

12360 LIBRARY SHELVING

SPECIFIER: This section replaces Section 12360.

CSI MasterFormat 2004 number:

An optional keynote to the Drawings follows major product titles, for A/Es using National CAD Standard.

PART 1 GENERAL

1.1 SUMMARY

A. Related Sections:

1. 06100 - Carpentry.
2. 09200 - Metal Studs, Lath, Suspension Ceiling, Plaster and Stucco.
3. 09660 - Resilient Tile Flooring.
4. 09682 - Carpet.
5. 09900 - Painting.

1.2 SUBMITTALS

A. Shop Drawings:

1. Show the following information with additional information necessary to indicate shop compliance with the requirements of this section.
 - a. Layout.
 - b. Details.
 - c. Dimensions.
 - d. Assembly.
 - e. Anchorage of shelving units.
 - 1) To adjacent floor surfaces.
 - 2) To adjacent wall surfaces.
2. Provide a copy of all library shelving shop drawings to M-DCPS Library Media Services (305-995-2283) for their review and acceptance.

1.3 SYSTEM DESCRIPTION

A. Shelving Unit Description:

1. Single unit construction of the bracket type, with adjustable shelves of varying depths as shown on the drawings, cantilevered from central columns by means of shelf brackets.
2. Each section shall be a complete unit without the use of adjacent columns, stiffeners, sway braces, angle or gusset plates, and the like.
3. Each unit or section shall have a welded integral unit frame providing a completely closed flush interior.
4. Provide base shelves and base shelf brackets as single-faced components for single-faced sections and as double-faced components for double-faced sections.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Library Shelving:

1. Borroughs Corp., Kalamazoo, MI.
2. Estey/Tennesco, Dickson, TN.
3. Library Bureau Steel, Crawfordsville, IN.
4. M.J. Industries Inc., Georgetown, MA.
5. Montel Inc., Satellite Beach, FL.
6. Shelving from manufacturers other than those listed above, must be submitted to M-DCPS Library Media Services and M-DCPS Materials Testing and Evaluation Dept. <http://materials.dadeschools.net/>, (786) 275-0775, for their review and approval.

2.2 EQUIPMENT

A. Shelving Unit Detailed Requirements:

1. Number of shelves per unit:
 - a. 42" high = 3 shelves (2 adjustable and one fixed base).
 - b. 66" high = 5 shelves (4 adjustable and one fixed base).
 - c. 78" high = 6 shelves (5 adjustable and one fixed base).
 - d. 84" high = 7 shelves (6 adjustable and one fixed base).
2. Columns:
 - a. 16 gage steel channel shape with 1/2" stiffening flanges, measuring 2 inches in the web and 1-1/4" at the front and rear faces.
 - b. Perforate columns on both faces with a row of slots spaced 1 inch on vertical centers to receive hooks and lugs of shelf brackets.
 - c. Provide intermembering holes for bolting columns into range.
 - d. Provide 2 uprights for each unit of a range.
3. Top Spreader Tube:
 - a. 16 gage fully closed tube.
 - b. Length: Standard 36 inches, with 30 inch and 24 inch units as indicated on Drawings.
 - c. Attach top and bottom edge of each end of tube to the upright columns by means of continuous welds the full width of the tube.
4. Bottom Spreader Channel:
 - a. 16 gage steel, with continuous welds to the upright columns.
 - b. Length of Channels: Same as above for the top spreader.
 - c. Attach bottom edge of each end of the channel to the upright columns by means of continuous welds the full width of the channel.
5. Adjustable Shelves:
 - a. Front and Rear Edges: 3/4" high.
 - b. Design Load: 50 pounds per square foot without deflection of more than 3/16".
 - c. Shelf Length: Standard 36 inches, with 30 inch and 24 inch shelves as indicated on Drawings.
 - d. Shelf Depth:
 - 1) Single-faced, Wall Attached: 12 inches, nominal.
 - 2) Double-faced, Free Standing: 12 inches, nominal.
6. Closed Base Shelves:
 - a. 18 gage, one-piece construction, with one-piece base shelves for both single and double-faced units.

- b. Shelf Length: Standard 36 inches, with 30 and 24 inch shelves as indicated on Drawings.
- c. Shelf Depth:
 - 1) Single-faced, Wall Attached: 12 inches, nominal.
 - 2) Double-faced, Free Standing: 24 inches, nominal.
- 7. Divider Type Shelves: 18 gage steel, with front face 3/4" high.
 - a. Integral 5-inch high backstop or two-piece construction as specified by the manufacturer.
 - b. Adjustable Shelf depth: 14 inches nominal.
 - c. Base Shelf depth:
 - 1) Single-faced: 16 inches nominal.
 - 2) Double-faced: 32 inches nominal.
 - d. Dividers:
 - 1) Provide five (5) dividers for each "divider type" shelf.
 - 2) Exposed edges of the dividers shall be smooth and free from burrs.
 - 3) Dividers shall be 6 inches high unless otherwise specified by M-DCPS.
- 8. Hinged Periodical Shelves:
 - a. 18 gage steel sloping display shelves hinged to adjustable shelf and base shelf brackets.
 - 1) Display shelves shall have 14 inches actual height, be hinged to allow a clear storage height of 8 inches and stand without holding when in an open position.
 - 2) The lower edge of the display shelf shall have a flange and turned up lip to provide a 1-3/8" clearance behind lip.
 - b. There shall be a full width, 11 inches actual depth, flat storage shelf beneath each sloping display shelf except at the location of the base shelf.
- 9. Shelf Backstops:
 - a. 20 gauge steel 3 inches high with stiffening flanges and hooks to engage into frame uprights.
 - b. Backstops shall be independent of shelves and brackets allowing for adjustment of shelves without moving backstops.
 - c. Provide one for each individual adjustable shelf on single-faced sections.
 - d. Provide one center backstop for each pair of back-to-back adjustable shelves on double-faced sections.
- 10. Shelf Bracket: 16 gage steel with front, tops, and bottom faces flanged with a 1/4" return.
- 11. Metal Canopy Tops:
 - a. Fabricate from 18 gage steel with front face 1-1/2" high.
 - b. Provide metal canopy tops for sections above 42 inches high.
- 12. Plastic-Laminate Canopy Tops:
 - a. Fabricated of 3/4" plywood core with plastic-laminate on both faces and all exposed edges. Plastic-laminate shall be high-pressure decorative laminate NEMA LD3-1995, general-purpose grade, 0.05" minimum thickness, plate textured, with color and pattern selected by the A/E.
 - b. Provide plastic-laminate tops as continuous in length as possible for free standing and perimeter shelving sections 42 inches high or lower.
 - c. The front and back edge of plastic-laminate tops that are placed along curved walls shall conform to the curvature of the wall. All abutting edges of tops shall be properly mitered and finished to create a tight joint between adjacent top sections.
- 13. Finished End Panels:

- a. Provide, one piece end panels the full height of the shelving unit at all end sections, in width equal to the overall depth of the base shelf and upright.
 - b. Single-faced Finished Ends: 18 gage steel with 1-1/2" faces, a returned 3 inch stiffening flanges inside top and bottom.
 - c. Double-faced Finished Ends: Same as single-faced above, but further reinforced by a full vertical hat-shaped channel.
 - d. Single-faced ends shall be non-handed.
14. Fillers:
- a. Corner fillers shall be provided at all interior and exterior corners. Corner fillers shall consist of two sidepieces and a top cap of 18 gage steel material. The sidepieces shall be formed with return bends and have a receiver clip spot welded to them to allow the sides to slip together without any exposed hardware. The top cap shall close the space at the top so as to prevent objects falling into the filler space.
 - b. Provide plastic-laminate face fillers to cover gaps between shelving units that are placed along curved walls. Face fillers shall match plastic-laminate tops.
 - c. Intermediate fillers shall be the same as the corner fillers except they are three sided.
 - d. Shelving that meets on adjacent walls shall abut at front corners and corner filler shall be used.
15. Book Supports:
- a. Findable type book supports 9 inches high, 16 gage steel. Book supports shall be stamped from one piece of steel finishing 9 inches high x 5 inches at the base. Color of book supports shall match shelving. Base shall have a "natural" cork bottom.
 - b. Formed with a 7/8" return on both edges of the support to prevent the book support from knifing the books and being lost on the shelf. Book supports shall be cut out in the center 4" x 2-1/2" and then formed down to act as a tongue.
 - c. Provide one (1) book support for each single-faced shelf, and two (2) book supports for each double-faced shelf.

PART 3 EXECUTION

3.1 INSPECTION

- A. Do not proceed with the work of this section until conditions detrimental to the proper and timely completion of the work have been corrected in an acceptable manner.

3.2 INSTALLATION

- A. Single-faced: All singled-face shelving units shall be attached to the wall with approved fasteners as recommended by the shelving manufacturer and as shown on the accepted shop drawings. When the A/E design includes an "island" comprised of single-faced shelving units, they shall be properly fastened to the floor and shall be provided with flush metal or plastic-laminate backs.
- B. Testing: Demonstrate, if so directed by the A/E, the units will withstand a pressure of 100 pounds in any direction applied at a point 4 feet from the floor without deflecting more than 1/2" at the top.
- C. Adjustable Shelves:

1. Insert shelf brackets so that each shelf aligns with its neighbor on either side.
 2. Verify the Board's required shelf-to-shelf spacing with the A/E before inserting brackets into columns.
- D. Plastic-Laminate Canopy Tops:
1. Single-faced Units: Install tops flush with top surface of top spreader tube and with metal end panels complete with brackets and fastenings as recommended by the shelving manufacturer and as shown on the accepted shop drawings.
 2. Double-faced Units: Install tops over the top spreader tube, and metal end panels complete with brackets and fastenings as recommended by the shelving manufacturer and as shown on the accepted shop drawings.
 3. Tops shall be sized to completely cover all edges of the end panels and support brackets.
 4. Joints: Maintain minimum joint spacing as indicated on accepted shop drawings.
- E. After completion of the work, touch up any abraded spots to match adjacent surfaces.
- F. Correct or replace metal and plastic-laminate surfaces that have become defaced, deformed, or otherwise rendered unserviceable.///