

LIBRARY SHELVING

DOCUMENT NUMBER: 12410

APPLICATION: ELEMENTARY, MIDDLE AND HIGH SCHOOL

DATE OF ISSUE:

- 01-29-02** - **clarified floor mounted shelving as closed base type, changed gauge of canopy**
- 01-18-02 - added steel filler assembly
- 01-15-02 - added integral back shelves at MS and HS
- 10-03-01 - deleted Montel from list of acceptable suppliers
- 08-01-01 - added sketch of wall mounted shelving
- 06-26-01 - clarified elementary requirements
- 10-17-00 - added reference to Ed Spec for size and quantity of shelving
- 03-16-00 - general revisions
- 07-01-99 - general revisions
- 12-02-98 - general revisions
- 10-08-98 - added closed base to free-standing units, clarified bookstop and bookend req'mts
- 11-26-97 - revised format, deleted items, miscellaneous clarifications
- 03-19-97 - clarified bookstop at middle and high school
- 12-15-95 - general revisions, combined elementary, middle and high school specs
- 11-4-93 - deleted Andrew Wilson as an acceptable manufacturer and added MJ Industries
- 4-27-93 - first issued

NOTES:

Provide library shelving as required by the ed spec, in accordance with the attached requirements.

ATTACHMENTS:

Library Shelving requirements dated 01-29-02.

Sketch of Elementary School wall mounted shelving, dated 08-01-01.

**STEEL LIBRARY SHELVING
REQUIREMENTS
01-29-02**

DESIGN: This specification covers delivery and installation of steel library shelving. "Case Type" or "Four-Post" shelving shall not be considered. Construction of the shelving shall be such that all components of a book stack section may be removed from any range without in any way disturbing the adjacent units so that any range may be divided for the purpose of rearrangement without the necessity of procuring additional components. It is also the intent of the specifications to allow shelving components such as shelves, brackets and frames to interchange throughout the library.

SIZES: Unit heights and depths shall be as indicated in the Educational Specification. Unit widths shall be 36" nominal (center to center of uprights), unless otherwise specified. Each shelf shall have a minimum clearance between end brackets of 35-13/32".

PERFORMANCE: Shelves shall support book loads of 50 pounds per linear foot without deflection in excess of 3/16".

MATERIALS

STOCK: Only the finest materials and quality of workmanship will be acceptable. Sheet metal is to be furniture stock, cold rolled, reannealed and full pickled or equivalent. Gauge thickness are US standard with the following minimum requirements:

1. Upright Columns of Weld Frame - #16 gauge
2. Top Spreader Tubular Steel - #16 gauge
3. Bottom Channel Spreader - #16 gauge
4. Shelves (including base shelf) - #18 gauge
5. Shelf End Brackets - #16 gauge
6. Base Shelf Brackets - #16 gauge
7. Canopy Tops - #19 gauge.
8. Corner Fillers- #18 gauge

FINISHING

METAL: The component parts shall be de-burred and prepared for painting via a five-phase cleaning and etching process. Materials shall be rendered residue-free and covered with a leadless, thermo-hardened polyester or epoxy powder capable of withstanding severe hammer and bending tests without flaking. Finish applied by electrostatic method in a two-coat, or equivalent, yielding a minimum average thickness of 1.8 mils. Finish to be medium gloss having a porcelain like finish with abrasion resistance as determined according to ASTM method D968-51, whereby a minimum of 80 liters of sand is required to work through to bare metal. Finished products shall have a thickened coating on all edges and corners providing a softening effect on all parts and leaving no sharp edges. The use of "wet paint" enamel shall not be considered as meeting these specifications.

COLOR: The finish color shall be selected from manufacturer's standard offering.

COMPONENTS

UPRIGHT COLUMN: Upright columns of the welded frame shall be formed from not less than #16 gauge steel, channel shaped with sufficient 90° bends for strength and rigidity. The dimensions of the upright shall be no less than 2" x 1-1/4". Uprights are to be perforated full height with a series of slots spaced 1" on vertical centers and located within 5/16" from the outer surface. The slots shall be patterned punched to visually aid in the leveling and placement of the adjustable shelves. The upright columns are electrically welded in a frame construction that presents a smooth, fully enclosed face on all four sides.

TOP SPREADER: Top spreader of welded frame will consist of not less than #16 gauge tubular steel measuring 1" x 2" in cross section. This spreader is to be electrically welded to uprights in appropriate locations to the upright columns.

BOTTOM SPREADER: Bottom spreader of welded frame will consist of not less than #16 gauge steel channel shape measuring 1" x 1-3/4" in cross section. The outer ends of this channel are to be punched to receive two leveling nuts and floor levelers. Bottom spreader to be electrically welded to uprights with open portion of channel positioned upward.

BASE BRACKET: Closed base support brackets, where provided, shall be designed to fit snugly in and around welded frame uprights. Material shall be no less than #16 gauge steel. Brackets have a 90° flange at the bottom which is punched at the outer edge to receive a leveling nut and adjustable floor leveler. Double-face brackets are equipped with two adjustable floor levelers. Levelers to be 3/4" inverted hex-head mushroom type with 5/16" machine threads capable of 1-1/4" of adjustment. Top of leveler to be slotted for adjustment with common flat-head screwdriver. Top and front edge of base bracket is to be flanged outward approximately 1/4", and the profile of this bracket shall match that of the adjustable shelf end bracket and in addition, the side of the base bracket is provided with an embossing that has a pierced hole for fastening to adjoining brackets with hardware provided. Incorporated are two lances for securing base shelf side flanges.

BASE SHELF: Closed base shelves, where provided, shall be formed from not less than #18 gauge steel into a one-piece construction designed to fit snugly around base brackets without the need for fasteners. Front and back heights shall be a minimum of 3-5/16" and sides shall have stiffening flanges which lock into base bracket lances.

SHELF BRACKET: Shelf end brackets shall be formed of not less than #16 gauge steel and all but the rear edge is to be flanged outward approximately 1/4". The rear edge is provided with two crimped hooks at the top and a positioning tab to prevent accidental dislodgment at the bottom for engaging frame upright slots. Incorporated are two lances for securing shelf side flanges. Bracket design allows for shelf adjustment upward and downward (i.e. "walking-the-shelf") without disturbing any of the other shelves. The sides of the bracket are also provided with an embossment to prevent the brackets from overlapping the adjoining bracket when the units are assembled together in a range. The brackets shall extend at least 6" above the shelf surface.

FLAT SHELF: Adjustable shelves shall be formed of no less than #18 gauge steel with front and rear edges 13/16" high, channel formed with an additional 90° return flange for strength and safety. The shelves are capable of receiving wire book supports and snap-on label holders. Nominal depth of shelf shall be 1" greater than actual dimension. Side of shelf to be flanged for locking into end bracket lances.

DIVIDER SHELF: Two-piece divider type shelves, where provided, shall be of no less than #18 gauge steel and resemble a standard adjustable shelf except it will be slotted on 1" centers to receive dividers. A separate 5" high back piece with matching slots is provided as an adjunct to

divider shelf. Include three divider plates 7" high for each shelf opening unless other quantities are specified.

FINDABLE BOOK SUPPORT: Findable book support, where provided, shall be formed of #16 gauge steel and is to be equipped with non-skid cork base to prevent slipping.

REMOVABLE BACKSTOP: Backstop shall be formed of #18 gauge steel, and have an overall height of 2". Backstop shall engage shelf end brackets or upright columns.

COUNTERTOP BRACKET: Countertop bracket is to be #14 gauge steel which engages into slots in the upright for wood screw attachment of the countertop.

STEEL CANOPY TOP: Steel canopy tops shall be formed of #19 gauge material. The front face of the top is formed the same as the shelves with a 3/4" high channel form and an additional 90° return flange for strength and safety. The sides and back flanges are formed 90°. The top shall cover the weld frame and be supported by #14 gauge brackets.

LAMINATE END PANEL: The end panel shall be 1-3/16" thick, 3-ply particleboard construction with .050" high pressure laminate on both faces and all edges. The end panels shall extend 1/2" above and 1/2" beyond the farthest projections (Example: base shelf) of the shelving provided and shall extend to the floor. The end panel shall be provided with any machining required on the inside to allow the end panel to fit tight against the shelf brackets with no gaps. Laminate to be chosen from any manufacturer's standard colors and patterns, as specified in Division 12, Casework. End panels are to be provided at each end of each run of library shelving (no exceptions).

LAMINATE COUNTERTOP: The countertop shall be 1-3/16" thick, 3-ply particleboard construction with .050" high pressure laminate face and a .028" backer sheet on the underside. All edges shall be banded with .050" high pressure laminate. The countertop shall be positioned over the end panels and extend 1/2" beyond the farthest projections of the end panels. The countertops shall be manufactured in one piece, no joints. The countertop shall be provided with any machining required on the under side to allow the countertop to fit tight over the shelving unit. Laminate to be chosen from any manufacturer's standard colors and patterns, as specified in Division 12, Casework.

SPECIFIC REQUIREMENTS

ELEMENTARY SCHOOLS

- A. Refer to the Educational Specification for shelf type, height and depth.
- B. Shelving units in the **Reading Room ONLY** shall be divider-type.
- C. All other shelves are to be provided with one 9" high findable book support and removable backstop. Wire book supports are not acceptable.
- D. All ends of shelving ranges shall be provided with a laminate end panel, including those ranges which abut a wall or corner and/or are located within storage rooms.
- E. Shelving ranges that intersect shall be provided with a steel filler assembly and top filler panel.
- F. Double-faced floor-supported ranges of library shelving shall be provided with a closed base shelf, laminate end panels and a one (1) piece plastic laminate countertop per range.
- G. Each shelf is to be provided with a removable backstop.

MIDDLE & HIGH SCHOOLS

- B. Refer to the Educational Specification for shelf type, height and depth.
- C. Each shelf is to be provided with one 9" high findable book support. Divider or wire book supports are not acceptable.
- D. All ends of shelving ranges shall be provided with a laminate end panel, including those ranges which abut a wall and/or are located within storage rooms.
- D. Shelving ranges that intersect shall be provided with a steel filler assembly and top filler panel.
- E. Double-faced floor-supported ranges of library shelving shall be provided with a closed base shelf, laminate end panels and a one (1) piece plastic laminate countertop per range.
- F. Each shelf is to be provided with an integral back shelf.
- G. Each base shelf in the Reading Room only is to be the sloped type.
- H. Floor-supported shelving units are to be provided with a closed base shelf.

ACCEPTABLE MANUFACTURERS

The following manufacturers are approved provided they meet the minimum specifications referenced above:

- A. Estey
- B. Library Bureau
- C. MJ Industries

**SECTION THROUGH WALL-MOUNTED LIBRARY SHELVING
ELEMENTARY SCHOOL READING ROOM**

August 1, 2001

