plate shall be centered on the pedestal, with the leg centered on the plate.

3.2.3.5 Type III. The tables shall be as shown in Figures 4, 5, and 6, fitted with four legs of knockdown design. All legs shall be furnished with glides and the end of the leg tubing, just above the glide, ground smooth so that there are no sharp edges. The aprons shall be secured to the top by taping screws inserted through bored holes spaced 150 mm apart, maximum, penetrating the top about ¼ of its thickness. Either the metal corner bracket or wood corner block may be used to fasten the legs to the aprons. Center brace (see Figure 4), 27mm thick by 75 mm wide, shall be a one-piece solid wood brace extending the full length between the end aprons which are dadoed on the center of the inside face to receive the brace. The brace shall be secured to the underside of the table top in the same manner as the aprons. In addition, triangular cleats fasten wood glue blocks, glued and screwed to the underside of the top, on opposite sides of the brace, about one third of its length from each end apron. Similarly, at approximately third points, secure the side aprons with triangular glue blocks. The top shall be plastic laminated fabricated as described in 2.4, approximately 32 mm thick.

3.2.4 Method of finishing. Finish the wood surfaces of the units as specified herein using compatible stain, sealers, fillers (if necessary), lacquer top coats so that the finished surfaces shall comply with the requirements of 4.2. The natural grain of the wood shall not be clouded by the finishing materials. Bleaching agents or materials shall not be used. The application of materials, the drying time, sanding, cleaning and rubbing shall be controlled to produce items of smooth, uniform exposed surfaces without orange peel, runs, sags, flaking, cracking, damage, rub through or other defects and shall match the standard Walnut laminate sample (FSS-L-01002). Unexposed parts shall be finished as required for quality furniture.

3.2.5 Workmanship. The methods of construction, machining, gluing, veneering, assembly, finishing and the finished appearance of the units shall be in strict accordance with the requirements of this specification. Units shall be free of splinters, sharp edges, and sharp corners. Unexposed surfaces shall be smooth and clean. Glued joints shall be held in place while the adhesives set to provide strong, durable joints.

3.2.6 Identification marking. Each unit shall be permanently and legibly marked in an inconspicuous place with the National Stock Number, contract number, date of manufacture and the manufacturer's name or trademark, so that the source of supply may be readily determined.

4. QUALITY ASSURANCE PROVISIONS

4.1 Inspection Provisions. Details of the first article sample requirements are contained in the solicitation. In addition, approval of the first article sample authorizes the start of production, but does not relieve the contractor of responsibility from conformance with all other applicable provisions of this CID. Inspection requirements are stated in the solicitation.

4.2 Testing.

Component	Characteristic	Reference	Test Method
Adhesive	Block shear test	3.1.2	ASTM D 905-94

Finish	Toughness and adhesion	3.2.1	4.3.2
Furniture Unit	Structural Tests	3.2.2	4.3.3, 4.3.4, 4.3.5
Enamel Finish	Hardness and adhesion	3.1.8.4	4.3.6 below

4.3 Test methods.

4.3.1 Test for adhesives. Test in accordance with ASTM D 905. Rerun test if 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.

4.3.2 Test for finish. The toughness and adhesion test shall be made by using Organic Coating Adhesion Tester, US Testing Company, Model Number 1001, in accordance with instructions for using, as provided for by the manufacturer of the tester (see 6.3). The panel shall be marred both parallel and perpendicular to the grain. The resulting indentation shall be examined for whitening (film separation) or cracking is not acceptable.

4.3.3 Bookcase shelf static load test.

4.3.3.1 Preparation. Place complete unit, with doors, on a flat level surface. Install shelves in unit evenly spaced top to bottom. Place a 9 kg. Load on both ends of each adjustable shelf for 5 minutes to insure that the shelf supports are fully engaged. Remove this load. Place dial indicators, or equivalent measuring devices at the front edge of the top panel and each adjustable shelf. Take initial readings.

4.3.3.2 Test. Apply an evenly distributed, 0.6 kg/linear cm., non-rigid load on the top panel and each adjustable shelf at the same time. Maintain load for 30 minutes. Record deflections while under load. Remove load.

4.3.3.3 Acceptance standards. Maximum deflection for top and each shelf while under load shall be 0.005 mm per mm of shelf length. End panels shall not bow while case is under load. Doors shall remain aligned and continue to operate smoothly. Structural damage to the case, shelves, or shelf supports that affect serviceability or could cause personal injury to the user will be cause for rejection.

4.3.4 Bookcase drop test. Each end of the bookcase shall be raised 150 mm and dropped onto a bare concrete floor. The bookcase shall then be thoroughly examined, (including glides). There shall be no broken joints, loose mechanical attachments, or other structural damage that affect serviceability or could cause personal injury to the user.

4.3.5 Bookcase door test. ANSI Standards for Kitchen and Vanity Cabinets A161-1990. Test bookcase with doors in accordance with sections 6.1and 6.2 Door operation tests. Secure unit to test platform to prevent tipping.

4.3.6 Enamel Finish on Steel.

4.3.6.1 Hardness. The dried film shall withstand the firm stroke of a 2H pencil held at a 45 degree angle and pushed across the film surface without evidence of marring when viewed at an oblique angle in a strong light.

4.3.6.2 Adhesion. The dried film shall not be removed from the surface when the latter has been scored

with a razor blade through the film to the base metal in such a manner as to produce a grid of 3 mm squares and a 25 mm wide piece of Scotch tape is applied firmly to the grid surface and then quickly pulled from the surface.

5. PACKAGING. Package, pack and mark shipping containers in accordance with the contract or order.

6. NOTES

6.1 Standard sample. Sample panels of the standard color for walnut finish (FSS-L-01002) are obtainable, without charge, from the National Furniture Center, GSA-FSS-3FNE-CO, Washington, DC 20406

6.2 Ordering data. Purchasers should include the title, number, and date of this specification, Type and size of item, quality assurance provisions, and packaging, packing and marking requirements in procurement documents.

6.3 Organic Coating Adhesion Tester. Information about the Organic Coating Adhesion Tester, Model No. 1001, may be obtained from US Testing Company, Inc., Instrument Marketing Division, 1415 Park Avenue, Hoboken, New Jersey 07030.

6.4 American Society for Testing and Materials (ASTM) Standard:

ASTM D 905-94 - Standard Method of Test for Strength Properties of Adhesives in Shear by Compression Loading.

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

6.5 Hardwood Plywood and Veneer Association

ANSI/HPVA HP-1-1994 - Hardwood and Decorative Plywood

(Copies may be obtained upon from HPVA, PO Box 2789 Reston, VA 20185-0789)

6.6 American National Standards Institute

ANSI A208.1 - 1993 Wood Particleboard

ANSI A161.1 - 1990 Standards for Kitchen and Vanity Cabinets

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

6.7 National Electrical Manufacturers Association

NEMA LD 3-1995 -High Pressure Decorative Laminates

(NEMA Standards may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112-5776 - Sales Department 1(800) 854-7179.

MILITARY INTERESTS

NONE: DoD has no registered interest in revisions and amendments to this Commercial Item Description until further notice.

Preparing Activity:

GSA-FSS

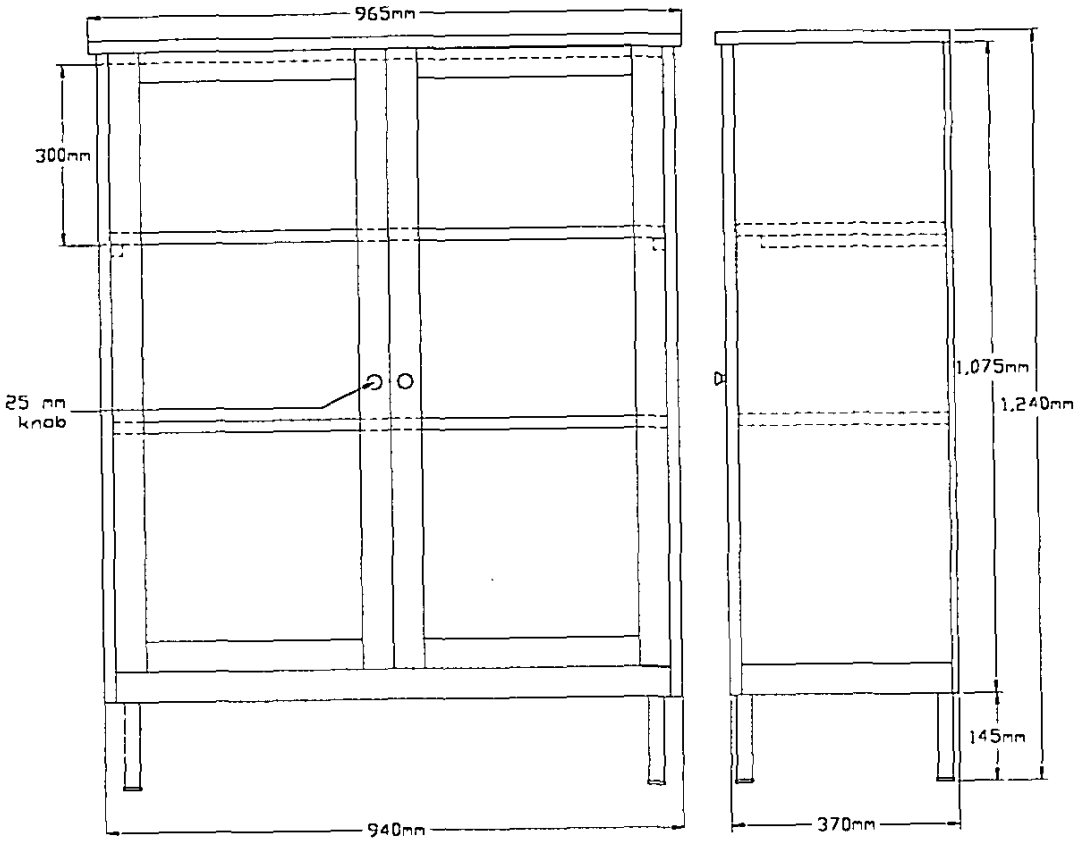


FIGURE 1 - TYPE I BOOKCASE

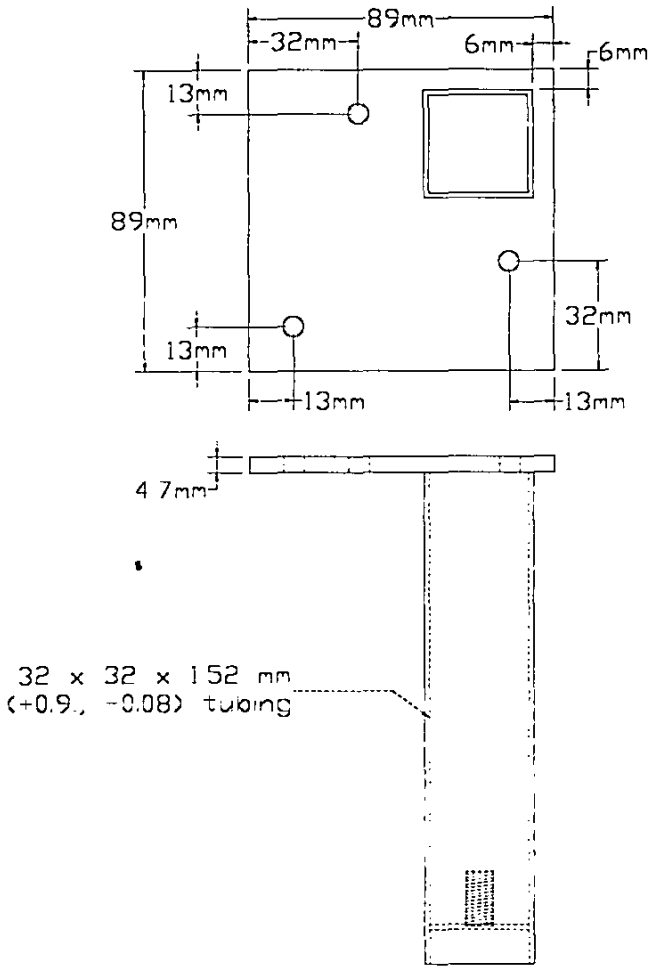


FIGURE 2 - LEG ASSEMBLY

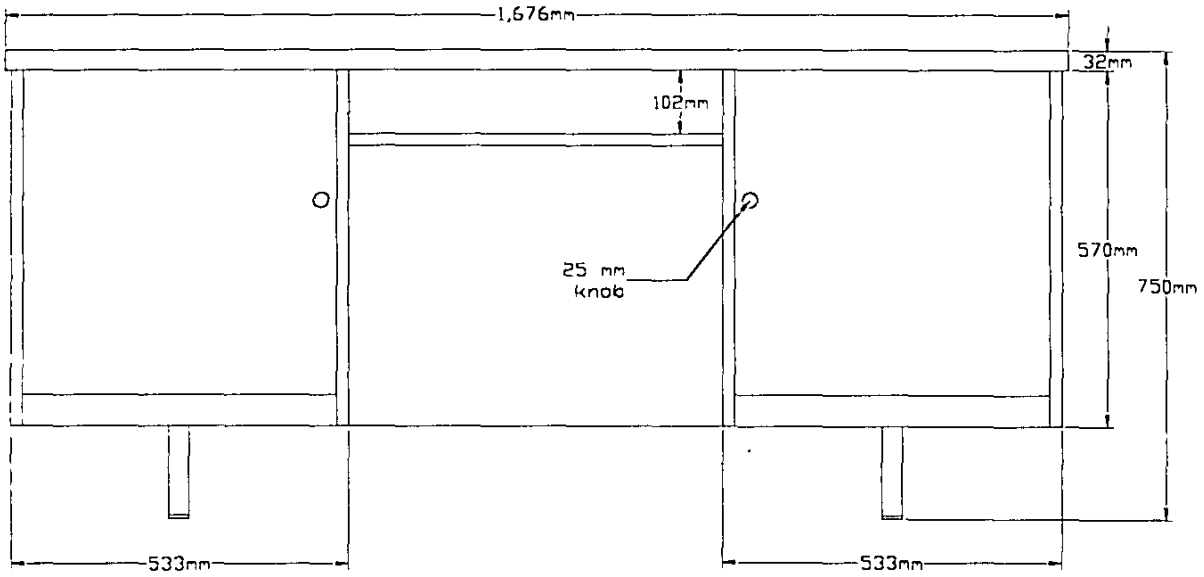
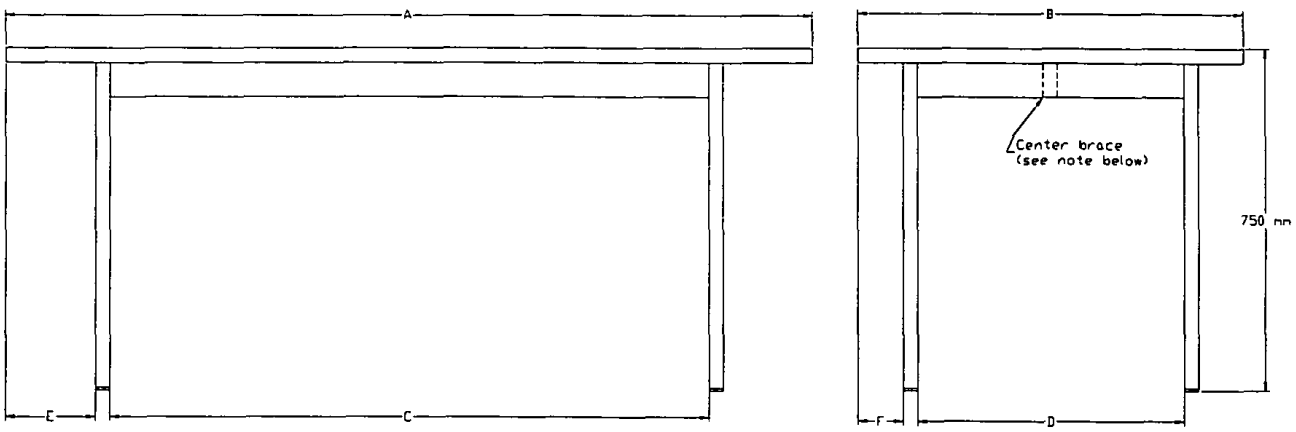


FIGURE 3 - CREDENZA



DIMENSIONS

	A	B	C	D	E	F
SIZE 1	1500	750	1320	570	50	50
SIZE 2	1800	860	1320	570	200	100
SIZE 3	2400	960	2220	780	50	50
SIZE 4	3000	1200	2220	780	350	170

FIGURE 4 - TABLES

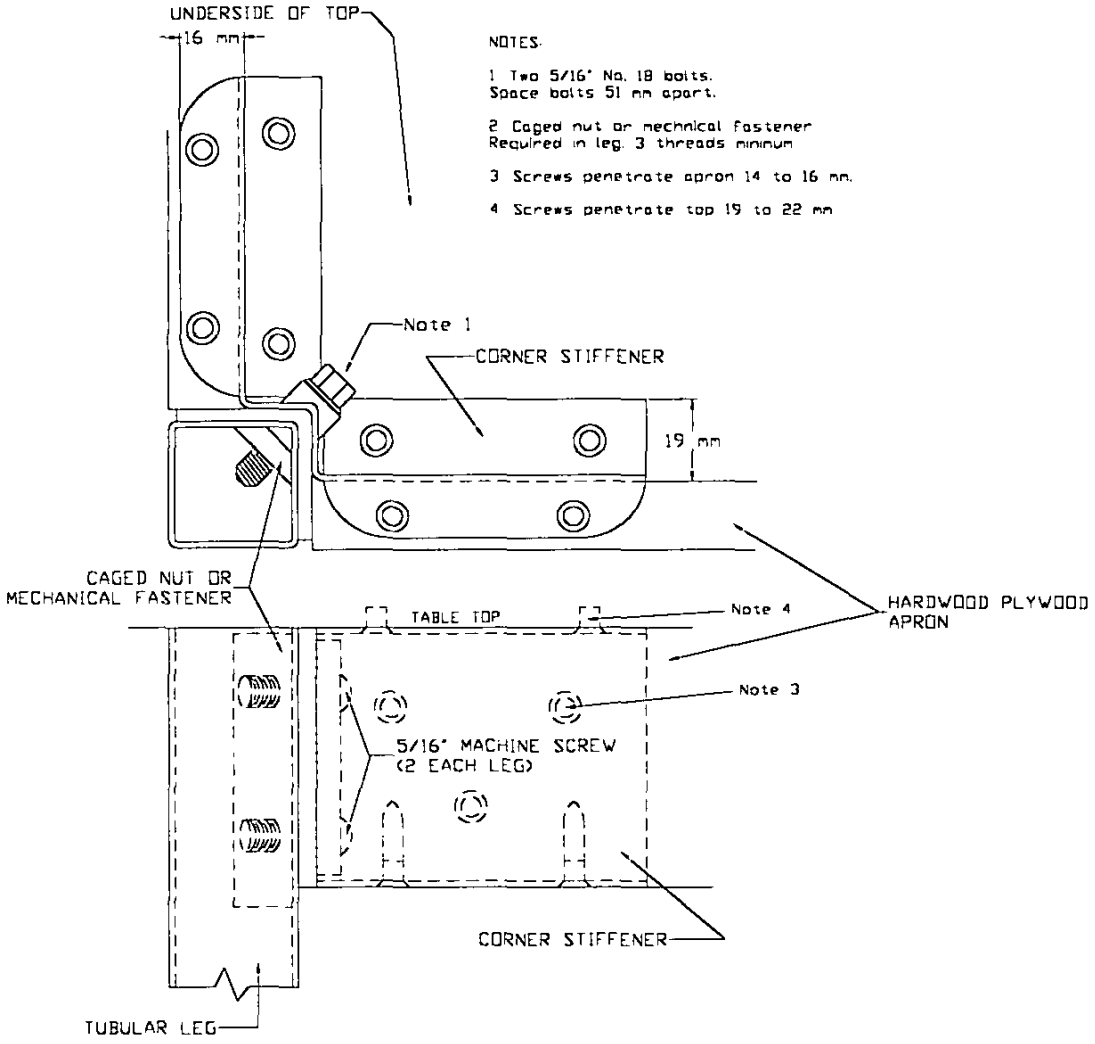
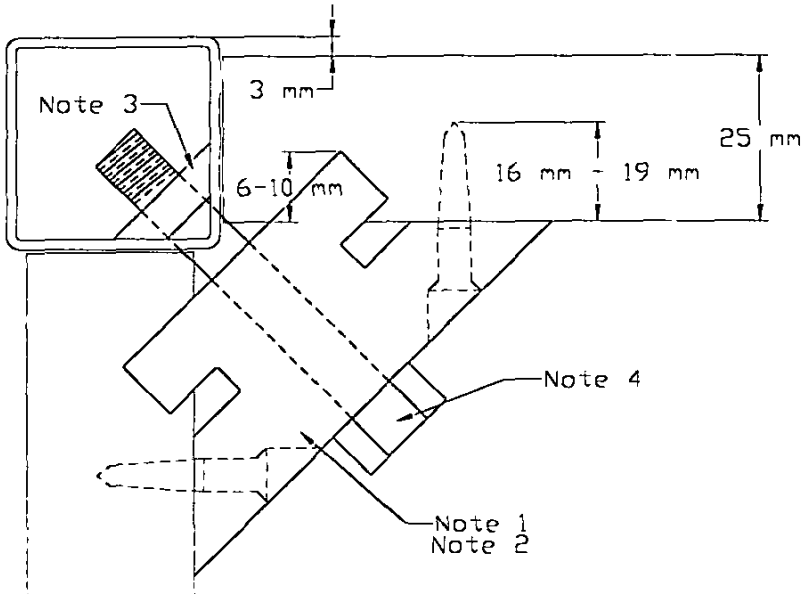


FIGURE 5 - METAL CORNER BRACKET ASSEMBLY



NOTES

1 CORNER BLOCK - 24 mm x 73 mm

2 Tenon and glue corner blocks to aprons and secure with 2 screw

3 Caged nut or mechanical fastener required in leg, 3 threads, minimum.

4 Two 5/16" No 18 studs required with nuts and washers, threaded or welded into leg.

FIGURE 6 - WOOD CORNER BRACKET ASSEMBLY