

**SPECIFICATION  
FOR  
DESK, CHAIR, WOOD**

(This specification is released for procurement purposes until revised, rescinded.)

**SCOPE**

This specification covers wood movable chair desks of the conventional design.

**I. CLASSIFICATION**

Wood teachers desks shall be classified in the following classes and sizes:

- Size 1 - 13" Seat Height
- Size 2 - 15" Seat Height
- Size 3 - 17" Seat Height

**II. APPLICABLE SPECIFICATIONS**

The following document in effect on the date of the Invitation for Bids shall form a part of this specification:

NEMA LD-3 - High Pressure Decorative Laminates  
National Electrical Manufacturer's Assn. (NEMA)  
2101 "L" Street, NW  
Washington, DC 20037

**III. REQUIREMENTS**

**A. MATERIALS**

1. Wood (Species) - The woods shall be of the following:
  - a) Hard Maple - Acer Sacchrum
  - b) Hard Birch - Betula Lutes or Betula Lenta
  - c) Hard Beech - Fagus Grandifolia
  - d) Hard Oak - Quercus (genus)

The woods are to be clear of defects; kiln-dried to commonly accepted tolerances for glued parts and also properly dried so there will be no checking or splitting occurring when used.

2. Glues

Glues shall be with good commercial practice so that the glue joints are as strong as the wood.

3. Glides

Glides shall be nickel-plated, case-hardened, and rubber cushioned.

4. Finish

The finish furniture (or panels) shall meet the following requirements:

The color and appearance of the finished furniture shall be within the tolerances defined by the standard control panels for the furniture on contract, the standard control panels to be furnished by the contracting agency. The finish shall be natural but can be toned or stained for uniformity.

**B. CONSTRUCTION**

1. Bookrack

The bookrack bottom shall be solid slats or plywood. Either material to be a minimum of ¼" thick. There shall be a minimum of 5" from surface of bottom of bookrack to the top of back seat rail and side seat rail opposite the opening. The opening between stretchers of bookrack shall be ¾" ± ¼". The opening of the bookrack shall be no less than 5". There shall be at least one stretcher front and back placed so that it will also serve as a retainer for front and back of the bookrack.

2. Joints

All joints are to be mortise and tenoned or double dowelled with corner blocks glued and screwed in all four corners or of the glued and dovetail type. There shall be a ¼" lag screw with washer through the right front corner block into the post for extra support for holding the post rigid to support the writing surface.

3. Seat

The seat shall have a deeply scooped saddle and be securely screwed to the box rails.

4. Desk Surface

- a) Solid tops shall be made of tongue and grooved or straight joint edge-glued Beech, Birch, or Hard Maple, ¾" minimum thickness, with a batten underneath running across the grain.  
The batten to reach within 1-¾" of both edges of the writing surface and to be no less than ¾" thick and 1½" wide.
- b) Plastic surfaces shall be in accordance with the NEMA LD-3-1980 or issue in effect at the time of the bid. Plastic thickness shall be not less than .050". The plastic shall be General Purpose Type Decorative Laminate Grade GP50. Backer sheet shall be equal to Grade BK20.

The plastic surface as described above and backing sheet shall be glued on a plywood or high density particleboard core so that the finished thickness shall be not less than 3/4". The individual veneer plies of the plywood when used shall be hardwood not more than 1/10" in thickness.

5. Desk Surface Brace

The brace underneath the writing surface shall be one-piece of not less than 1" thick, minimum depth of 3½", minimum length of 17", and shall be placed in a mortise in the top end of the post and fastened with two bolts to the post. The nuts for the bolts shall either be countersunk or of the tee nut type. The brace shall be fastened to the top with no less than four countersunk #9 screws or larger. The writing surface shall be attached to the right rear post by means of a steel brace with three screws in the writing surface and two screws in the post. The angle in the brace to be so designed to incorporate a gusset plate. The brace to be a minimum of 14 gauge steel.

6. NOTE: All dimensions listed in this specification are to be finished dimensions.

DIMENSIONS	17"	15"	13"
<u>Seat Height from Floor</u> Including glides & measured at middle of seat in front	17" ± ¼"	15" ± ¼"	13" ± ¼"
<u>Seat: Width</u>	18" min.	16"	14-3/4"
Length	17" min.	15"	12-3/4"
Thickness	1" min.	1"	13/16"
<u>Glides: Height</u>	7/16" ± 1/16"	7/16" ± 1/16"	7/16" ± 1/16"
Diameter	1-1/8" ± 1/8"	1-1/8" ± 1/8"	7/8" ± 1/8"

DIMENSIONS	17"	15"	13"
<u>Desk Surface</u>	21-3/4" ± ¼" x 14-3/4" ± ¼"	18½" ± ¼" x 13" ± ¼"	17-3/4" ± ¼" x 12 ± ¼"
<u>Pencil Slot: Length</u>	9" - 12"	9" - 12"	9" - 12"
Depth	¼"	¼"	¼"
Width	½" ± 1/16"	3/8" ± 1/16"	3/8" ± 1/16"
Location	Centered from side to side - 3/4" front edge	Same	Same
<u>Front Posts: Left</u>	1-13/16" sq. ± 1/16"	1-3/4" ± 1/16"	1½" sq. ± 1/16"
Right	2-1/8" sq. ± 1/16"	2" sq. ± 1/16"	1-3/4" sq. ± 1/16"
<u>Back Posts: Thickness</u>	1-1/6" ± 1/16"	1-1/16" ± 1/16"	13/16" ± 1/16"
<u>Back Height:</u> Height from back of seat to top of upper back slat	15¼" ± ½"	13¼" ± ½"	12-3/4" ± ½"

DIMENSIONS	17"	15"	13"
<u>Angle of Slope of Desk Surface</u>			
Minimum	5½"	5½"	5½"
Maximum	7°	7°	7°
Minimum distance from back of writing surface to front of back slat	14" ± ½"	11½" ± ½"	9 ± ½"
Minimum distance from seat to underside of writing arm	10¼"	8-3/4"	8¼"

**IV. WARRANTY**

The contractor warrants to the owner that all wood chair desk furniture under this specification will be new, of good material and workmanship, and agrees to replace promptly any part or parts which by reason of defective material or workmanship shall fail under normal use, free of negligence or accident, for a minimum period of three years from date put in operation. Such replacement shall be free of any charge to the owner or his representative.

**V. SERVICE, PARTS, AND MANUALS**

None required in this specification

**VI. ACCEPTANCE EVALUATION AND QUALITY ASSURANCE**

**A. SAMPLING FOR LOT ACCEPTANCE**

1. Contractor Inspection

Unless otherwise specified herein, the supplier is responsible for the performance of all inspection requirements prior to submission for state inspection and acceptance.

2. Classes of Inspection

All examination and testing shall be to determine conformance to the requirements of this specification to serve as a basis for acceptance.

3. Inspection Lot

For purpose of sampling and testing, a lot shall consist of all wood chair desks offered for delivery for one location at one time.

**B. INSPECTION**

The field inspector shall pick at random one wood chair desk from a shipment for test purposes.

**C. LOT ACCEPTANCE**

The sample selected by the field inspector shall be subjected to tests herein specified. If the sample fails in one or more of these tests, the lot shall be rejected. Rejected lots may be resubmitted for acceptance tests provided the contractor has reworked all nonconforming materials.

#### **D. TEST PROCEDURE**

The following tests are to be performed after the furniture (or panels) has been aged at least 10 days at not less than 70°F.

1. Print Test

Place a piece of surgical gauze folded twice to form a pad approximately 3"x3" on the finish surface (at room temperature). Apply a weight equivalent to two pounds per square inch. Allow to remain in contact for 24 hours. Remove weight and gauze. One hour later, examine. There shall be no evidence of printing except those marks which can be easily polished out.

2. Hot Water Test

Pour 25cc of boiling water in a pool on the finish surface. Allow to cool and blot up. Polish with a clean, dry cloth. There shall be no evidence of whitening or spotting.

3. Cold Water Test

Apply a pool of 2cc of cold water to the finish surface. Cover with a 3" watch glass. Allow to remain in contact for 24 hours. Remove watch glass and blot up water. One hour later, polish with a clean, dry cloth. There shall be no evidence of whitening, spotting, or checking.

4. Adhesion Test

Using a single edge razor blade, make cuts through the film into the wood 1" long, 1/8" apart at an angle 45° to the grain on the wood. Then repeat at a 90° angle to the first cuts, forming 1/8" squares. The squares so formed should adhere to the wood and not chip or break in a brittle manner when rubbed with a cloth.

5. Impact Test

Make smears on the finish surface with lipstick and carbon paper. Smears shall be easily removed with a cloth dampened with VM&P Naphtha.

6. Smear Test

Make smears on the finish surface with lipstick and carbon paper. Smears shall be easily removed with a cloth dampened with VM&P Naphtha.

7. Wood Classroom Furniture Finish - Tri-Sodium Phosphate(Detergent) Test

A 5% solution of tri-sodium phosphate shall be confined by means of a putty ring over an area of approximately three square inches for a period of 24 hours. Cover the solution and putty ring with a piece of glass to prevent evaporation. At completion of test, the solution and putty ring shall be removed and the completion surface wiped dry and clean with a cloth. There shall be no permanent discoloration or softening of film.

8. Ink Test

Apply a pool of ½cc of ink to the finish surface. Allow to remain in contact 30 minutes. Blot and wipe clean with a damp cloth. There shall be no staining.

9. Chemical and Stain Resistance Test

The finish shall be resistant to staining and spotting from contact with various liquids, foods, etc. The following group being representative:

- |                 |                 |
|-----------------|-----------------|
| a) Coffee       | e. Tomato Juice |
| b) Vinegar      | f. Butter       |
| c) Lemon Juice  | g. Milk         |
| d) Orange Juice | h. Tea          |

Place several drops or a daub of each material on the finish being tested. Cover with a watch glass. Allow to remain in contact for 18 hours. Remove materials with a damp cloth. After a two hour recovery period, examine. There shall be no spotting, staining or discoloration.

(The above tests are of such a nature that they may be performed in the field. In addition, the finish shall meet the following laboratory requirements after at least 10 days aging at not less than 70°F.)

10. Cold Check Test

Finish shall withstand 10 hot to cold cycles without cracking. One cycle is as follows:

- a) One hour at 120°F.
- b) Followed immediately by one hour at 5°F.
- c) One hour at room temperature after which panel is examined (preferably while holding the panel at a 45° angle to the rays of bright sunlight or some other strong source of light) for checks in the finish.

11. Abrasion Test

A wood block with rounded edges approximately 4"x6" faced with 1.05-54 sateen and loaded with a total weight of ten pounds shall be moved reciprocally across the finish surface, the pad being saturated with Dutch Cleanser paste (20 grams of Dutch Cleanser in one ounce, liquid measure, of tap water). Rewet with paste every 50 reciprocations. The finish shall withstand at least 300 motions in each direction without being worn through or cut through to wood.

## **E. SAMPLES**

If samples with the bids are necessary, they shall be specifically asked for in the Invitation for Bids and the particular purpose to be served the bid sample shall be stated.

## **VII. DELIVERY AND PAYMENT**

Delivery of and payment for wood chairs desk purchased under this specification shall be in accordance with the terms and conditions of the Invitation for Bids. The contractor shall be responsible for any packing, packaging, or protection required to insure safe delivery in an undamaged condition.

## **VIII. ORDERING DATA**

Purchasers should exercise any desired option herein and should specify the following:

1. Title, number, and date of this specification
2. Species of wood desired
3. Size desired