

AA-C-31E

June 1, 1972

SUPERSEDING

Int. Fed. Spec. AA-C-0031D (GSA-FSS)

June 19, 1968 and

Fed. Spec. AA-C-31c

February 7, 1963

## FEDERAL SPECIFICATION

### CABINETS, STORAGE, METAL

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

#### 1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers single and double door storage and wardrobe cabinets, which are equipped with locks.

#### 1.2 Classification.

1.2.1 Types, classes, sizes, and styles. The cabinets shall be of the following types, classes, sizes, and styles as specified (see 6.2).

##### Type I - Storage cabinets

###### Class 1 - Double door.

Size 1 - 36 inches wide by 78 inches high by 18 inches deep.

Size 2 - 36 inches wide by 42 inches high by 18 inches deep.

###### Class 2 - Single door.

Size 3 - 24 inches wide by 78 inches high by 18 inches deep.

##### Type II - Combination storage and wardrobe cabinet.

###### Class 1 - Double door.

Style A - Without interior drawers.

Size 1 - 36 inches wide by 78 inches high by 18 inches deep.

Style B - With interior drawers.

Size 4 - 30 inches wide by 84 inches high by 24 inches deep.

Size 5 - 36 inches wide by 84 inches high by 24 inches deep.

###### Class 2 - Single door.

Style A - Without interior drawers.

Size 3 - 24 inches wide by 78 inches high by 18 inches deep.

##### Type III - Wardrobe cabinet.

###### Class 1 - Double door.

Size 1 - 36 inches wide by 78 inches high by 18 inches deep.

###### Class 2 - Single door.

Size 3 - 24 inches wide by 78 inches high by 18 inches deep.

#### 2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on the date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

##### Federal Specifications:

QQ-C-320 - Chromium Plating (Electrodeposited).

TT-C-490 - Cleaning Methods and Pretreatment of Ferrous Surfaces for Organic Coatings.

PPP-P-0015 - Packaging and Packing of Storage Cabinets, Wardrobes and Clothing Lockers, Metal.

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Federal Standards:

- Fed. Std. No. 187 - Identification of Pressed Bends, Forms, Seams, and Joints  
(sheet metal).  
Fed. Std. No. 595 - Colors.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specifications:

- MIL-W-12332 - Welding, Resistance, Spot, Seam and Projection; for Fabricating Assemblies of Low Carbon Steel.

Military Standards:

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.  
MIL-STD-130 - Identification Marking of U. S. Military Property.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

**2.2 Other publications.** The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

**Steel Products Manual.**

(Application for copies should be addressed to American Iron and Steel Institute, 150 East 42nd Street, New York, NY 10017.)

**3. REQUIREMENTS**

**3.1 Preproduction sample.** Unless otherwise specified (see 6.2), before production is commenced, a sample of the finished commodity and each component part shall be submitted or made ready for the contracting officer or his authorized representatives to examine and test to determine compliance with this specification. Approval of the preproduction sample authorizes commencement of production, but does not relieve the contractor of responsibility from compliance with all other applicable provisions of this specification. Production units shall not vary from the approved preproduction sample in design or construction without written approval of the contracting officer.

**3.2 Material.** All materials used shall be as hereinafter specified. Materials shall not have been used in their present state. They shall be free of defects which affect the appearance or the serviceability of the finished product.

**3.2.1 Steel.** The steel sheets used in the cabinets shall be commercial quality cold rolled or cold rolled oiled, either of which shall have a stretcher leveled standard of flatness; commercial quality hot rolled pickled and oiled; or commercial quality hot rolled annealed. "Commercial Quality" and "stretcher leveled standard of flatness" shall be as defined in the Steel Products Manual. Cold rolled or cold rolled

oiled steel shall be used for doors, sides, top and back and may be used throughout. When cold rolled or cold rolled oiled steel sheets are not used throughout, the steel sheets used for bottoms, bases, vertical partitions and other structural parts shall be hot rolled pickled and oiled. Unless cold rolled or cold rolled oiled steel sheets are used, steel sheets used for all other parts shall be hot rolled pickled and oiled or hot rolled annealed. The steel shall be smooth, free from rust, scale, pits, scratches, laps, crimps and buckles affecting strength or appearance. The sheet steel used for parts to be formed shall withstand the bend test specified in 4.5.1.

3.2.1.1 **Steel thickness.** The thickness of steel to be used for individual parts shall be as given in table I and in the applicable paragraphs of this specification. They are the minimum thicknesses permitted, except the decimal equivalents shown for gages are subject to the tolerances given in the Steel Products Manual.

TABLE I. Thickness of steel for individual parts

Part	Gage	Decimal equivalent (inches)
Tops	20	0.0359
Backs	22	.0299
Bottoms	20	.0359
Sides	22	.0299
Partitions (vertical)	20	.0359
Doors, Type II, Class 1, style B cabinets	16	.0598
Doors, all other cabinets	20	.0359
Door hat section reinforcement	20	.0359
Side member door frames (as specified in 3.3.1.4)		
Top and bottom tie member of doorframes	16	.0598
Base plates with bottom tie member	20	.0359
Base plates without bottom tie member	16	.0598
Shelves, adjustable:		
Double door units w/o vertical dividing partition	18	.0478
Single door units and double door units with vertical dividing partition	20	.0359
Shelves, non-adjustable:		
Double door units	18	.0478
Single door units	20	.0359
Drawers	20	.0359
Drawer tracks and case tracks	18	.0478

### 3.2.2 Hardware.

3.2.2.1 **Face hardware.** Except as otherwise specified herein, the face hardware shall be satin finished anodized aluminum, type 302 corrosion resistant steel, or satin finished chromium on die cast steel, zinc, brass or bronze. Tensile strength of die cast zinc shall be not less than 40,000 p.s.i. Chromium plating shall be class 1 (decorative) and type II (satin) in accordance with QQ-C-320.

3.2.2.1.1 **Handle.** The doors of class 2 cabinets and the right hand door or class 1 cabinets shall be equipped with a handle, which may contain the lock specified in 3.2.2.1.2. The handle for style B cabinets shall accommodate a padlock having a 3/16 inch diameter shackle. When a padlock is attached to the handle of the closed, latched door the latching mechanism shall be immobilized. The test described in 4.5.4.1 shall be performed to determine compliance with this requirement. A satin finish zinc plated, satin finish chrome plated or type 302 corrosion resistant padlock keeper and padlock strike shall be attached securely to the door by welds, rivets or blind head screws. The minimum steel thickness of the keeper shall be 14 gage

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(0.0747 inch). All of the handle assembly shall be on the right hand door. The padlock keeper shall not interfere with the gripping area of the handle. All handles shall conform to 3.2.2.1. Handles shall be designed to afford a natural grip and shall be free of burrs, sharp corners, sharp edges and rough edges. The handles shall be designed to actuate a three point latching mechanism (see 3.3.12).

**3.2.2.1.2 Locks.** A pin or disk tumbler key lock having not less than 200 key changes shall be provided with each cabinet except style B. The lock shall be master keyed and, when specified, (see 6.2), master keys shall be furnished. The face of the locks shall be as specified in 3.2.2.1. The locking mechanism shall be designed to prevent automatic locking when doors are closed. Duplicate keys shall be furnished with each lock and, unless otherwise specified, (see 6.2), each lock on any order of 200 cabinets or less shall be of a different key change in that one set of duplicate keys will operate no more than one of the locks.

**3.2.2.1.3 Label holders.** The label holders for style B cabinets shall be of one of the materials and finishes specified in 3.2.2.1. They may be sand cast, die cast or stamped and formed. Stamped and formed label holders shall be not less than 20 gage (0.0359 inch) steel or not less than 0.040 inch thick aluminum. They shall be located on the right hand door at least two inches from its inside (left hand) vertical edge and between 60 inches and 72 inches from the floor line. Attachment shall be by means of (1) not less than two concealed or slotless head machine screws, lock washers and nuts or (2) not less than two rivets. The attachments shall hold the label holder securely to the door and prevent movement of the holder. The label holder shall accommodate, without binding, label cards not less than 3-1/4 inches wide by 1-5/8 inches high. All outside corners and edges shall be free of burrs, roughness or sharpness. The outside edges shall form an unbroken line and the side and bottom edges shall be flat against the face of the door.

**3.2.2.2 Hinges.** The hinges shall be of the full loop, tight pin, flush butt type; continuous loop, double leaf, tight pin type; or the completely concealed type. They shall permit the doors to pivot at least 160 degrees. The hinge pins shall be completely concealed, or partially concealed and spun over at the ends.

**3.2.2.3 Coat hooks.** Coat hooks shall be commercially available items, formed from ferrous metal or cast from ferrous or non-ferrous metal. Cast aluminum alloy hooks shall be anodized. Hooks of other materials shall be plated to resist rust. They shall have ball-shaped ends. Each hook shall be provided with not less than two mounting holes.

**3.2.2.4 Fastening devices.** Bolts shall be of steel, not less than 3/16 inch in diameter and shall have slotless heads. They shall be provided with locknuts or with solid nuts and lockwashers. Rivets, when used to attach hinges, shall be solid steel or of aluminum alloy. Solid steel rivets shall be not less than size 10 with a nominal diameter of 0.134 inch. When aluminum alloy rivets are used to attach hinges, they shall be the blind type with a break stem and shall have a minimum shear strength of 2000 p.s.i. Their body diameter shall be not less than 3/16 inch, except that commercial tolerances will be permitted. The rivet shall expand to fill the clearance hole completely. Rivets used to attach one leaf of the hinge to the door frame shall have countersunk heads. Rivets used to attach other parts shall be not less than 5/32 inch (commercial tolerances acceptable) in body diameter and shall have domed heads. The minimum shear strength shall be 900 p.s.i. The method of staking and the size of staked area shall be as recommended by the manufacturer of the rivets used. All steel fastenings shall be made to resist rust by means of metal plating.

### **3.2.3 Finishing materials.**

**3.2.3.1 Primer.** Primer, when used, shall be compatible with the finishing enamel used.

**3.2.3.2 Enamel.** Enamel for the finishing shall be of the baking type and the color shall be as specified in 3.2.3.2.1.

3.2.3.2.1 Finishing enamel color. Unless otherwise specified (see 6.2) the color of the finishing enamel shall be gray, color chip No. 26134 of Fed. Std. No. 595 (see 6.5).

### 3.3 Construction.

3.3.1 Appearance. The appearance of the cabinets and the arrangement of interior components shall be generally as shown in the applicable figures. Specific requirements shall be as specified herein.

#### 3.2.3 Welding (see definitions in 6.6).

3.3.2.1 Spot welding. Spot welds shall not be closer to the edge of either adjoining member than  $1/2$  the greatest dimension of the spot weld, nor shall they be centered closer together than twice the greatest dimension. Squeeze time, weld time and hold time shall be controlled to produce uniform welds that will meet the test specified in 4.5.3. All depressed or protruding spot welds on exposed surfaces of cabinets shall be filled and sanded or ground smooth. Except as otherwise specified herein, spot welds shall be centered not more than 6 inches apart.

3.3.3 Sheet metal formations. Sheet metal formations specified herein shall conform to the illustrated nomenclature in Fed. Std. No. 187. The bends and folds in the formations specified are the minimum number of bends and folds permitted. Additional bends and folds which do not impair the utility of the cabinets, or detract from their appearance are permissible.

3.3.4 Assembly. Cabinets shall be furnished ready for complete and proper assembly (shipped knocked-down except to the extent specified herein), or shall be completely and properly assembled by the contractor before shipment (shipped set-up) as specified (see 6.2). Alternatively, in lieu of completely set-up shipment the adjustable shelves may be packaged separately before being packed with the unit. Cabinets shipped knocked down shall have the door(s) attached properly to the door frame. When shipped set-up (or set-up except for adjustable shelves), unless a specific means is specified in the individual paragraph, the parts shall be assembled by means of welding, bolting, riveting, or by a combination thereof. Spring clips may be used in combination with any of the other methods of assembly specified, but they shall not be used as the sole method of assembly. Parts shall not be assembled by means of brazing. When shipped knocked-down, the assembly shall be accomplished by bolts, nuts, and lockwashers or locknuts; or by bolts, nuts and lockwashers, and spring clips. One set of assembly instructions, a list of all parts, and the necessary fastening devices shall be put in a package and shipped with each knocked-down unit. Assembly instructions shall include the quantity of each knocked-down unit. Except as permitted herein, all bolts shall pass through bolt holes which shall not exceed the diameter of the bolt by more than  $1/16$  inch. Bolt holes in door hinges may be elliptical instead of round. The minor axis shall not exceed the diameter of the bolt by more than  $1/8$  inch. The front vertical edges only of the cabinet sides may have open end slots instead of bolt holes. The length of the slot shall be not less than  $1/4$  inch and not more than  $1/2$  inch. The width of the slots shall not exceed the diameter of the bolt by more than  $1/16$  inch. Bolts or rivets shall not show on the front of any cabinet, whether set-up or knocked-down. Bolts or rivets shall not show on the sides of any cabinet, whether set-up or knocked-down, except in specified areas on the sides of style B cabinets (see 3.3.6, 3.3.9, and 3.3.16.3). Bolts shall be on not more than 12 inch centers on vertical joints, on not more than 8 centers on horizontal joints, and shall be not more than 4- $1/2$  inches from the ends or corners. The tops, bottoms and shelves shall be level and parallel. The sides, back and front shall be vertical, even and parallel. Each cabinet shall be equipped with a handle meeting the requirements of 3.2.2.1.1. Assembled cabinets selected in accordance with 4.5.4, whether for set-up or knocked-down shipment, shall pass the cabinet moving test described in 4.5.4.2.

3.3.5 Overall dimensions. The overall dimensions (exclusive of face hardware) of the cabinets shall be the applicable sizes specified in 1.2.1.

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**3.3.5.1 Tolerances.** The following plus or minus tolerances in the overall dimensions will be permitted.

Width: 1/16 inch  
 Height: 1/4 inch  
 Depth: 1/16 inch

**3.3.6 Sides.** The sides shall be flanged or offset at their top for proper assembly to the cabinet top. The flanges shall be not less than 3/4 inch and may overlap the top of all cabinets except the type I, size 2 cabinet. The overlapped flanges shall be tied down. When cabinets are shipped knocked-down this shall be accomplished as specified in 3.3.4 for assembly of knocked-down units. When cabinets are shipped set-up, overlapped flanges shall be tied down by any means of assembly specified in 3.3.4. The back vertical edges shall be formed to overlap the back. Any seam resulting from the joining of sides to the back shall be at the back of the cabinet. There shall be no sharp edges along the exterior of seams. The front vertical edge of each side shall be formed so that the outside surface of the sides will be flush with the outside surface of the door frames. When door frames are not used on type I, class 1, size 2 cabinets (see 3.3.13) the front of their sides shall be channel formed and flanged. The bottom of each side shall be flanged not less than 1/2 inch. Except for type I, class 1, size 2 cabinets and style B cabinets when they have a separate platform base the flange shall be returned to form a double thickness of metal extending not less than 1/4 inch up the inside. The sides shall be provided with the means of supporting the bottom securely. For style B cabinets only, this may be accomplished by means of bolts, nuts and if applicable (see 3.2.2.4) lockwashers.

**3.3.7 Back.** The top edge of the back shall be flanged or offset for proper assembly to the cabinet top. The flange shall be not less than 3/4 inch and may overlap the top of all cabinets except the type I, class 1, size 2 cabinet. The overlapped flanges shall be tied down. When cabinets are shipped knocked-down this shall be accomplished as specified in 3.3.4 for assembly of knocked-down units. When cabinets are shipped set-up, overlapped flanges shall be tied down by any means of assembly specified in 3.3.4. The vertical edges shall be formed so that attachment to the sides establishes a flush condition. The bottom edge shall be flanged not less than 1/2 inch. Except for type I, class 1, size 2 cabinets and style B cabinets when they have a separate platform base the flange shall be returned to form a double thickness extending not less than 1/4 inch up the inside. The back shall be provided with a means of supporting the bottom securely.

**3.3.8 Top.** The top of all cabinets shall have a minimum of one 1/2-inch, 90 degree flange at the sides and back. A minimum of one 1/2-inch, 90 degree flange at the front of the top is also acceptable on all cabinets except the type I, class 1, size 2 cabinet, when an applied top tie member is not used (see 3.3.13). The front of the top of the type I, class 1, size 2 cabinet, without an applied top tie member, shall be formed to have a return flange plus an additional flange formed downward not less than 1/4 inch to act as a door stop. The height of the return flange plus the doorstop formation shall be not less than 1-1/2 inches nor more than 2-1/2 inches. The two front corners of the top with the return flange, plus additional flange formation, shall be neatly closed and then brazed or fusion welded, and ground smooth along the seams where its flanges meet. There shall be no seam or gaps along the upper surface of the top of the size 2 cabinets. It shall be formed to provide a flush condition with the cabinet sides or, when applicable, with the cabinet sides and sides of the door frame. The top of all cabinets except the size 2 may be concealed under flanges of the side, back and front frame. The underside of the top of the size 2 cabinets shall be reinforced with a hat section or similar formation, not less than 32 inches long, which shall meet all of the requirements specified for the same formation in 3.3.11, including the spacing of spot welds.

**3.3.9 Bottoms.** Except when style B cabinets have a separate base, bottom shall be in accordance with 3.3.9.1. Bottoms of style B cabinets having a separate base shall be in accordance with 3.3.9.2. Applied devices such as glides may be affixed to bottoms or bases, as applicable but this is not a requirement. However, all surfaces that contact the floor when the cabinets are in the upright position shall be smooth.



**3.3.9.1 Bottoms for cabinets without separate platform base.** The bottom shall be flanged downward not less than 1/2 inch on all four sides, and except as specified herein, shall be supported at sides and back without the use of bolts. Front flanges shall rest on and be secured to the base plate and shall serve as a doorstep. Means of securing shall be by not less than two bolts for knocked-down shipment; or by not less than two bolts, two rivets or by welding for set-up shipment. Alternatively, the bottom shall be formed downward not less than 1/2 inch on the sides and back and in a modified "Z" along the front. The vertical leg of this formation shall be not less than 1/2 inch high. The lower horizontal leg shall extend under the base plate. When this alternative is used, the bottom shall be supported on all sides and secured to the back panel by bolts and nuts or by rivets as specified in 3.2.2.4. Bottom may be secured to the back panel and the side panels of style B cabinets by the use of bolts and nuts.

**3.3.9.2 Bottoms for Style B cabinets with separate platform base.** The bottom shall be formed on all four sides, and attached to the backs and sides of the cabinets by bolts. The front of the bottom shall be formed to fit inside the bottom cross member of the frame. The bottom shall be flush with the frame member.

**3.3.10 Bases.** All bases except bases of style B cabinets shall be the plate kind, constructed in accordance with 3.3.10.1 and bases of style B cabinets may be of this kind and be so constructed. When bases of style B cabinets are not constructed in accordance with 3.3.10.1, they shall be the separate platform kind, constructed in accordance with 3.3.10.2.

**3.3.10.1 Plate bases.** The base shall be not less than 4 nor more than 6 inches high, formed channel shape where contacting the floor, and shall be attached to the vertical doorframe members by not less than two countersunk rivets ground smooth or three spot welds or projection welds. The channel shall be at least 1/4 inch wide on the outside. The top of the base plate shall be formed upward not less than 1/2 inch and shall fit behind the front flange of the cabinet bottom. Alternatively, when the 16 gage base is used without the door frame bottom tie member, it shall serve as the member and shall be secured to each side member by not less than four spot welds or projection welds.

**3.3.10.2 Platform bases.** When style B cabinets are not furnished with bases in accordance with 3.3.10.1, their bases shall be the knocked-down platform type, not less than 4 inches nor more than 6 inches high. The four sides of the base shall be flanged along the four edges that attach to the cabinet bottom and shall have a channel formation along the four edges that contact the floor. The design and construction of the base shall be such that, when assembled, no bolts shall show on the front of the base. The body of the base shall be of not less than 18 gage (0.0478 inch) steel. The four corners of the base shall have inside corner angles extending the full inside height of the base. These corner angles shall be of not less than 18 gage (0.0478 inch) steel. Alternatively, the corner angles may be omitted, provided the body of the base is constructed of not less than 16 gage (0.0598 inch) steel. The base shall be assembled with at least two bolts, nuts and lockwashers at each connection. The top flanges of the base shall be punched with holes not more than 12 inches apart, (center to center), to permit bolting to the bottom of the wardrobe.

**3.3.11 Doors.** All door edges shall be flanged inward not less than 5/8 inch. The flange shall be 90 degrees with an additional 90 degree return on the vertical edges except the right hand vertical edge of the left hand door of double door cabinets, which shall have a minimum 1/2 inch wide "Z" formation, plus a minimum 1/4 inch flat fold to serve as a strike for the right hand door. The flat fold may be omitted from the type II, class 1, style B cabinets provided the unformed edge is free of burrs and sharpness. When doors are closed, their faces shall be approximately flush with, but shall not extend beyond (1) the front face of the side member door frames or cabinet sides, as applicable (2) the face of the top or top tie member as applicable and (3) the face of the cabinet base. The left hand door and right hand door of double door cabinets shall fit together neatly. There shall be no gaps between doors or between doors and adjacent members that allow a 3/32 inch feeler gauge to be inserted. Door hinges shall conform to 3.2.2.2.

There shall be not less than three hinges for each door, excepting the size 2 cabinets which shall have at least two hinges per door. Hinge leaves shall not be attached to the exterior surface of the cabinets. Door handles and key locks, not integral therewith, shall be attached by concealed fasteners except slotless head machine screws may be used for attachment of handles. Doors of style B cabinets shall have louvers as specified in 3.3.11.1 and the right hand door shall have a label holder as specified in 3.2.2.1.3. Each door of all cabinets shall be reinforced with a hat section or similar formation not less than 5-1/2 inches wide overall with a minimum 1/2 inch deep channel. It shall be spotwelded to the back of the door with spot welds not over 8 inches apart. The top and bottom welds shall be within 1 inch of the ends of the section. This reinforcement shall be centrally located laterally, as determined visually, and shall extend to within 1/2 inch of the top and bottom louvers on style B cabinets and within 1/2 inch of the top and bottom flanges on all other cabinets. The door shall not bind or otherwise fail when tested in accordance with 4.5.4.3.

3.3.11.1 Louvers. Louvers shall be centrally located laterally as determined visually. There shall be two sets, not less than 5 inches wide in each door of the style B cabinets. The top set shall start not more than six inches from the top of the door and the bottom set shall start not more than six inches from the bottom of the door. There shall be not more than 9 louvers nor less than 6 louvers in each set.

3.3.12 Latching mechanism. The latching mechanism shall be controlled by the door handle and shall be capable of being activated manually with a minimum of effort. The mechanism shall engage the cabinet at the top, at the bottom and at the approximate center of the left side of cabinet on single door units. The mechanism shall engage the cabinet at the top, at the bottom and at the approximate center of the left hand door on double door units. When doors are closed and the latching mechanism is engaged, the handle shall be in its natural position. The latching bar shall be not less than 1/4 inch diameter steel rod, or other shaped bar or channel, provided it has an equal or greater cross sectional area, and is at least 1/8 inch thick at points of engagement. The engagement at the top and at the bottom shall be 5/8 inch, minimum. All cabinets shall have a steel or nylon latching bar guide secured tightly and permanently, abutting or extending through the flange at the top of the door and a similar guide secured in like manner at the bottom of the door. Manipulation and pressure exerted by hand shall not dislodge them from the door or cause them to break or to become loose. They shall extend at least 1/2 inch from the flanges. If of nylon, the portion which surrounds the latching bar shall have walls at least 1/16 inch thick. If the guides extend through the flanges of the door and utilize an integral interlocking feature, the feature shall include a flange or similar formation which surrounds the entire perimeter of the aperture through which the guide is inserted and extends at least 3/64 inch beyond it. Style B cabinets shall have two additional bar guides not less than 3/4 inch high. They shall be of steel only and shall be welded to the door. One of these guides shall be located about mid-way between the top guide and door handle. The other shall be located about mid-way between the bottom guide and the door handle. When disengaged, the latching mechanism shall not restrict the easy opening and closing of the door.

3.3.13 Door frames. Except as otherwise permitted herein, all cabinets shall have side member door frames, a top tie member and a bottom tie member. The side member door frames shall be 7/8 inch by 7/8 inch by 0.125 inch (minimum) or 1 inch by 1 inch by 0.100 inch (minimum) steel angles, or not less than 16 gage (0.0598 inch) steel which shall be channel formed and flanged. When sheet steel of the minimum thickness permissible is used (i.e. 16 gage) the width of each side member door frame, before forming, shall be at least 4-3/16 inches. The top and bottom tie members shall be formed into channels with the ends offset and securely attached to the side members by not less than two countersunk rivets ground smooth, or not less than two spot welds or projection welds at each top corner and not less than three spot welds or projection welds at each bottom corner. Alternatively, if side members are angles, the top and bottom channel-shape tie members may have ends of face notched and positioned flush with the face of side members, provided legs are flanged and securely welded to the side members. The bottom flange of the top tie member shall be formed down not less than 1/4 inch and shall act as a door stop. The height of the top tie member, including the door stop formation, shall be not less than 1-1/2 inches nor more than 2-9/16 inches. For size 2 cabinets, the side member door frames and the top tie member may be omitted when the sides and top are constructed in accordance with the applicable portions of 3.3.6 and 3.3.8.



**3.3.14 Shelf supports.** All cabinets shall have supports for shelves which permit shelf adjustment on two inch centers or less without the use of tools or separate clips. They shall provide positive, balanced support for the shelves at four or more locations. Supports shall hold the shelves in place firmly. Shelf supports shall not be formed by perforating the sides or back of the cabinets. The shelf supports shall provide shelf adjustment to within 10 inches of the nearest obstruction at the top and at the bottom of the cabinet.

**3.3.15 Number plate.** A metallic number plate with numbers stamped, embossed or engraved shall be attached securely to one of the doors of the type II, style B cabinets. The numbering system or sequence will be supplied by the ordering office. The number shall be not less than 3/8 inch high. The manufacturer's name or trademark of such known character as to be easily identifiable with said manufacturer shall appear on the number plate.

**3.3.16 Interior equipment.**

**3.3.16.1 Type I.** Type I, sizes 1 and 3 cabinets shall be equipped with six shelves. Size 2 cabinets shall have three shelves. The shelves shall meet the requirements of 3.3.16.1.1. They shall be easily adjustable and shall be supported as specified in 3.3.14.

**3.3.16.1.1 Shelves.** Side and rear edges of shelves shall have at least one 90 degree flange of not less than 3/4 inch and additional formations when necessary for proper engagement to the shelf support. The front edge shall have a formation containing not less than three bends, which will provide a vertical front face not less than 3/4 inches high. The front face of the shelves specified in 3.3.16.1 (when properly assembled) shall be not more than 1/2 inch from the rear flange of channel formed and flanged door side member or, when applicable, not more than 1/2 inch from the rear flange of the channel form and flanged front of the side of size 2 cabinets. When door frame side members are angles the front face of the shelves shall be not more than 1-1/2 inches from the inside of the front flange. The shelves of class 1 cabinets shall be subjected to the test in 4.5.4.4.

**3.3.16.2 Type II, class 1, style A.** The type II, class 1, style A cabinets shall be equipped with one non-adjustable hat shelf, six shelves which shall be adjustable without the use of bolts and nuts, one vertical dividing partition, one coat rod and two coat hooks. The hooks shall be on the right side of the wardrobe compartment. All shelves, including the non-adjustable hat shelf shall be constructed as specified in 3.3.16.1.1. The front face of the hat shelf shall be positioned within the limitations specified in 3.3.16.1.1 for front faces of the adjustable shelves. From that point, the hat shelf shall extend the full width and full depth of the interior of the cabinet and shall clear the bottom flange of the doorstop formation by not more than 10 inches or less than 8 inches. The front faces of the adjustable shelves in this cabinet shall be flush with or shall inset the front of the vertical dividing partition not more than 1/8 inch. The adjustable shelves shall be in the right hand compartment and shall be supported as specified in 3.3.14. The coat hooks shall be as specified in 3.2.2.3, the vertical partition shall be as specified in 3.3.16.2.1 and the coat rod shall be as specified in 3.3.16.2.2.

**3.3.16.2.1 Vertical dividing partition.** The front face of the vertical dividing partition shall be flush with, or shall inset by not more than 3/4 inch, the front face of the non-adjustable hat shelf and from there shall extend the full depth of the interior of the cabinet. This partition shall also extend from the bottom of the hat shelf to the bottom of the cabinet. It shall divide the cabinet into two compartments of equal width as determined visually. Its front and back vertical edges shall have any of the following formations: (1) side bead, (2) channel form and flange (3) flange plus a flat fold. The outside diameter of the bead or the face width of the flange shall be not less than 1/2 inch. The top and bottom edges of the partition shall have flanges not less than 1/2 inch wide. The partition shall be secured in place at not less than three locations if attachments are at top, bottom and back of partition; or not less than four locations if attachments are at the top and bottom of the partition. Attachment shall be by bolts, rivets, or by spotwelding with welds not more than 8 inches apart.

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3.3.16.2.2 Coat rod. The coat rod shall be a steel rod or steel tube not less in diameter and wall thickness (when tube is used) than used on standard commercial wardrobes of similar types and sizes as those covered by this specification. The rod shall rigidly support capacity loads of heavy clothing evenly distributed. It shall clear the underside of the hat shelf by 1-1/2 inches. The rod shall be (1) straight and attached to the hat shelf by the use of suitable brackets or (2) it shall have channel formed, flattened ends and be attached to the hat shelf by means of two bolts or two rivets in each end.

3.3.16.3 Type II, class 1, style B. The type II, class 1, style B cabinets shall be equipped with two non-adjustable shelves (exclusive of any horizontal divider between bottom drawer and top drawers), two shelves which shall be adjustable without the use of bolts or nuts, three drawers, one vertical dividing partition, one coat rod and two coat hooks. The coat hooks shall be as specified in 3.2.2.3 and shall be on the right hand side of the wardrobe (left) compartment. All shelves shall be formed as specified in 3.3.16.1.1. The front face of the non-adjustable shelves shall be positioned within the limitations specified for the front face of the adjustable shelves in 3.3.16.1.1. From there they shall extend the full depth and width of the interior of the cabinet compartment. One non-adjustable shelf shall serve as a hat shelf and shall clear the bottom flange of the doorstop formation by not more than 6-1/2 inches or less than 5-1/2 inches. The other non-adjustable shelf shall be positioned to provide a compartment for the drawers. The two non-adjustable shelves shall be secured to the sides and the back of the cabinet. This may be accomplished by means of bolts. When a horizontal divider is between the bottom drawer and top drawers, this component may also be secured to the sides and back with bolts. The two adjustable shelves shall be in the right hand compartment that is formed by the vertical dividing partition (see figure 8). These adjustable shelves shall be supported as specified in 3.3.14, which shall permit use of additional shelves. The front face of the adjustable shelves in these cabinets shall be positioned as specified for the adjustable shelves in 3.3.16.2. The vertical partition shall be as specified in 3.3.16.2.1, except it shall extend between the two non-adjustable shelves. The coat rod shall be as specified in 3.3.16.2.2 and the drawers shall be as specified in 3.3.16.3.1.

3.3.16.3.1 Drawers. The type II, class 1, style B cabinets shall have three drawers beneath the lower fixed shelf. The front of the lower drawer shall be eight inches high and its sides and back shall be not less than seven inches high. The bail of the lower drawer pull, when in its dropped position, shall clear the inside of the closed cabinet door by not less than 1/4 nor more than 5/8 inch. Within these limits the lower drawer shall utilize the entire depth of the cabinet interior without striking the cabinet back when in the closed position. The front of the lower drawer shall clear the cabinet doors by a maximum of 3/8 inch when they are open at 90 degrees. The clear inside width of the lower drawer shall be not more than 1 inch less than the overall width of its front. The front of the two upper drawers shall be six inches high and when drawers are closed, shall be even with the front of the closed lower drawer. The sides and back of the upper drawers shall be at least five inches high. When of welded construction the width of their fronts shall be one-half of the clear inside width of the lower drawer less 1/4 inch maximum. The clear inside width of the two upper drawers shall be not more than one inch less than the overall width of their fronts. The upper drawers shall have the same clearance on each side of the cabinet as the lower drawer. When of welded construction, the depth of the upper drawers shall be a maximum of one inch less than the depth of the lower drawers, to permit nesting. All drawers shall be equipped with commercially available drawer pulls of the drop bail type. The bail shall be of a size that permits convenient grasping. The pulls shall be smooth and free of burrs, sharp corners, sharp edges and rough edges. The top edges of all drawer sides and backs shall be formed for strength and the elimination of sharp exposed edges. A flat fold formation on these edges will not be acceptable, except on the top edges of the sides of the top drawers. A flat fold formation on the top edges of the sides of the top drawers will be acceptable provided each drawer side is reinforced with a properly positioned and securely applied strip of steel of not less than 24 gage (0.0299 inch) steel. The reinforcement shall be not less than 1/2 inch high (when applied to drawer side) and shall extend to within 1/2 inch of the front and the rear of the drawer. The drawers shall be easily removable from the cabinet without the use of any tools, but each shall be equipped with stops which will prevent the drawers from falling out when fully extended. The drawer stops shall have securely attached bumpers of rubber or other sound absorbing

material. Drawers shall operate on suspensions with nylon tire rollers which shall have ball bearings, or with nylon or Zytel glides which shall be located to eliminate metal-to-metal contact between drawer tracks and case tracks. The case tracks shall be attached securely to the cabinet. The attachment shall provide secure connection without vertical or horizontal movement. The drawer track, when a separate member, shall be attached to the drawer sides by spot welds. Instead of an applied drawer track, the track may be formed as an integral part of the drawer body provided the total metal thickness on the bearing surface equals or exceeds 16 gage steel in thickness and a steel channel or zee formation in structural rigidity. The suspension shall operate smoothly and shall not bind. The drawer fronts shall not touch the bottom flange of the lower shelf, but the clearance shall be not more than 1/8 inch. The drawers described above shall be assembled by means of welding. Alternatively, the drawers may be constructed for knocked-down shipment. This shall be accomplished by providing for (1) the interlocking of the sides to the bottom without applied fastening devices, and (2) the securing of the front and back to the sides and bottom with metal fastenings. The means of interlocking the sides and bottom shall permit shipment of those components either completely disassembled or disassembled to the extent that the sides fold and rest on the bottom. Metal fastenings shall be spaced not more than 6 inches apart. Each drawer side shall attach to the front at two or more places and to the back at two or more places. The properly assembled drawers shall have strong, rigid, secure joints. The above alternative is the minimum acceptable to the Government. However, alternate designs and constructions of knocked-down drawers that meet or exceed the Government minimum as outlined may be acceptable, at the option of the Government. The drawers shall be of simple design, easily assembled without special tools, sturdy and functional. Drawers constructed for knocked-down shipment shall meet all of the requirements of drawers of welded construction with the exceptions that (1) The two upper drawers shall be of the same depth as the lower drawer and (2) The width of the fronts of the two upper drawers shall be one half of the width of the front of the lower drawer less 1/2 inch, maximum. When upper drawers are closed their fronts shall not touch each other.

**3.3.16.4 Type II, class 2.** The type II, class 2 cabinet shall be equipped with one non-adjustable hat shelf, six shelves which shall be adjustable without the use of bolts or nuts, one vertical dividing partition and three coat hooks. The coat hooks shall be as specified in 3.2.2.3. Two of the coat hooks shall be on the right side of the wardrobe compartment. One double prong hook in the wardrobe compartment shall be secured to the bottom of the hat shelf. The size of the adjustable shelves for the type II, class 2 cabinet and the type II, class 1, style A cabinet shall be identical. The adjustable shelves shall be supported as specified in 3.3.14. The shelves for this cabinet, including the distance the hat shelf shall clear the bottom flange of the door stop formation, shall be as specified for the shelves of the type II, class 1, style A cabinet. The vertical dividing partition shall meet all of the requirements of 3.3.16.2.1 except it shall not divide the cabinet into compartment of equal width.

**3.3.16.5 Type III.** All type III cabinets shall be equipped with one non-adjustable hat shelf meeting the applicable requirements of 3.3.16.2 and with one coat rod meeting the requirements of 3.3.16.2.2. All type III cabinets shall have shelf supports as specified in 3.3.14 to permit conversion to storage cabinets by the use of additional shelves.

#### **3.4 Pretreatment and finishing.**

**3.4.1 Pretreatment.** All exterior and interior unplated ferrous metal surfaces shall be treated for painting in accordance with any method of TT-C-490.

**3.4.2 Priming.** Unless type I or type II of TT-C-490 is used, all exterior and interior surfaces treated as specified in 3.4.1 shall be coated with primer as specified in 3.2.3.1.

**3.4.3 Enameling.** All primed surfaces shall be coated with enamel as specified in 3.2.3.2 and baked in accordance with the enamel supplier's direction. Total dry film thickness shall be not less than 1.4 mils on the outside surfaces of all cabinet fronts, backs and sides; on the outside surface of the top of the size 2 cabinet; and on the front and top of all shelves. The total dry film thickness of enamel and primer on other surfaces, inside and outside of the cabinet shall be not less than 0.6 mil. If type I or type II of TT-C-490 is used in pretreatment coating, primer may be omitted and the minimum dry film thickness may be 1.0 mil instead of the 1.4 mils on the areas specified herein. The minimum 0.6 mil thickness for other surfaces shall remain applicable. The finish shall level out to produce smooth, uniform exposed surfaces without runs, wrinkles, grit, areas of thin film, and separation of color. Finish panels shall withstand the tests specified in 4.5.2.

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3.5 Identification marking. Each cabinet shall be permanently and legibly marked in an inconspicuous place with the specification number, Federal Stock number, contract number, month and year of manufacture and the manufacturer's name or trademark, so that the source of supply may be readily determined. When specified (see 6.2) identification marking shall be in accordance with MIL-STD-130.

3.6 Workmanship. The finished cabinets shall be clean and free from any defects or features affecting appearance, serviceability or safety of the users. The occurrence of defects shall not exceed the acceptable quality levels specified herein. All surfaces and edges of the knocked-down and assembled cabinets accessible to erection personnel and users shall be free of sharp edges and burrs. Assembly of the cabinets shall be accomplished using regular hand tools such as screwdrivers and wrenches. The fit of components and the alignment of holes shall be such as to negate the need of modify any component, or to require the use of exceptional force to assure proper joining of component parts. The assembled cabinets shall not reveal any visible evidence of twists, buckle or out-of-square condition.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Preproduction sample inspection. Examination and testing of the preproduction sample shall be made on a completely fabricated item for all provisions of this specification applicable to end product examination and tests, before regular production is started.

4.3 Sampling for inspection and acceptance. Sampling for inspection and acceptance shall be performed in accordance with MIL-STD-105 except where otherwise specified herein.

4.3.1 Component and material inspection. In accordance with 4.1 above, the supplier is responsible for insuring that components and materials used are manufactured, tested and inspected in accordance with the specified requirement of referenced subsidiary specifications and standards to the extent specified herein, or if none, in accordance with this specification.

4.3.2 Inspection of end item. The lot size shall be all cabinets unassembled for knocked-down shipment or all cabinets assembled for set-up shipment, as applicable, of the same type, class, style and size that are offered for inspection at one time. The sample unit shall be one completely assembled cabinet. Sample units selected from lots of cabinets unassembled for knocked-down shipment shall be examined during and after assembly for the defects specified in table III.

4.3.2.1 Visual examination, assembled cabinets. The assembled cabinets shall be examined for defects as specified in table II.

TABLE II. Classification of end item defects

Examine	Defect	Classification	
		Major	Minor
Enamel finish	Poor adhesion, i.e. blistered, checked, peeling; tacky (not dry to touch); color separation, stain, not smooth and uniform, runs, sags, foreign matter in coating, area of thin coating or abrasion.		X
	Total thickness not as specified.	X	
	Wrong color.		X
	Scratch through to base metal, bare spots, rust under coating.	X	
Metallic coating	Wrong kind.	X	
	Poor adhesion, i.e. blistered, peeling, flaky, stained or discolored.	X	
Workmanship and Construction (general)	Any part missing except bolts, nut, lockwashers and rivets.	X	
	Malformed or mislocated parts affecting serviceability. Broken, punctured or cracked parts.		
	Sharp edge or projection that may cause injury.	X	
	Malformed, mislocated, damaged, buckled or warped parts affecting appearance. Any dent on exposed surface affecting appearance.		X
Steel metal formations	Components not of gage specified.	X	
	No formation when one is specified.		X
	Not minimum number of bends or folds specified.		X
Fastening devices	Not metal plated; threads stripped on more than one bolt; more than one bolt, nut, lockwasher or rivet missing.	X	
	Thread stripped on one bolt; one bolt, nut, lockwasher or rivet missing.		X
	Bolts show on front of the cabinet or sides of any cabinet excepting style B.		X
Shelf supports	Do not provide for adjustment of shelves on two inch centers or less.	X	
	Tools needed for acceptance or for removal of shelves.	X	
	Do not provide for support of shelves at four or more places.	X	
	Formed by perforating side or back of cabinet.	X	
	Do not provide for amount of shelf adjustment specified.		X
Drawers	Do not utilize inside width and inside depth --- of cabinets to the extent specified.		X
	Upper and lower drawer do not have same clearance on each side of cabinet.		X
	Front not even with each other, when closed.		X
	Tools needed to remove drawers.		X
	Case tracks move (independently) when manual pressure is applied.	X	
	Suspension binds.	X	



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TABLE II. Classification of end item defects (continued)

Examine	Defect	Classification	
		Major	Minor
	Drawer fronts touch at any point up to and including full extension.		X
	Front of upper drawers touch bottom of lower shelf or clearance is more than 1/8 inch.		X
Number plates	Number not stamped, embossed or engraved.		X
	Not marked as specified.		X
Label holders	Not securely attached (moves when slight vertical or horizontal pressure is applied.		X
	Not attached as specified.		X
	Outer edge of label holder not straight, or side and bottom edges do not lie flat against face of door.	X	
	Label card slips through.	X	
Sides	Front vertical edge does not fit flush with door frame.		X
	Not provided with means to support bottom without use of bolts or nuts (except as specified in 3.3.6).	X	
Back	Overlaps cabinet sides.		X
	Not provided with means to support bottom securely.		X
Top	Seam along top of size 2 cabinet.		X
	Overlaps cabinet sides.		X
	Front corners not closed, brazed or fusion welded and ground smooth, when applicable.		X
	Hat section does not extend as specified (size 2 only).		X
Bottom, for cabinets without platform base	Not supported at sides and back.	X	
	Bolts used to support bottom (except as specified).	X	
	Front flange does not rest on base or not secured to it as specified (unless alternate is used).	X	
	Horizontal leg of alternative formation does not extend under base plate.	X	
Bottom, for Style B cabinets with platform bases	Cannot be attached to backs and sides of cabinet by bolts.	X	
	Front not formed to fit inside bottom cross member of frame.	X	
	Not flush with frame member.		X
Platform base	Corner angles (when required) do not extend between top and bottom formation.	X	
	Not fabricated from single piece of steel.		X
Welds	Missing, not required number or not sound (broken, cracked, burnt through, poor adhesion, etc.)	X	
	Not ground smooth, protrude, or pits not filled (exposed welds).		X
	Spot welds not spaced properly.		X

TABLE II. Classification of end item defects (continued)

Examine	Defect	Classification	
		Major	Minor
Door handles, padlock keeper and padlock strike	Handles for style B cabinets do not accommodate a padlock.	X	
	Not attached securely (moves independently when slight horizontal or vertical pressure is applied) or not secured as specified.		X
	Handle not designed to actuate a three point latching mechanism.	X	
	Padlock keeper and padlock strike not attached as specified.	X	
Locks	Wrong type.	X	
	One key will open more than one cabinet in groups of 200 cabinets or less.		X
	Not secured to door (if not integral with handle) as specified.	X	
Hinges	Not one of types specified.	X	
Doors	Clearance between each door and/or between doors and door opening greater than permitted.		X
	Face of closed door protrudes at sides, top or bottom of cabinet.		X
	Hat section does not extend as specified.		X
Louvers	Not specified quantity of sets per door; more or less louvers per set than specified.		X
Shelves	Do not utilize inside width and inside depth of cabinet to the extent specified.		X
	Size of adjustable shelves of type II, class 1, style A and type II, class 2, style A cabinets not identical.		X
	Non-adjustable shelves not located as specified.		X
Vertical dividing partition	Wrong location.		X
	Not attached in place as specified.		X
	Does not utilize inside depth of cabinet to extent specified.		X
Coat rod and hook	Wrong location; wrong material; not securely attached; not attached as specified; coat rod does not extend full width of shelf (except in type II, class 1, style A cabinet).		X
Identification marking	Missing, not permanent, or is illegible, incomplete or incorrect.		X

4.3.2.2 Examination of assembly. Cabinets unassembled for knocked-down shipment shall be selected from each inspection lot, assembled, and during and after assembly, shall be examined for the defects listed in table III.

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TABLE III. Visual defects of assembly

Examine	Defect
Assembly	Requires special tools for assembly. Not easily assembled, i.e. required modification, excess force or enlargement of holes. Assembled cabinets twisted, buckled, or out of square.
Assembly instructions and parts list	Missing, illegible or incorrect.

4.3.2.3 Dimensional examination. Inspection will be made of cabinets (assembled for set-up shipment or unassembled for knocked-down shipment) for compliance with dimensions specified. Any deviation therefrom shall constitute a defect.

4.3.3 Examination of preparation for delivery. An examination shall be made to determine that packaging, packing and marking as required by Section 5 of this specification are complied with. Defects shall be scored as specified in table IV. The sample unit shall be one shipping container fully prepared for delivery. The lot size shall be the number of containers in the inspection lot.

TABLE IV. Preparation for delivery defects

Examine	Defect
Marking	Incorrect; illegible; of improper size, location, sequence, or method of application.
Material	Any non-conforming components, component missing, damaged, or otherwise defective affecting serviceability.
Workmanship	Inadequate application for components such as incomplete closure of shroud, inadequate security of keys, shelves and doors, of contents and padding of perimeter edges.

4.4 Inspection levels and AQL's. The inspection levels and acceptance quality levles (AQL's) expressed in defects per hundred units shall be as follows:

For examination in	Inspection levels	AQL's	
		Major	Total
Table II	II	4.0	10.0
Table III	S-2	---	4.0
4.3.2.3	S-2	---	4.0
Table IV	S-2	---	4.0

#### 4.5 Tests.

4.5.1 Bend test for steel sheets. The steel sheets for parts to be formed shall withstand a 180 degree bend at room temperature with and across the grain without showing any cracks or fractures on the outside of the bend.

4.5.2 Finishing tests. A 20 gage steel panel shall be prepared in accordance with 3.4 and subjected to the tests described in 4.5.2.1, 4.5.2.2 and 4.5.2.3.

4.5.2.1 Flexibility test. The dried film shall show no evidence of cracking or flaking under seven power magnification after a panel has been bent through 180 degrees over a 1/8 inch mandrel.

4.5.2.2 Hardness test. The dried film shall withstand the firm stroke of a 2H pencil held at a 45 degree angle and pushed across the film surface, without evidence of marring when viewed at an oblique angle in a strong light.

**4.5.2.3 Adhesion test.** The dried film shall not be removed from the panel when the latter has been scored with a razor blade through the film to the base metal in such a manner as to produce a grid of 1/8 inch squares, and a one inch wide piece of cellophane tape (Scotch Brand No. 600 or equal) is applied firmly to the grid surface and then quickly pulled from the surface.

**4.5.3 Spot welds.** Spot welds shall meet the peel test of MIL-W-12332 and button diameter shall be as specified therein.

**4.5.4 End item tests.** The tests in 4.5.4.1 through 4.5.4.4 shall be performed on completely assembled cabinets. Inspection level S-1 shall be used for selection of the number of cabinets to be tested from any lot. Failure to pass any test shall be cause for rejection of the lot represented by the sample cabinet under test.

**4.5.4.1 Testing for immobilization of latching mechanism.** With the doors of a style B cabinet closed and latched but not locked, a 3/16 inch diameter rod, shackle or padlock with a 3/16 inch diameter shackle shall be inserted in the padlock eye and the keeper. If the door can be opened with neither the hardware nor the outside surface of the door showing evidence of tampering the cabinet shall be considered as having failed the test.

**4.5.4.2 Cabinet moving test.** This test shall be performed on selected samples of all cabinets on contract. The load area for all shelves shall be the entire top of the shelf minus three inches from each side. So far as possible the adjustable shelves shall be spaced so that the distance between each shelf and the distance between the top and bottom shelves and the nearest obstructions is the same. The shelves in the type I, class 1, sizes 1 and 2 and the type III, class 1, size 1 cabinets shall have 30 pound weights applied. The shelves of all other cabinets shall have 20 pound weights applied. The bottoms of the type I, class 1, style A, sizes 1 and 2; the type II, class 1, style A, size 1; and the type III, class 1, size 1 cabinets shall have a total of 30 pounds applied thereon. The bottoms of all other cabinets except the type II, class 1, style B shall have 20 pound weights applied thereon. Style B cabinets shall have loads of 10 pounds placed in each upper drawer and 25 pounds placed in the lower drawer. The coat rods of the type II, class 1, style B and the type III, class 1, size 1 cabinets shall have weights totaling 25 pounds suspended across the entire length of the rod, minus 2 inches from each end. The coat rods of the type II, class 1, style A, size 1 and the type III, class 2, size 3 cabinets shall have weights totaling 15 pounds suspended across the entire length of the rod, minus 2 inches from each end. The glides or the bottom (if no glides are furnished) shall touch the test surface. The cabinet shall be pushed, pulled or "walked" (if necessary because the cabinet does not slide easily) at not faster than normal walking speed for a distance of not less than 25 linear feet, across a surface representing an average office floor. All weights shall then be removed from the cabinets. The cabinets shall be examined visually and shelves and coat rods shall be measured as necessary to determine that no part of the cabinet, shelves, coat rod, shelf supports, coat rod supports, drawer or drawer tracks suffered any permanent deformation. Also there shall be no cracked or broken welds or no looseness of mechanical attachments.

**4.5.4.3 Door and hinge test.** This test shall be performed on selected samples of all cabinets on contract. With the cabinet in an upright position a 200 pound test shall be suspended from the door (each door of double door cabinet, but not necessarily at same time) by a rope located not more than 3 inches back from the latch side of the top edge of the door. To preclude tilting or upsetting during the test, counterweights may be placed within the cabinet. In a normal manner the door shall be pivoted, back and forth, at least 150 degrees in each direction. Each door shall be pivoted each way not less than six times. The weight shall then be removed. If the doors bind when closed or fail in any other respect they shall be considered as having failed the test.

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4.5.4.4 Shelf load test. This test shall be performed on shelves in type I class 1 cabinets only. The required number of shelves for the cabinet being tested shall be adjusted so that they are as equidistant as possible from each other and from the top and bottom of the cabinet. The test shall be performed consecutively on each shelf. The test area shall be the entire top of the shelf minus three inches from each side. A weight of 40 pounds shall be distributed equally on the area specified. The weight shall remain on the shelf at least one hour. With the weight on the shelf, a measurement shall be taken from the bottom center of the shelf downward to a point of reference established before the weight was applied. The shelf shall have not more than 0.0625 inch deflection. The same measurement shall be taken after the weight is removed. There shall be no permanent deflection. The cabinet shall then be examined visually. Any damage to the shelf supports, deformation of any component, cracked or broken welds, or loosening of any fastening device shall be cause for rejection.

## 5. PREPARATION FOR DELIVERY

5.1 Packaging, packing, and marking. The cabinets shall be individually packaged, packed and marked in accordance with PPP-P-0015. The level of packaging shall be A, B or C as specified (see 6.2), the level of packing shall be A, B or C as specified (see 6.2), and the marking shall be civil or military as specified (see 6.2).

## 6. NOTES

6.1 Intended use. Type I cabinets are primarily intended for the storage of office forms and supplies. Type III cabinets provide depositories for coats and hats. Type II cabinets combine the functions of type and type III cabinets, but provide less space for each function. Style B cabinets are also intended to be used as a depository for personal possessions in addition to hats and coats.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents.

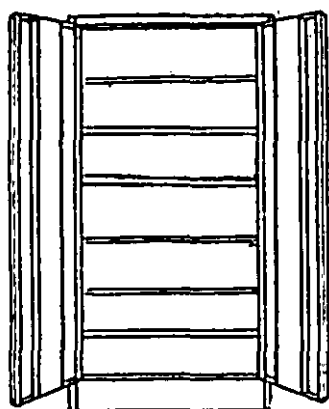
- a. Title, number and date of this specification.
- b. Type, class, size and style of cabinets required (1.2.1).
- c. If preproduction sample requirement is waived (3.1).
- d. If locks to be keyed to open more than one cabinet. (On orders of 200 cabinets or less). (3.2.2.1.2).
- e. If master keys required and the number of keys required (3.2.2.1.2).
- f. Color of finish if other than specified (3.2.3.2.1).
- g. Whether cabinets are to be shipped set-up or knocked-down (3.3.4).
- h. If special military identification marking is required (3.5).
- i. Level of packaging and packing required (5.1).
- j. Whether civil or military marking is required (5.1).

6.3 Cross reference data. Table V lists the types, classes and sizes of this specification and specification AA-C-0031d(GSA-FSS) that correspond to the type and class of superseded specification AA-C-31c.

TABLE V. Classification in this document and AA-C-0031d(GSA-FSS);  
and corresponding classification in AA-C-31c

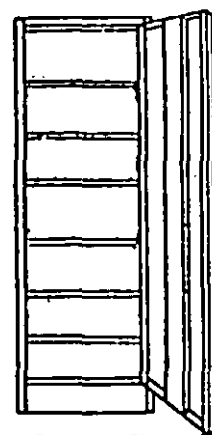
This specification and AA-C-0031d(GSA-FSS)	AA-C-31c
Type I	Type I
Class 1, size 1	Class A
Class 1, size 2	-----
Class 2, size 3	Class B
Type II	Type II
Class 1, style A, size 1	Class A
Class 1, style B, size 4	-----
Class 1, style B, size 5	-----
Class 2, style A, size 3	Class B
Type III	Type III
Class 1, size 1	Class A
Class 2, size 3	Class B





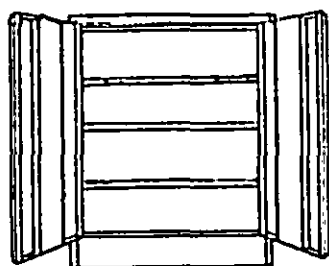
Type I, Class 1  
Size 1

Figure 1



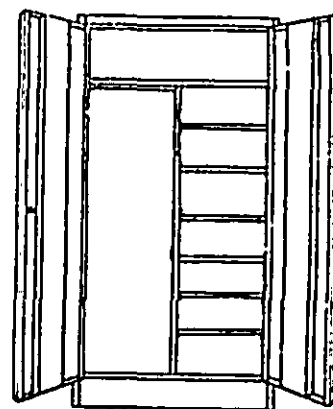
Type I, Class  
2, Size 3

Figure 2



Type I, Class 1  
Size 2

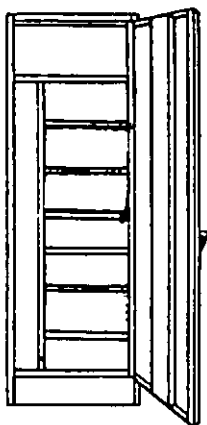
Figure 3



Type II,  
Class 1  
Style A  
Size 1

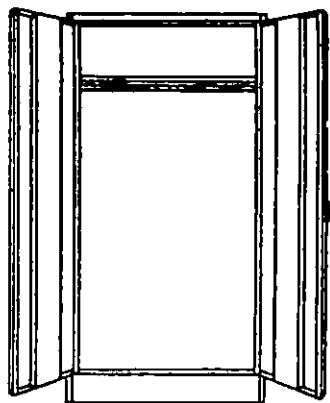
Figure 4

AA-C-31E



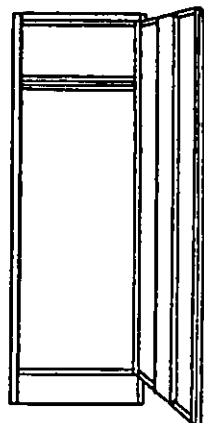
Type II,  
Class 2  
Style A  
Size 3

Figure 5



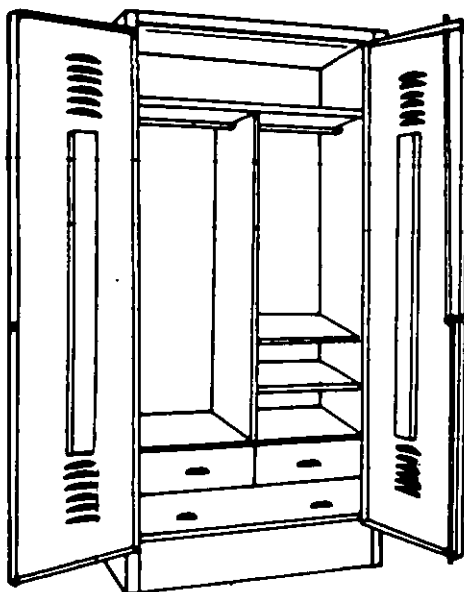
Type III  
Class 1  
Size 1

Figure 6



Type III  
Class 2  
Size 3

Figure 7



Type II, Class 1, Style B

Figure 8

6.4 Type II, style B cabinets replace cabinets which were covered in cancelled Military Specification MIL-W-4401.

6.5 Standard color panels. Sample panels of the standard color of finish are obtainable from the Regional Business Service Centers, Federal Supply Service, General Services Administration.

#### 6.6 Definitions of welding terms.

6.6.1 Resistance welding. Resistance welding is a group of welding processes wherein coalescence is produced by the heat obtained from resistance of the work to the flow of the electric current in a circuit of which the work is a part, and by the application of pressure.

6.6.2 Spot welding. Spot welding is a resistance process wherein coalescence is produced by the heat obtained from resistance to the flow of electric current through the work parts held together under pressure by electrodes. The size and shape of the individually formed welds are limited primarily by the size and contour of the electrodes.

6.6.3 Fusion welding. Fusion welding consists of any welding process in which the weld is carried out solely by the melting of the metals to be joined, without any mechanical pressure. The joining is usually accomplished through the fusion of metal deposits from external sources.

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