

**SPECIFICATION  
FOR  
CHAIR, WOOD, FOR UNIT PUPIL TABLE  
OR  
CAFETERIA USE**

(This specification is released for procurement purposes until revised or rescinded.)

**SCOPE**

This specification covers wood chairs of conventional design for use with unit pupil tables of conventional design, or for use with cafeteria tables.

**I. CLASSIFICATION**

The chairs covered by this specification shall be classified in the following classes:

- Class I - 11" - 14" seat height
- Class II - 15" - 16" seat height
- Class III - 17" - 18" seat height

**II. APPLICABLE STANDARDS**

No other standards are applicable to this specification.

**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 finished furniture (or panels) shall meet the following requirements:

- a) The color and appearance of the finished furniture shall be within the tolerance 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) The finish shall be smooth and uniform and shall contain no foreign matter or packing marks.

**B. CONSTRUCTION**

1. General

The chairs shall be four-post construction with posture back posts and not less than two cross backs sized, curved and placed for maximum support and comfort. Chairs shall be boxed underneath the seat with rails on all four sides. There shall be at least one stretcher on all four sides between the seat rail and the floor. Placement and size of the stretchers shall be for adequate strength and proportional to the size and design of the chair.

2. Joints

All joints are to be mortise and tenoned or double dowelled with corner blocks glued and screwed in all four corners.

3. Seat

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

**C. DIMENSIONS**

The chairs shall meet the following minimum finished dimensions: overall height of the chairs shall be proportional to the size and design.

**CLASS I**

	11"	12"	13" & 14"
Seat Width	12½ ± 1"	13½ ± ½"	13-¾ ± ¾"
Seat Depth	11½ ± 1"	12¼ ± ¾"	12½ ± ¾"
Seat Thickness	13/16 ± 1/16"	13/16 ± 1/16"	13/16 ± 1/16"
Stretchers: Side (2)	8-1/8 ± 1/8"	8-1/8 ± 3/16"	9 ± ¼"
Front (1)	8¼ ± 3/16"	9¼ ± 3/8"	9-9/16 ± 11/16"
Back (1)	8-3/4 ± ¼"	9½ ± ¼"	9-3/4 ± ½"
Box Rails	2 ± ¼ x ¾"	2-1/8 ± 1/8 x ¾"	2-1/8 ± 1/8 x ¾"
Front Posts	1-3/16 x 1-3/16±1/8	1¼ x 1¼ ± 1/8"	1-3/8 x 1-3/8±1/8"

Back Posts Thickness	7/8 ± 1/16"	7/8 ± 1/16"	7/8 ± 1/16"
Distance Between Back Posts	8-3/4 ± 1/4"	9 1/2 ± 1/4"	9-3/4 ± 1/2"
Glides: Height	1/2 ± 1/16"	1/2 ± 1/16"	1/2 ± 1/16"
Glides: Diameter	13/16 ± 1/16"	1 ± 1/16"	1-1/8 ± 1/8"

### CLASS II

DIMENSIONS	SEAT HEIGHT (INCLUDING GLIDES)
	15" & 16"
Seat Width	15 1/2 ± 1/2"
Seat Depth	14 1/4 ± 1/4"
Seat Thickness	13/16 ± 1/16"
Stretches: Side (2)	10 ± 1/2"
Front (1)	10 1/2 ± 1/4"
Back (1)	11 ± 1/4"
Back post Thickness	1-1/8 ± 1/16"
Distance Between back posts	11 ± 1/4"
Glides: Height	7/16 ± 1/16"
Glides: Diameter	1 ± 1/16"

### CLASS III

DIMENSIONS	SEAT HEIGHT (INCLUDING GLIDES)
	17" & 18"
Seat Width	15-3/4 minimum
Seat Depth	16-3/8 ± 1/8"
Seat Thickness	13/16 ± 1/16"
Stretches: Side (2)	12 1/2 ± 1/2"
Front (1)	12 1/4 ± 3/4"
Back (1)	12-5/8 ± 3/4"
Back post Thickness	1-1/8 ± 1/16"
Distance Between back posts	12-5/8 ± 5/8"
Glides: Height	1/2 ± 1/16"
Glides: Diameter	1-1/8 ± 1/16"

#### IV. WARRANTY

The contractor warrants to the owner that all wood chairs for unit pupil table furnished 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 for 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 chairs offered for delivery for one location at one time.

**B. INSPECTION**

The field inspector shall pick at random one wood chair 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"x 3" 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 of 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 off or break in a brittle manner when rubbed with a cloth.

5. Impact Test

Drop a one pound steel ball on the finish from a height of one foot. Examine the crater so formed. Finish shall not be shattered or loosened.

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 3" square 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 finished 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 1/2cc 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:

- One hour at 120°F.
- Followed immediately by one hour at 5°.
- 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 finish.

NOTE: Minor edge checks and veneer checks should be discounted.

11. Abrasion Test

A wood block with rounded edges approximately 4" x 6" 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 the 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 by the bid sample shall be stated.

**VII. DELIVERY AND PAYMENT**

Delivery of and payment for wood chairs for unit pupil table 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.