

**SPECIFICATION  
FOR  
FURNITURE, MODULAR COMPUTER WORKSTATIONS**

(This specification is released for procurement purposes until revised or rescinded.)

**I. Scope**

**A. General**

1. This specification covers MODULAR COMPUTER WORKSTATION furniture. It is not intended to cover all types of computer furniture, but only the styles and designs most frequently purchased for state agencies, institutions, and the public schools.



2. The intent of this specification is to define the product requirements and the subsequent procedures for obtaining a Qualified Products Listing (QPL). After the products have been approved, the model or series number will be shown on a separate document QPL-7105-3 (latest dated revision) which will be used as the sole approval source for products covered by the Invitation for Bid (IFB).
3. This specification includes basic computer furniture in the form of modular groupings and computer workstations, plus the accessories that are typically associated with a computer workstation. This specification requires that the modular components of the workstations be contained within a product series of a single manufacturer. The components required in a model series are defined in this document.
4. This specification *does not* include Office Panel Systems associated with any of these approved series listings. Some manufacturers include complex office panel systems within the same model series. This document refers only to free standing modular workstation furniture. There is a specification and QPL for Office panel systems.
5. This specification *does not* include Chairs. There are specific term contracts for ergonomic and regular office chairs.
6. ***For User information only*** ....The nature of this commodity lends its-self primarily to an office environment, rather than a classroom environment. Refer to the classroom furniture specification for economical tables that can be used for basic applications using single or multiple computer placements. Different types of furniture have been covered by this specification to provide a choice of grades. The

grade span ranges from economy, to executive work stations. The following classification section outlines the various work stations available.

## II. CLASSIFICATION

### A. Definitions of Classification

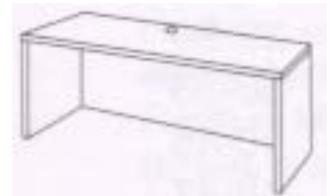
1. The computer furniture covered by this specification is defined by the 'Class' and the Style of the unit.
  - a) Class defines the grade and type of Workstation product (example Economy or Deluxe). There are four Classes, I, II, III, & IV
    - (1) Class I Economy
    - (2) Class II Deluxe
    - (3) Class III Clerical (with limited wire management)
    - (4) Class IV Clerical / Executive (with concealed wire management)
  - b) Styles define the configuration and manufacturing materials of the base. There are three styles, I, II, III, and IV. All styles shall have a modesty panel.
    - (1) Style I Single tubular steel support pedestal leg base
    - (2) Style II Double tubular steel support pedestal leg base (w/optional fascia)
    - (3) Style III End Panel Design- Wood Product
    - (4) Style IV End Panel Design – Other Than Wood Product



Style I



Style II



Styles III & IV

(Sketches above are shown to represent the leg versus end panel design. They are not intended to depict any particular manufacturer's product)

2. Within a model series, defined by the Class and style, there are a number of modular components that are compatible with each other.
3. A series must include, as a minimum but not be limited to, the following modules.
  - a) Computer table
    - (1) This module is the starting block in the creation of a workstation grouping. The other modules are, either attached, placed on, hung from or located adjacent to this module. It provides a work surface(s) for locating the computer, monitor, keyboard and the peripheral equipment. Each table shall be equipped with a modesty panel.
  - b) These various options shall be available (Desired option(s) to be specified in the Invitation for Bid.)
    - (1) A primary single level work surface specified either fixed or adjustable height.
    - (2) Split level, fixed height work surfaces.
    - (3) Split level, adjustable height work surfaces.
    - (4) Bi-level work surfaces with fixed recessed keyboard well and specified left, right or center mounted position.
    - (5) Bi-level work surface with adjustable recessed well specified left, right or center mounted position. Two height adjustment ranges must be available. One range must provide a keyboard minimum height of 24 inches and adjust to a maximum keyboard height of 27 inches. The other range must provide a keyboard minimum height of 26 inches and adjust to a maximum keyboard height of 30 inches. The desired height adjustment range is to be specified in the Invitation for Bid.
    - (6) A sub-shelf located under the main work surface.
    - (7) Casters: 2, 3 or 4 inch diameter wheels.
4. Wedges or corner pieces: (Desired shape to be specified in the Invitation for Bid).
  - a) 90-Degree wedge
  - b) 60-Degree wedge
  - c) Square connector wedge
  - d) Other connector wedges
5. Printer stand:
  - a) With 2" x 17" minimum paper feed slot with rubber or plastic grommet around periphery of slot to protect the paper.
  - b) Without a paper feed slot.

6. Fully articulated and retractable keyboard with mouse tray.
7. Overhead Storage Unit: Has retracting flipper doors on integral tracks. Must not interfere with cable management and not rack or deploy unevenly during motion.
8. Overhead Organizer: A desktop shelf located above the work surface for storage. Must not interfere with cable management.
9. Pedestals with drawers. Suspension to be with Accuride glides or equivalent.
10. Pedestal Units:
  - a) Hanging pedestal (stationary)
  - b) Mobile pedestal.

### III. APPLICABLE STANDARDS

#### A. General

The following documents of issue in effect on the date of the Invitation for Bids shall form a part of this specification to the extent specified:

NEMA LD-3 High Pressure Decorative Laminates

National Electrical Manufacturers Assn. (NEMA)

2101 L Street N.W.

Washington, DC 20037

American National Standards Institute (ANSI)

1430 Broadway, New York, NY 10018

ANSI Z34.2 Self Certification by Producer or Supplier.

ANSI/BIFMA X5.5 Office Furnishings, Desk Products: Tests.

### IV. REQUIREMENTS

#### A. General

1. All material, construction and assembly of the furniture described herein shall be of a quality generally associated with high level standards of the furniture industry.
2. Only manufacturer's Standard Products in design, materials, and construction, which have been in production for six months will be considered for evaluation and acceptance. The only exception to this is the addition of threaded inserts in the worktop if applicable (see para IV.A.5.)
3. Any questions concerning acceptability of the quality offered shall be the sole decision of the Division of Purchase and Contract.
4. The material, construction, assembly and finish of the product shall be in accordance with good commercial practices, and entirely suitable for the purpose intended.
5. Mechanical Joints: Mechanical Joints shall be of the quality and quantity necessary to preclude the loosening of the joint during normal usage and to maximize the strength of the materials being joined.

- a) If metal threaded inserts are not used for an unsupported leg to top attachment, a cut away joint sample must be supplied with a written engineering analysis to validate the strength of the design plus a properly certified document (Certificate of compliance) signed by an officer of the manufacturing company. The proposed design has to be approved by the Division of Purchase and Contract. (Definition of "Unsupported" is a leg that does not have a member, such as a modesty panel or keel, attached to provide vertical stability and prevent relative racking movements to the attachment joint).
  - b) The design of the mechanical fasteners shall be of the type and quantity necessary to preclude loosening or tear out from the core material during normal usage. Note: Particleboard and fiberboard have relatively low fastening strength (screw holding capacity).
6. Knocked down assemblies (where applicable) shall be assembled with mechanical fasteners that are both durable and easy to assemble. Fasteners shall be securely attached to matching parts in such a way that the parts cannot be easily pulled or knocked apart.
- a) Units shipped knocked down shall include assembly instructions and all required hardware. All components shall be properly aligned, and holes pre-drilled for all required assembly (and or metal threaded inserts). Assembly shall require only simple hand tools.

## B. Construction Materials

1. Core Material (Applies to components manufactured from wood products)
- a) Cores may be of the following types, as specified herein for this application.
    - (1) *Lumber cores* shall be of good grade hardwood core stock in random widths of 1" to 4", straight, flat and squared edged before gluing. Discoloration, sound knots, and all defects that are properly patched or filled are acceptable.
    - (2) *Particleboard cores* shall be made of wood chips, bonded with a moisture-resistant adhesive, and with a minimum density of 45 lbs/cu. ft.
    - (3) *Fiberboard or MDF cores* shall be made from pressed fibers of wood, and with a minimum density of 45 lbs/cu. ft.
    - (4) *Multiple veneer cores* (plywood) shall be of balanced cross banded construction, with hardwood veneer cores free of structural defects, and assembled with a moisture-resistant resin adhesive.
    - (5) Composite cores shall be constructed of steel tube and honeycomb framed with particleboard. Frame shall be bonded with hardboard on top and bottom. (Surfaces are to be covered with High pressure laminate)
    - (6) *Strawboard* with Polybor additive.
2. Plastic Laminates
- a) High pressure plastic laminate shall comply with the requirements of NEMA LD-3, grade GP-28 (minimum). Balancing sheet (backers), where applicable shall be at least grade BK-20.
  - b) Low pressure plastic laminate panels
    - (1) These panels are thermally fused panels flat pressed from a thermoset polyester or melamine resin-impregnated web, pressure bonded to a cellulose substrate such as particleboard or fiberboard. The decorative face shall be designed to perform to minimum criteria as set forth

in the American Laminators Association Performance Standard for Thermoset Decorative Panels (ALA. 1985)

3. Hardware.

- a) Visible metal components shall be brass, stainless steel, chrome plated, or coated with epoxy or acrylic enamel.

4. Adhesives

- a) All adhesives shall be very low in VOC's and of good commercial quality and suited to the application for which used as recommended by the manufacturer of the adhesive.

**V. COMPONENT CONSTRUCTION REQUIREMENTS**

A. Work Tops

1. Work tops shall be a minimum of 1" in thickness (core thickness prior to applying laminate and backing sheet).

- a) Exception: Work top thickness may be reduced to 3/4" inch if the core material is 5-ply plywood or reinforced with a 1" inch square 16 gauge steel (minimum) tubular frame.

2. Core Materials: See Section IV. B.1

3. Work top surfaces shall be high pressure plastic laminate, minimum NEMA GP28 (0.28" thick) and conforming to NEMA Standards Publication No. LD 3 (latest issue). A backing sheet shall be applied to the underside to provide a balanced construction

4. Work top edges shall have Vinyl "T", 3mm PVC or bullnose edging, securely attached to the tops by barbed tongue inserted into a groove or an equivalent edging type. Either type must be securely attached to preclude pull out (where both ends meet) under normal use. Ends must terminate on a long side, preferably in the middle, and to the rear (away from user) when installed.

5. Work top corners shall be rounded.

6. Work top heights (measured from the floor)

- a) All Classes & Styles to be available in both 26.5" (nominal) and 29.0" (nominal) inches work top heights. Infinitely adjustable height tables must self-lock or be lockable and the table surface must remain free of any projections (adjustment crank) except while the height is being adjusted.

7. Work Top Depths:

A 24" depth (minimum) must be offered.

8. Work Top Widths:

Work top widths must be available from 30" to 72" in 6" increments.

B. Support Pedestals:

1. Minimum steel gauge requirements for main support members shall be as follows:

- a) Class I & II: 19 Gauge Steel

- b) Class III: 18 Gauge Steel
- c) Class IV: 16 Gauge Steel
- d) The base and top support units must be welded to the upright support member. Style I shall have a single upright support member. Style II shall have a double upright support member. The vertical and base support members shall be tubular steel (round or rectangular).
- e) Style III shall have end panels as described in Section V.D.5.
- f) All support pedestals shall be securely attached and braced to form a sturdy unit free from racking.
- g) All exposed edges of tubular members shall be provided with caps that cannot be easily removed.

C. Glides:

- 1. All units shall be provided with adjustable non-rust glides. Glides that have threaded metal inserts, of proper length and diameter, to be securely imbedded into end panels. Glides must not be easily pulled out of end panels. Glides shall be non-marring to prevent damage to floors.

D. Panel End Desks:

- 1. All panel end desks shall meet the requirements of ANSI/BIFMA 5.5 Office Furnishings, Desk Products: Tests.
- 2. Metal End Panel Products shall be constructed in such a manner as to adequately support work surfaces and associated components.
- 3. Support End Panels for wood end panel products (both half and full panel) shall be a minimum of 3/4" in thickness.
- 4. Core Materials: See Section IV. B.1
- 5. End Panel surfaces (Wood) shall be finished with either:
  - a) High pressure plastic laminate, minimum NEMA GP28 (0.028 inches thick)
  - b) Low pressure plastic laminate.
  - c) Both faces of end panels shall be treated as decorative surfaces therefore they shall be laminated with the finish plastic.
- 6. Exposed end panel edges (Wood) shall be banded with the plastic laminate consistent with the end panel faces.

E. **Casters**

- 1. When called for in the Invitation for Bids, two (2) lockable swivel and two (2) fixed heavy duty casters shall be furnished. Casters will not be acceptable on full panel ends without securely fastened reinforcing members along the bottom edge. IFB will specify size of casters.

F. **FINISH**

1. Colors and finish shall be manufacturer's standard. All metal finishes and laminate backing sheets shall be compatible with the panel and top colors and contain very low VOC's.

## VI. WARRANTY

### A. All Products

1. All products shall be guaranteed against defects in materials, workmanship, and performance for a minimum of ONE YEAR. The Warrantee shall begin on the date of acceptance of the product by the ordering facility. During this Warrantee period, the vendor shall repair or replace defective material, components, or units at no cost to the State of North Carolina (this shall include round trip travel and freight to users site). The Vendor shall guarantee that the product will be a standard and continuing item in the manufacturer's product line as specified in the Invitation for Bid. The basic product shall be identifiable by regular catalogue numbers.

### B. Service

1. Factory authorized service shall be available within the State of North Carolina. An adequate supply of parts shall be made available to the State for the expected life of the products covered by this specification. Refer to the Invitation for Bid for any additional requirements.

## VII. SAMPLING AND INSPECTION

### A. Inspection

1. Products furnished under this specification may be inspected by, or at the direction of the Inspection section and/or the ordering State Agency, Institution, college or Public school either at the destination or place of manufacture. Random samples of delivered items may be selected and checked for compliance with this specification. If it is found that the product does not meet the requirements of this specification, the Division of Purchase and Contract may proceed as stipulated in the Terms and Conditions of the bid.

### B. Testing

1. All Classes & Styles .The completed product shall be visually inspected for defects and physically tested for rigidity (racking), loose or open substandard joints, or other signs of defective material or workmanship.

## VIII. PACKING / PACKAGING

### A. Packing

1. **Packaging** for shipment shall be in accordance with the manufacturer's standard practice and in a manner readily accepted by common carriers engaged in interstate commerce. Within the shipping carton, the units shall be packed in a manner designed to minimize damage during shipment due to rough or improper handling.

### B. Marking

1. Each shipping container shall be clearly marked with the following:
  - a) Name of contents.
  - b) Quantity

c) Name and Address of the Manufacturer.

C. **Documents**

1. Shipping documents shall include the following:
2. Order or Contract Number.
3. Name and Address of the Ordering Agency or Facility.

**IX. ORDERING DATA**

A. (This information is for Purchase and Contract use only)

B. **Purchasers should exercise any desired option offered herein and should specify the following:**

1. Title, number, and date of this specification.
2. Class, style and size of furniture.
3. Work top fixed height or adjustable.
4. Color desired.
5. Specify type or grade of laminated surface finish; i.e. work tops and panel ends.
6. If casters are required and their size.
7. Specify keyboard position, (where choices are provided).
8. Specify keyboard height range, (where choices are provided).
9. If articulating keyboard is required.
10. If "hung" stationary or mobile pedestal units are required.
11. If pedestal drawer unit is required.
12. Description of special items, e.g. Storage modules, hutch, center drawer, etc.
13. If underside shelf is required.
14. If "Knocked down" assembly is required.
15. Any other option offered by the manufacturer.

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