

## System 3000 specifications

**Scope:** This specification covers delivery and installation of steel library shelving of the bracket type. Height, depth and accessories shall be as indicated on the plans and or schedule of equipment.

**Materials:** Only the finest quality of materials and workmanship will be considered. Sheet steel is to be cold rolled, Class I steel. Gauges are U.S. standard.

**Type of Bookstack:** Steel bookstacks shall be cantilever, modular style utilizing starter and adder construction as manufactured by MJ Industries of Georgetown, MA. Case type, four post or welded frame construction shall not be considered as meeting this specification. Diagonal bracing in the form of sway braces will not be acceptable. Horizontal bracing in the form of a channel (crossbar) which snaps and locks into the upright column without the use of fasteners or tools must be furnished. Horizontal crossbars and vertical column assemblies can be secured together with 3/16" x 1" x 1/2" steel safety key-plate. Key-plate to be secured with a 1/2" x 3/16" recessed metal screw. Bolted in crossbars with exposed hardware will not be considered as meeting this specification. Exposed column must present a clean-finished appearance with no visibly exposed nuts and bolts.

**Tubular Column:** Shall be formed of #14 gauge tubular steel measuring at least 1-1/4" x 2-1/2" in cross section punched with a single row of slots spaced 1" on centers. Tubular column must be capable of adding a height extender without the need for tools. Side of column is slotted at the top and the bottom with 4 slots to accept the snap lock crossbar.

**Tubular base:** Shall be formed of #14 gauge tubular steel measuring at least 1-1/4" x 2-1/2" in cross section. Tubular base is welded to the tubular column forming a column assembly. Each starter section requires two column assemblies and each adder unit one. Threaded fittings for levelers are incorporated into the design of the tubular base allowing adjustment at the outer ends, a minimum of 1-1/4". The tubular base must be completely finished to allow the conversion from closed to open base without the need for purchasing additional parts.

**Horizontal Crossbars:** Shall be formed of #16 gauge steel measuring 4" x 1-1/2". Crossbar has four hooks on each end, which snaps into the column assembly.

**Kick plates:** Is formed from #20 gauge steel measuring 2-1/2" high. Kick plate is attached to the tubular base by means of two pins, which are concealed from view.

**Flat end Brackets:** Shall be #16 gauge cold rolled steel plate with three hooks for engaging into column slots. The bottom of the bracket is formed up 1" to support the end flange of the adjustable shelf. No holes in the bracket shall be visible.

**Integral Back shelf:** All shelves shall be capable of supporting book loads of 50 pounds per square foot without deflection in excess of 3/16". All shelf dimensions are nominal and not actual. Front edge of the shelf shall be 1" high with three 90-degree bends. The rear edge of the shelf shall be upturned 1-1/4" forming an integral backstop and a rail for attaching a sliding book support. Sides of shelf to be flanged downward to engage flat end brackets. Each shelf shall measure at least 35-13/16" clear between end brackets.

**Sliding book Support:** Consists of 1/4" diameter formed chrome wire attached to the injection molded white plastic slider block. The support assembly fits over the back lip on the integral shelf where it is self-locking under pressure from shelved books.

**Divider type Shelf:** Shall be of #18 gauge steel with front edge box formed 1" high with integral 7" high slotted backstop. Slots shall be spaced on 1" centers. Dividers shall be 7" high unless specified otherwise.

**Hinged Periodical Cabinet:** Shall include an integral bottom shelf, a top, two sides and sloping hinged shelf for displaying current issues. Back issues can be stored out of view either standing up in Princeton file boxes or laying flat. Cabinet is 15-3/4" deep x 15-3/4" high x 36" wide.

**Crossbars Seismic zone Three:** Constructed of #14 gauge steel tube measuring 3" x 1". Crossbar is welded on each end to two #10 gauge steel plates.

**Crossbars Seismic zone**

**Four:** Constructed of #16 gauge steel open channel, measuring 3" x 1". Crossbar is welded on each end to two #6 gauge steel plates. Plates are provided with holes for fastening sway braces through.

**Top tie strut:** Shall be #18 gauge steel measuring 1" x 1-3/4" x 96".

**Standard flat**

**Shelves:** All shelves shall be capable of supporting book loads of 50 pounds per square foot without deflection in excess of 3/16". Actual dimension of shelf shall be 1" less than the nominal dimension. Front and rear edges of shelf shall be box formed 1" high with three 90-degree bends. Sides of shelf to be flanged downward to engage flat end brackets. Each shelf shall measure at least 35-13/16" clear between end brackets.

**Hinged**

**Periodical**

**Shelf:** To consist of sloping display shelves hinged to adjustable shelf end brackets. Display shelves shall have 14" actual height, be hinged to allow a clear storage height of 7" and stand without holding when in an open position. Lower edge of display shelf shall have flange and turned up lip to provide a 1-3/8" clearance behind lip. Periodical shelf can be furnished with optional hinged plexiglass covers.

**Fixed**

**Periodical**

**Shelf:** Display shelf shall have 11" actual height with a 1" flange at the bottom. Brackets can be furnished to effect either a 30 or 45-degree slope. Formed of #18 gauge steel.

**Storage**

**Shelf:** Formed of #18 gauge steel. Actual dimension of shelf shall be 1" less than the nominal dimension. Used in conjunction with the fixed periodical shelf to store back issues.

**Sliding**

**Reference**

**Shelf:** Shall be of #18 gauge steel, which attaches to saddle type support structure. They shall operate on ball bearing extension slides and shall be single entry.

**Double tier**

**Cassette shelf:** Shall be #18 gauge steel formed in such a manner to create two distinct levels for storage of audiocassettes. Each level is 4" deep and 3" high.

**Multi-media**

**Display shelf:** Shall be of #18 gauge steel with front edge box formed 1-1/2" high with integral 7" high backstop. Shelf slopes back at a 7-degree angle. Actual depth of shelf is 6". Shelf can be furnished unslotted or slotted on one-inch centers for dividers.

**Hang-up  
Bag rack:**

Consists of two #16 gauge steel brackets 11" deep with two 7/16" diameter rods, which bolt to the flat brackets.

**Zig-zag  
Display:**

Shall be #18 gauge steel formed in a zig zag manner measuring 4-1/2" x 5" x 4" high creating six compartments which allow stored material to be displayed spline or face out. Zig zag display attaches to shelf with two small angle brackets and double sided tape.

**Browsing  
Boxes:**

All browsing box formations in both fixed and pullout versions shall be formed of #18 gauge steel, with ends welded to the formed box. Ends are #16 gauge steel on all boxes, and on fixed browser boxes are formed as brackets for attaching to shelving upright. The box formations have a 2-1/2" high front face which shall be formed as a 3/4" wide cavity having a 3/8" radius on the top edge. At the rear of the box there shall be a 1" wide horizontal ledge and a 3/8" wide downward stiffening fold toward the rear of the assembly. All browser boxes shall have a sloping back support angled back at approximately 15-degrees from vertical. A 3/4" diameter tube shall be mechanically attached between ends and in line with front boxing on browser unit. A series of 1/4" diameter holes shall be aligned along the inside facing horizontal center line of this tube, and matching holes shall be inserted at the same elevation along the sloped back support. Front to back compartment dividers shall be produced by inserting 1/4" diameter steel rods into the hole placements, and must be adjustable in the field to allow different types of media to be stored in the boxes. Single tier box must be capable of providing at least six compartments for CD's and ten compartments for audiocassettes. Double tier box will have twice as many compartments as a single tier. Single tier box measures 36 x 13 x 4 high and double tier 36 x 17 x 8 high. All dimensions above are nominal. The design of all browser box versions shall produce a clean-finished appearance. No sharp edges or exposed assembly hardware shall be acceptable. Each bin shall be furnished with a black, longitudinally corrugated rubber mat in the bottom.

The pull out browser box versions shall have a saddle-type support of #18 gauge steel. The saddle shall produce a fixed, fully closed bottom to the assembly, and the continuous formed ends shall be formed as brackets for attaching to uprights. The pull-out box portion shall operate on Accuride full extension ball bearing slide mechanisms, mounted to box and the saddle end brackets at each end.

**Multi-media  
Cabinet:**

Consists of an #18 gauge tip up sliding retractable door, which attaches to two #16 gauge sides. A finished #18 gauge top, which is bolted to the sides, must be provided to give the cabinet security. Tops, which merely slip fit, will not be acceptable. An #18 gauge bottom and #20 gauge back are also provided

for each cabinet. A #16 gauge one piece welded pull out frame can be provided. Slides are attached to the ends by means of a pressed in stud and nut. Slides must be full extension to allow complete access to stored material.

### **Cabinet**

**Storage tray:** Shall consist of #20 gauge steel formed and spot welded to create a neat one-piece tray. Bottom of tray is slotted to accept a divider for supporting stored material. Depth and width of trays varies to accommodate the proper stored items.

### **Shelf**

**Backstop:** Shall be of #20 gauge steel 3" high with stiffening flanges and hooks to engage into slots of uprights. Backstops are to be independent of shelves and or brackets allowing for adjustment of shelves without moving backstops.

### **Findable book**

**Support:** To be 6" or 9" height as specified. Optional cork available on base.

### **Steel**

**Canopy tops:** To be formed of #18 gauge steel with 1" front edge and supported by #16 gauge brackets, which engage in the slots of the uprights.

### **Steel end**

**Panels:** Shall consist of one piece of #18 gauge steel formed into flush profile with 1" square edge and return flanges of 1". Steel brackets are welded at the middle and bottom of tall end panels to slip over the leg of the column assembly and the middle end panel bracket. End panels are attached at the top with sheet metal screws through a steel bracket.

**Closed backs:** Formed of #20 gauge steel with 3/4" return flanges on all sides. Back fits inside the top and bottom crossbars.

### **Fillers:**

Shall consist of two side pieces and a top cap for corner fillers, and a front piece for intermediate fillers. The side pieces 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 from falling behind.

### **Column**

**Extenders:** Shall be formed of #14 gauge tubular steel measuring at least 1-1/4" x 2-1/2" in cross section punched with a single row of slots spaced 1" on centers. A splice plate is welded to the extender for fastening to the column assembly.

### **Wall column**

#### **Strips:**

Formed of #14 gauge steel slotted with one row of slots on 1" centers. Column strip is 13/16" wide x 19/32" deep with counter sunk holes staggered on 10" centers. Hardware for fastening to wall is not included.

### **Light**

#### **Fixture:**

Shell is constructed of #18 gauge steel measuring 34" x 8-1/8" x 4" radius with two attachment fittings bolted to the recessed end inset of the shell. Subshell shall be minimum #16 gauge steel bent symmetrically inward leaving a 3-1/2" flat across the middle. Subshell is fitted with asymmetrical type "I" aluminum lighting sheet H18 temper specular finish. The reflector is covered with a plastic film for protection during installation. The film is to be removed after light is installed. The protective grid cover measures 33-1/8" x 7-3/4" x 1-1/2" overall. Consisting of seven slats with seven separators spaced on 5-3/8" centers. Grid cover is removable without tools to allow quick access to the light tube. The light tube is 1 x 20 watt, 110 volt. Wiring is not included. A qualified electrician must do hard wiring at the job site. Light is designed to highlight an area but not to completely light the aisle.

### **Display**

#### **System:**

Formed of #18 gauge steel sized according to media being displayed. 16-gauge bracket is welded to the display to allow hanging onto the column uprights.