00-L-131K
January 11, 1972
SUPERSEDING
Fed. Spec. 00-L-131J
November 6, 1969

FEDERAL SPECIFICATION

LAUNDRY EQUIPMENT, MISCELLANEOUS, COMMERCIAL

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 miscellaneous laundry equipment primarily used in fixed laundries.

1.2 Classification.

1.2.1 Items, types, and sizes. Commercial miscellaneous laundry equipment shall be of the items, types, and sizes, as applicable, listed in table I, and as specified (see 6.2).

TABLE I. Miscellaneous laundry equipment

Item No.		Details (paragraph)
1	Collar shaper, laundry.	3.5.1
3	Damp box, laundry, presswork.	3.5.2
4	Ironing board, laundry, commercial.	3.5.3
6	Spray gun, laundry, commercial.	3.5.4
7	Starch cookers, laundry.	3.5.5
	Size 2 - 25-gallon capacity. Size 3 - 50-gallon capacity.	

FSC 3510

TABLE I. Miscellaneous laundry equipment (Con.)

Item No.		Details (paragraph)
10	Tables, shirt, finishing, folding, laundry, commercial. Type I - Manual operation. Type II - Semiautomatic operation.	3.5.6
11	Tank, soap, laundry, commercial with steam agitator. Size 1 - 30-gallon capacity. Size 2 - 60-gallon capacity. Size 3 - 100-gallon capacity. Size 4 - 200-gallon capacity. Size 5 - 500-gallon capacity.	3.5.7
12	Handcarts, shirt, garment, and bundle. Type I - For shirts. Type II - For garments. Type III - For bundles.	3.5.8
13	Truck, hand, box (tub truck).	3.5.9
15	Tub, laundry, stationary, two compartment.	3.5.10
16	Rack, garment, laundry, with casters.	3.5.11

2. APPLICABLE DOCUMENTS

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

Federal Specifications:

QQ-C-390 - Copper Alloy Castings (Including Cast Bar).
QQ-N-281 - Nickel-Copper Alloy Bar, Plate, Rod, Sheet, Strip, Wire, Forgings, and Structural and Special Shaped Sections.
QQ-N-288 - Nickel-Copper Alloy and Nickel-Copper-Silicon Alloy Castings.
QQ-T-830 - Tube, Steel, (Carbon, Mechanical; Seamless and Welded).

Federal Standard:

FED-STD-123 - Marking for Domestic Shipment (Civil Agencies).

(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, Ft. 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 Specification:

MIL-L-3153 - Laundry and Dry-Cleaning Machinery and Equipment (For Fixed Installations), Preparation for Delivery for Domestic and Overseas Shipment.

Military Standards:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129 - Marking for Shipment and Storage.
MIL-STD-130 - Identification Marking of U.S. Military Property.

(Copies of Military Specifications and Standards required by suppliers 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.

American Society of Mechanical Engineers (ASME) Publication:

Welding Qualifications of the American Society of Mechanical Engineers.

(Application for copies should be addressed to the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017.)

American Society For Testing And Materials (ASTM) Standards:

A167-70 - Corrosion-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.
A176-71 - Corrosion-Resisting Chromium-Steel Plate, Sheet and Strip.

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), the supplier shall furnish a sample for first article inspection and approval (see 4.2 and 6.3).

3.2 Standard product. Laundry equipment, including accessories, furnished under this specification shall be current standard products of an established manufacturer, except for any changes necessary to comply with this specification.

3.3 Materials. Materials not definitely specified shall be of the quality normally used by the manufacturer for the specified equipment provided the completed item complies with all provisions of this specification.

3.3.1 Corrosion-resistant metal. Metal used in the fabrication of the laundry equipment shall be corrosion-resisting steel conforming to the requirements of ASTM A167-70 or A176-71, as applicable; nickel-copper-alloy conforming to class A or B of QQ-N-281 or composition A of QQ-N-288; or copper-alloy conforming to any alloy number from G1 through G8 of QQ-C-390.

3.3.2 Materials for fasteners. Rivets, bolts, screws, nuts, and washers shall be of carbon or alloy steel, except where brass or corrosion-resistant metal is to be fastened, in which case the fasteners shall be of brass or corrosion-resistant metal respectively (see 3.3.1). Where dissimilar metals are fastened, bolts, rivets, screws, and nuts shall be of corrosion-resistant metal (see 3.3.1).

3.3.3 Tube, steel (carbon, mechanical, seamless, and welded). The steel tube shall be round shape and shall conform to QQ-T-830. The tubing shall have an outside diameter of not less than 1 inch and nominal wall thickness of .095 inch.

3.4 Design and construction. The miscellaneous laundry equipment, including accessories covered by this specification, shall conform to the requirements specified hereinafter.

3.4.1 Electrical systems and equipment.

3.4.1.1 Electrical characteristics. The electrical components of the equipment shall be suitable for the voltage, frequency, and number of phases specified (see 6.2).

3.4.2 Steam pressures. Assemblies of pipes, fittings, and chambers using steam shall be designed for 125 pounds per square inch gage (psig) steam working pressure and shall be capable of withstanding a 250 psig hydrostatic pressure without leaks when tested as specified in 4.4.1.

3.4.3 Pipe. Necessary integral pipe, fittings, pressure reducing valves, and all other valves for air, steam, and drains shall be furnished and installed so as to comply with good plumbing practice. Inlet steam and air supply connections shall have manually operated shutoff valves and shall be located so that valves are readily accessible to the operator.

3.4.3.1 Valves and traps. Steam, drain, condensate traps, and all operational valves shall be readily accessible for operation and maintenance.

3.4.4 Equipment bases. Bases of items when applicable, shall be constructed so that points of contact with the floor are in the same plane.

3.4.5 Spacing and extent of fastening. The spacing and extent of welds, rivets, bolts, and screws shall be such as to insure rigid fastening and prevent bulging of metals fastened.

3.4.6 Finish and color. Unless otherwise specified (see 6.2), the color of the components shall be finished in accordance with the manufacturers standard practice. Emergency stop and normal stop pushbuttons shall be red and this color shall be limited to all pushbuttons.

3.4.6.1 Finish of exposed corrosion-resistant metals. Corrosion-resisting steel and nickel-copper alloy shall be free from scale. Exposed corrosion-resistant metal surfaces shall be polished in accordance with the manufacturers standard commercial practice.

3.4.7 Name and data plates. Except on procurements for civil agencies, each item of equipment covered by this specification shall be marked for identification in accordance with MIL-STD-130. For procurements for civil agencies, the plates may be in accordance with the manufacturer's standard practice provided they are legibly and permanently marked with the manufacturer's name or trademark of such known character that the source of manufacture may be readily determined and shall contain the type, size, and the electrical characteristics of the item, as applicable.

3.5 Detail requirements.

3.5.1 Item 1 - Collar shaper, laundry. The collar shaper shall consist of one upright steam chamber or an electrically heated shaper mounted on a ferrous metal pedestal. The steam chamber shall be ferrous metal, chromium or nickel-plated, or copper alloy, round and tapered to accommodate all standard size shirt collars. Steam inlet and outlet connections shall be provided. The base shall be provided with not less than two anchor bolt holes. Steam lines and chamber shall be tested as specified in 4.4.1 to determine that the steam lines and chamber are capable of withstanding a 250 psig hydrostatic pressure without leaks. When an electrically heated shaper is furnished, the cord shall be equipped with a three prong plug.

3.5.2 Item 3 - Damp box, laundry, presswork. The damp box shall be designed to hold and support 75 pounds of damp laundry without the base being fastened to the floor. The laundry holder shall be mounted either on a pedestal or on four legs. When a pedestal is furnished, the laundry holder shall be held by a yoke forming a part of the pedestal. The damp box base shall be of a size and weight to prevent the damp box assembly from tipping in any direction when the laundry holder is loaded with 75 pounds of damp laundry or the equivalent weight (see 4.4.3.2).

3.5.2.1 Pedestal (stand). The pedestal shall be fabricated from ferrous metal. The pedestal may be adjustable for various heights and shall have a base of such size and weight to lend support to meet the requirements specified in 3.5.2. The pedestal height shall be adjustable by an adjustment device. The pedestal mounted damp box shall be a tilt type, permitting the top front edge of the damp box to be adjusted when in a tilted position to 32 $\pm$ 1-inch from the floor.

3.5.2.1.1 Legs. Damp box legs shall be fabricated from ferrous metal and the overall height at the front top edge shall be 32 $\pm$ 2 inches. The leg design shall be such that the damp box will support 75 pounds of damp laundry.

3.5.2.1.2 Support, laundry holder assembly. The support shall be of ferrous metal and shall be fastened to the pedestal. The support shall be designed so that the laundry holder in the fixed position is tilted at a 30° to 45° angle with the horizontal plane, or can be manually tilted and fixed at this angle by use of a hand release catch. When legs are furnished, the construction of the laundry holder bottom shall be sloped at a 30° to 45° angle from horizontal.

3.5.2.2 Laundry holder assembly. The laundry holder shall be of welded construction from a commercial grade of corrosion-resisting steel sheet not less than 0.045 inch thick, except carbon steel wire or rod shall be permitted as a stiffener for the top edge provided it is enclosed by corrosion-resisting steel. Construction shall be such that the laundry holder legs or pedestal will hold 75 pounds of damp laundry without showing signs of buckling or bulging (see 4.4.3.2). The finished dimensions of the laundry holder shall be not less than 28 inches long by 19 inches wide by 13 inches deep. The top edges of the laundry holder shall be well rounded and there shall be no sharp edges or burrs that might damage laundry.

3.5.3 Item 4 - Ironing board, laundry, commercial. The ironing board shall be equipped with a sleeve board and shall have a galvanized ferrous sheet metal ironing board top mounted on a ferrous-metal frame 33 $\pm$ 1 inch high. The base of the frame shall have three or more holes to accommodate anchor bolts.

3.5.3.1 Ironing-board top. The ironing-board top shall be not less than 0.0591 inch thick, perforated and formed to provide rigidity. The top shall be 50 inches $\pm$ 2 inches long and shall be tapered from 8 inches $\pm$ 2 inches wide at the small end to 14 inches $\pm$ 2 inches wide at the large end.

3.5.3.2 Sleeve board. The sleeve board shall be made of the same type of material as the ironing-board top. The board shall be 24 $\pm$ 1 inch long by 6 $\pm$ 1/4 inch wide at the large end, and 2-1/2 $\pm$ 1/4 inch wide at the small end. The sleeve-board design shall permit it to swing or drop clear of the operational space when the board is not in use.

3.5.3.3 Covering. The ironing-board top and sleeve board shall be padded with a heavy knitted cotton pad, double-faced cotton flannel, or table felt and a tailored cotton cover complete with drawstrings and retaining springs.

3.5.3.4 Accessories. Accessories shall consist of a dampening cup of corrosion-resistant metal or enameled iron; an iron rest; a swivel-suspension bracket with cord and outlet for plugging in the electric iron; pilot

light; and on and off switches. The pilot light and switches shall operate as intended when tested as specified in 4.4.2. The accessories shall be fitted or supported on the board so that the entire outfit is self-contained.

3.5.4 Item 6 - Spray gun, laundry, commercial. A gun for spraying clothing with steam condensate shall be provided. The gun shall be supplied with not less than 4 feet of hose suitable for use with a steam pressure of 125 psig complete with fittings and a safety shutoff valve at the end of the hose where connection is made with condenser or waterline. The hose shall be provided with an 8 inch or larger corrosion-resistant metal or cadmium plated steel hanging spring for suspending the gun near the work to be sprayed and within convenient reach of the operator. The spring shall be mounted on the hose in such a manner as not to damage the hose. The gun shall be either the pistol type or the squeeze type. The squeeze type shall operate by squeezing the lever on the side. The gun shall be supplied with a brass or copper alloy finned chamber designed for condensing steam and storing this condensate under pressure. The working parts that come in contact with the condensate shall be fabricated from brass or corrosion-resistant metal. The chamber and steam line shall not leak when tested as specified in 4.4.1.

3.5.5 Item 7 - Starch cookers, laundry. Sizes 2 and 3 starch cookers shall be of 25 and 50-gallon capacity, respectively. Assembled starch cookers shall show that the assembly of components has complete and proper interrelationship and that the cookers operate without leaks and structural failures. Conformance to the above requirements shall be determined when tested in accordance with 4.4.2.

3.5.5.1 Shells. The starch cooker shall have an exterior shell of copper or of corrosion-resistant metal specified in 3.3.1, not less than 0.022 inch thick. Starch cooker interior shall be made of copper or corrosion-resistant metal. The space between the shells shall be filled with asbestos or other approved heat insulating material at least 1-1/2 inches thick to prevent sweating and radiation of heat. The outer shell shall be riveted or welded to a metal bottom mounted on legs having holes for securing the cooker in position.

3.5.5.2 Cover and handle. A hinged cover with handle shall be provided and fixed to the shell. The cover shall be fabricated from the same type of material as the shell and be of such thickness and form to prevent buckling when in normal use. The handle shall be formed from the same type of material as the cover or shall be cast from brass or copper alloy. The hinge shall be cast from brass or copper alloy with a fixed brass pin.

3.5.5.3 Steam and condensate connection. The cooker shall be provided with a steam charger to provide heat and mixing action to the cooker. Means shall be provided to eliminate condensate from the steam supply lines.

3.5.5.4 Drawoff cock. A brass drawoff cock shall be provided in the side at the bottom of the shell.

3.5.5.5 Graduated scale. The cooker shall have an attached graduated scale or suitably embossed rings for each 5 gallons on 25-gallon cookers and for each 10 gallons on the 50-gallon cooker to indicate the amount of starch contained.

3.5.6 Item 10 - Tables, shirt, finishing, laundry, commercial. Tables, shirt finishing (folding) shall be type I for manual operation and type II for semiautomatic operation.

3.5.6.1 Type I. The type I table shall consist of a ferrous metal frame including legs, and shall have a corrosion-resisting steel top or a ferrous metal top covered with plastic or other noncorrosive material. The top shall have a foot or manually controlled electrically heated collar finishing and shaping mold fitted into it and, in addition, shall have a recessed well to hold a supply of shirt bands. A hinged, nonferrous or suitably plated metal shirt board about which the shirt may be uniformly folded (the folded shirt shall be 8 $\pm$ 1/2 inch by 12 $\pm$ 1/2 inch), and a spring loaded over-center shirt clamp, shall be supplied. A ferrous metal shelf for receiving the folded shirts shall be attached to the rear of the table and shall extend the full length of the table. When tested as specified in 4.4.2, the equipment shall fold shirts by pedal or manual operation and moving components shall operate.

3.5.6.2 Type II. The type II table shall consist of a table equipped with an air or hydraulically operated folding mechanism which shall automatically, at the will of the operator, fold the sleeves and sides of a shirt over a folding plate or the design may permit the sleeves to be folded manually. The tail folds shall be accomplished manually so the folded shirt is 8 $\pm$ 1/2 inch by 12 $\pm$ 1/2 inch. The table shall have a ferrous metal frame, including legs, and shall have a corrosion-resisting steel top or, in lieu thereof, a ferrous metal top covered with plastic or other noncorrosive material. The top shall have a recessed, manually controlled, air operated (expanding and contracting) and electrically heated collar form, and a recessed well to hold a supply of shirt bands. The folding plate and the folding arms shall be of nonferrous material and the folding plate shall be equipped with clips to hold shirt boards. Upon completion of the fold, at the will of the operator, the collar form shall contract and the folding plate shall raise for easy removal of the folded shirt.

3.5.7 Item 11 - Tank, soap, laundry, commercial. Unless otherwise specified (see 6.2), the soap tank shall be cylindrical. The tank shall be of the following sizes:

Size 1 - 30-gallon.
Size 2 - 60-gallon.
Size 3 - 100-gallon.
Size 4 - 200-gallon.
Size 5 - 500-gallon.

3.5.7.1 Tank. The tank shall be constructed of galvanized ferrous metal or corrosion-resistant metal not less than 0.070 inch thick. The bottom shall be flanged, riveted, and soldered or welded to the side. Assembled soap tanks shall show that the assembly of components has complete and proper interrelationship and that the tanks operate without leaks or structural failures. The soap tank shall be tested as specified in 4.4.2.

3.5.7.1.1 Reinforcement. The top shall be reinforced by a band or outwardly extending flange not less than 1/2 inch wide.

3.5.7.1.2 Fittings. The tank shall be fitted with a brass drawoff cock not less than 3/4 inch NPT in diameter. The tank shall also have a 3/8-inch I.D. brass steam line to the bottom of the tank with a shutoff valve 4 inches NPT above the tank top, and a 3/8-inch I.D. brass waterline complete with a 3/8-inch NPT globe shutoff valve for the 30-gallon soap tank and a 3/4-inch NPT globe shutoff valve for the 60 and the 100-gallon soap tanks. The 200-gallon soap tank shall have a 1-1/2 inch NPT globe shutoff valve and the 500-gallon soap tank shall have a 3-inch NPT globe shutoff valve. The tank shall be mounted on ferrous metal legs, hot-dipped galvanized finish, of sufficient height so that the drawoff cock is a minimum of 14 inches above floor level.

3.5.7.1.3 Steam agitator. The steam agitator shall be of the jet type with sufficient openings to distribute the steam and reduce the resultant noise (see 4.4.2). The agitator shall be fabricated from brass.

3.5.8 Item 12 - Handcarts, shirt, garment, and bundle. The handcarts shall be type I, II, or III.

3.5.8.1 Type I. Shirt handcarts shall consist of four bins, each 10-1/2 $\pm$ 1/4 inch wide by 18 $\pm$ 1/2 inch deep, by 45-1/2 $\pm$ 1 inch high. It shall be of all steel construction mounted on 3-inch swivel casters. A hinged locking-type grill 3-3/4 $\pm$ 1/2 inch wide shall be attached to each side of the front of each bin in such a manner that it may be swung open for the unobstructed loading or unloading of shirts in each bin and can be closed and locked in the closed position to prevent shirts from falling out during transit. When in the open position the grill shall

remain open until manually closed and locked. Overall dimensions shall be 66-1/2 ± 1 inch high by 19 ± 1/2 inch deep by 45 ± 1 inch wide. The unit shall be of rigid construction, collapsible, or of knockdown construction that is easily assembled.

3.5.8.1.1 Frame and body. The frame of the type I handcart shall be constructed of steel wire, rods, angles, pipe, or round tube and mounted on four casters. The body of the bins shall be made of steel wire. All joints, cross wires, rods, angles, tube, and bin dividers shall be securely welded and there shall be no sharp edges which could damage shirts. when the handcart is all wire or rod construction, the two ends used for pushing the handcart shall be constructed so that the periphery of each end of the frame and bins is made of one continuous wire or rod. The two ends of the continuous piece of wire or rod shall terminate at any point other than the connection to the casters. When separate designs are used for frame and bins (e.g. round tube or angles for frame and wire for bins), the end of the handcart frame shall extend to such a height that all pushing and pulling effort will be transmitted to the frame instead of the wire bin. The finished shirt handcart shall be capable of supporting a load of not less than 250 pounds of shirts, evenly distributed in the bins, without showing any signs of distortion to any member of the bins, supporting frame, or the caster (see 4.4.3.1).

3.5.8.1.2 Casters. The handcart shall be mounted on four removable casters equipped with neoprene tires not less than 3 inches in diameter. The casters shall be ball bearing, swivel-type of the stem- or plate-type design. The stem of stem-type casters shall fit the corresponding socket, and shall securely hold the caster in the correct position under loading conditions specified in 3.5.8.1.1. When plate-type casters are supplied, each caster shall be securely mounted to the frame by four bolts. The bolts shall be zinc or cadmium plated steel. Each caster shall have a rated capacity of not less than 100 pounds.

3.5.8.1.3 Finish. Steel wire or rods used for the body shall be electrozinc plated, not less than 0.0002 inch thick. The remainder of the handcart shall have either the same type and thickness of zinc plating or be finished in accordance with the manufacturer's standard practice.

3.5.8.2 Type II. Garment handcarts shall conform to the requirements for shirt handcarts specified in 3.5.8.1 through 3.5.8.1.3, except as follows: The dimensions of the four bins shall each be 15 ± 1/2 inch wide by 18 ± 1/2 inch deep by 30 ± 1 inch high and the overall dimensions shall be 60 ± 1/2 inch wide by 19 ± 1/2 inch deep by 53 ± 1 inch high. The garment handcart shall be capable of supporting a load of not less than 300 pounds of garments, evenly distributed in the bins, without showing any signs of distortion to any members of the bins, supporting frame, or the casters (see 4.4.3.1).

3.5.8.3 Type III. The bundle handcart shall be all steel construction and shall consist of two shelves, enclosed at the back and each end by steel wires or rods and mounted on a steel supporting frame, thereby forming two bins (top and bottom). The frame shall be mounted on six casters. Overall dimensions shall be 66 ± 4 inches long by 20 ± 1 inch deep by 65 ± 3 inches high. The unit shall be of knock-down construction and capable of being assembled without special tools. The assembled handcart shall support a load of not less than 500 pounds, evenly distributed on the top and bottom shelves and in the two bins, without showing any signs of distortion to any member of the shelves, bins, supporting frame, or casters when tested as specified in 4.4.3.1.

3.5.8.3.1 Frame and bins. The supporting frame of the bundle handcart shall be constructed of steel. Framing members shall support the front, back, and each end of the two shelves. There shall be end framing members formed to extend from the bottom of the lower shelf frame to not less than 4 inches above the upper shelf and across the width of the bins and down to the bottom of the lower shelf frame. The lower shelf shall be 8 ± 1-1/2 inches from the floor. The end framing members which extend above the upper shelf shall be constructed to allow the handcart to be pushed or pulled by hand, and fabricated so that these forces will be transmitted to the frame. The ends, back and top of the shelves forming the bins shall be fabricated of steel wire or rod. All joints, cross wires, or rods shall be securely welded. The top shelf shall be 28 ± 2 inches above the bottom shelf.

3.5.8.3.2 Casters. The handcart shall be mounted on six removable casters of the ball bearing type equipped with neoprene tires. Two rigid type casters with 6-inch diameter wheels shall be mounted at the center with one each near the outside edges of the unit. Each corner of the handcart shall be equipped with a swivel-type caster of the stem or plate-type design having a 3-inch diameter wheel. The stem of stem-type casters shall fit the corresponding socket and be of such design as to permit securely holding the caster in the correct position when tested as specified in 4.4.3.1. When plate-type casters are supplied, each caster shall be securely mounted to the frame by four bolts. The bolts shall be zinc or cadmium plated steel. Each caster shall have a rated capacity of not less than 300 pounds.

3.5.8.3.3 Finish. The frame members shall be finished in accordance with the manufacturer's standard practice and the bins and shelving shall be electro-zinc plated in accordance with the manufacturer's standard practice.

3.5.9 Item 13 - Truck, hand, box. The box hand truck, herein called tub truck, shall be constructed so that all body seams, joints, and rivet connections are watertight. When tested as specified in 4.4.2, the body shall not leak or show structural failure. The truck shall be 32 inches long by 22 inches wide by 25 inches deep.

3.5.9.1 Fabrication. The tub body (sides and ends) shall be fabricated from corrosion-resistant metal, 0.033 to 0.045 inch thick. The sheet shall be double-lock seamed or lap jointed. Double-lock seams shall be soldered and lap-jointed seams shall be welded. Seams shall be vertical and all corners shall be rounded. The top of the body shall be stiffened by a strap of the same type of material as the body and not less than 0.114 inch thick by 1 inch wide, riveted to the body, or the top edge of the body may be rolled over a corrosion-resistant metal rod not less than 1/2 inch in diameter, and the body material spotwelded to the reinforcing band. The body shall be reinforced with straps of corrosion-resistant metal not less than 0.114 inch thick, located at the middle and bottom of the tub and riveted to the body. All vertical edges and horizontal top edges shall be rounded. The tub truck shall taper 3 inches to permit nesting.

3.5.9.2 Tub bottom. The bottom of the tub shall be made of one piece of the same type of material as the body, not less than 0.045 inch thick, and shall be flanged and secured to the body, side, and ends. All joints or seams shall be soldered or welded. A 1-inch brass drain cock and threaded adapter shall be attached to the bottom of the tub at one end.

3.5.9.3 Chassis. The tub chassis shall consist of corrosion-resistant metal straps 3/16 inch thick by a minimum of 3 inches wide. The straps shall extend across the bottom for both the entire length and width and shall be fastened to the tub body by corrosion-resistant metal rivets or welded to the bottom band and the bottom band fastened to the tub body by corrosion-resistant metal rivets.

3.5.9.4 Casters. Each tub shall have four casters,with tires of phenol-resin compound with macerated fabric and cord filler, mounted on the bottom straps or framework in accordance with commercial practice. The side caster wheels shall be at least 5 inches in diameter. The front and back casters shall be of the swivel type with wheels at least 3-1/2 inches in diameter.

3.5.10 Item 15 - Tub, laundry, stationary. The laundry tub shall have two compartments. The tub shall be watertight and constructed of corrosion-resisting metal not less than 0.033 inch thick and suitably stiffened. There shall be no leaks or structural failures when tested in accordance with 4.4.2.

3.5.10.1 Height and compartment size. The total height, including legs, shall be 33 to 36 inches. Each compartment of the tub shall be 24 by 24 inches $\pm$ 1/2 inch at the top and 16 $\pm$ 1 inch deep.

3.5.10.2 Legs. Not less than four rigid metal legs shall be securely attached to the tub and shall have feet with suitable holes to receive anchor bolts.

3.5.10.3 Drain and plug. The bottom of each compartment shall be fitted with a strainer and a drain connection for a 1-1/2-inch O.D. pipe. The drain from each compartment shall be connected to a common brass pipe located under the tub. A corrosion-resisting metal or rubber waste plug with a corrosion-resisting metal chain shall be provided in each compartment.

3.5.11 Item 16 - Rack, garment, laundry with casters. The garment rack shall be of knockdown construction and as shown in figure 1. Figure 1 is illustrative and not restrictive in the design of the garment rack. The rack shall be fabricated of material specified in 3.3.3, except that the base material and its design shall be in accordance with the manufacturer's standard practice. The rack shall be 72 inches high, plus or minus 1/2 inch, the length of the top bar shall be 60 inches, plus or minus 1/2 inch. A minimum of 57 inches, plus or minus 1/2 inch shall exist between the upper and lower crossbars and not less than 20 inches and not more than 24 inches between the front and rear casters. The rack base assembly shall be mounted on four removable casters equipped with neoprene tires not less than 5 inches in diameter. The casters shall have a minimum load capacity of 175 pounds each, swivel type ball bearing and of the stem design. The stem shall fit the corresponding socket and shall securely hold the caster in the correct position under load conditions. The garment rack or casters shall show no evidence of permanent deformation fracture of components or unsteadiness when loaded with 600 pounds evenly distributed when tested as specified in 4.4.2.

3.5.11.1 Finish. The surface of the crossbars and uprights shall be chromium plated, and the base when applicable shall be finished, in accordance with the manufacturer's commercial practice. The chromium plating shall be continuous, smooth, dry film, and shall be free from imbedded foreign matter and area of no film.

3.6 Workmanship. The items shall be free from defects such as fractures, splits, punctures, tears, dents, creases, miscasts, or deterioration. There shall be no sharp edges, burrs, or slivers.

3.6.1 Application of finish. The finish applied to the end item shall be continuous smooth, adherent, without discoloration or foreign material imbedded and contain no sags, runs, drips, creeps, laps, bubbles, streaks, wrinkles, blisters, cracks, scratches, pores, pits, lumps, flux, or orange peel. No rust, rough grinds, or toolmarks shall show through the coating.

3.6.2 Welding and brazing. Electrodes or welding rods shall deposit material compatible with the base metal. All surfaces of parts to be welded or brazed shall be clean. Welding and brazing shall be accomplished

in a manner which will prevent the occurrence of burn holes, cracks, fractures, or incomplete fusion. All scale and flux deposits shall be removed from finished welds.

3.6.3 Soldering. Soldering shall be complete and adherent with all flux and residue removed and shall contain no pinholes.

3.6.4 Threaded fasteners. Threaded fasteners shall not be broken, stripped, fractured, or loose.

3.6.5 Rivets. Rivets shall be driven to completely fill the holes, with full size heads neatly finished and in full contact with the surface of the riveted members.

3.6.6 Electrical wiring. Wiring shall not be cut, abraded, or have excessive insulation stripped, and shall be properly and tightly joined at terminals. Wiring shall have adequate slack to provide strain relief.

3.6.7 Dimensions. Unless otherwise indicated, dimensions specified herein shall be held to a tolerance of plus or minus 10 percent.

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 in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by 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 First article inspection. When a first article is required it shall be examined for defects listed in table II, specified dimensions, and tested as specified in 4.4.1 through 4.4.3.2, as applicable. The presence of any visual defect, any dimension not within the specified requirements, or failure to pass all tests shall be cause for rejection of the first article.

4.3 Inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

4.3.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected and tested in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification, or applicable purchase document.

4.3.2 End item inspection. A lot shall consist of all units of the same item type, and size, as applicable, offered for inspection at one time. The sample unit shall be one completely fabricated end item.

4.3.2.1 Visual examination. The completely assembled end item shall be examined for defects classified in table II. The inspection level shall be level II with an Acceptable Quality Level (AQL) of 2.5 for major defects and 6.5 for total defects, expressed in terms of defects per hundred units.

TABLE II. Classification of defects

Examine	Defect	Classification Major	Minor
Finish	Type of finish not as specified.	X	
	Blistered, peeled, chipped, or area of no film.		X
Construction and workmanship, general (applicable to all components and assemblies)	Fractured, split, punctured, dented, or deteriorated.	X	
	Sharp burr, edge, sliver, or splinter.	X	
	Component loose.		X
	Not connected or joined as specified.	X	
	Anchor boltholes not provided when required.	X	
	Any component not readily accessible for servicing where required.		X
Welding and brazing (where required)	Incomplete, burn holes, cracked, fractured, or otherwise not fused.	X	
	Slag inclusion, slight undercut, not smooth and uniform, scale or flux deposits not removed.		X
Soldering (when applicable)	Not adherent or is incomplete.	X	
	Not clean (flux or flux residue not removed), not smooth (surface not finished neatly), or pinholes in solder.		X

TABLE II. Classification of defects (Con.)

Examine	Defect	Classification Major	Minor
Construction and workmanship, general (Con.)			
Threaded fasteners	Missing, broken, stripped, fractured	X	
	Loose.		X
Rivets (when applicable)	Broken, loose, not peened, or insufficiently peened.	X	
Electrical assembly	Wiring cut, abraded, not properly joined, loose at terminal.	X	
	Adequate slack not provided for wiring to relieve strain or insulation stripped from wiring.	X	
Detailed construction			
Item 1 Collar form Steam chamber	Not rounded and tapered as specified.	X	
	Not highly polished.		X
	Steam inlet and outlet connections not provided.	X	
Item 3 Damp box height adjustment (where applicable)	Not adjustable (when applicable).	X	
	Box support not fastened to pedestal.	X	
Item 4 Ironing board	Sleeve board missing.	X	
	Top not perforated.	X	
	Covering not as specified.		X
	Accessories missing or not fitted or supported on the board.	X	
Item 6 Spray guns	Hose missing.	X	
	Corrosion-resistant metal or cadmium plated steel hanging spring not provided.	X	
	Gun not of pistol or squeeze type.	X	

TABLE II. Classification of defects (Con.)

Examine	Defect	Classification Major	Minor
Detailed construction (Con.)			
Item 7 Starch cookers	Top hinge pin not of fixed type.		X
	Steam sprayer not provided as specified.	X	
	Draw-off cock not provided in location specified.	X	
	Graduated scales not provided in locations specified.		X
Item 10 Tables, shirt, finishing	Finishing and shaping mold not as specified.	X	
	Recessed wall to hold shirt bands not provided.	X	
	Shirt board, as specified, not provided.	X	
	Shelf for receiving shirts not provided.	X	
	Folding plate not fitted with holding clips, when required.	X	
Item 11 Tank, soap	Top not reinforced as specified.	X	
	Draw-off cock missing.	X	
	Steam line with valve or water-line with valve missing (when required).	X	
	Fittings and lines not as specified.	X	
	Steam agitator not provided.	X	
Item 12 Handcarts Shirt, type I, and garment, type II	Hinged grills on front missing or not as specified.	X	
	The two ends of continuous wire or rod terminating at any point other than connection to the casters.	X	
	Casters missing or inoperative.	X	
	Stem type casters not securely held in sockets.	X	

TABLE II. Classification of defects (Con.)

Examine	Defect	Classification Major	Minor
Detailed construction (Con.)			
Bundle type III	Not of knockdown construction.	X	
	End frames not constructed for pulling or pushing of the hand-cart by hand.	X	
	Casters missing or inoperative.	X	
	Plate type casters not mounted by bolts.	X	
	Stem type casters not securely held in sockets.	X	
Item 13 Truck, hand, box	Sides not tapered as specified.	X	
	Seams not double-lock or lap jointed.		X
	Body seams not vertical.		X
	Body corners not rounded.	X	
	Top of body not stiffened or reinforced as specified.	X	
	Body not reinforced as specified.	X	
	Body not of one piece of material.	X	
	Drain-cock missing or not in specified location.	X	
	Chassis straps missing or not of the size and in the locations as specified.	X	
	Casters not of the sizes specified.	X	
	Drainboard missing or not removable.		X
Item 15 Laundry tub	Legs not securely attached to tub.	X	
	Drain and plug missing or not in location specified.	X	
	Strainer missing.	X	
	Waste plug with chain missing or not in location specified.	X	
Item 16 Rack garment	Not knockdown construction.		X
Marking for identification	Missing, incomplete, not legible.		X

4.3.2.2 Dimensional examination. Inspection shall be made of the end item to determine compliance with dimensional requirements. Any dimension that is not within the specified requirements shall be classified a defect. The inspection level shall be S-2 with an AQL of 4.0 defects, expressed in terms of defects per hundred units.

4.3.2.3 Testing of end product. When a first article is not required, the initial unit of production shall be tested as specified in 4.4.3, as required (see 6.3). Failure of this test shall be cause for rejection of the initial unit and all units produced. Each unit of production shall be tested as specified in 4.4.1 when steam operated or 4.4.2, as applicable. Failure to pass test shall be cause for rejection of the unit tested.

4.4 Test.

4.4.1 Hydrostatic pressure test. Steam lines, fittings, and chambers carrying steam shall be tested with 250 psig hydrostatic pressure for not less than 15 minutes. Any leaks shall constitute failure of the test.

4.4.2 Operational testing. The following items covered by this specification shall be operational tested by the supplier to determine compliance with the requirements specified in section 3 and listed as follows. Each power operated item shall be connected to electric power of the specified voltage, frequency, and number of phases, air, and hydraulic power as required, and tested as specified to determine that the applicable performance requirements have been met.

Item 4 - Ironing board. The ironing board shall be plugged in and the switch moved to the "on" position. Failure of the pilot light to light or failure of the switch to operate shall constitute failure of this test.

Item 7 - Starch cookers, laundry. The starch cookers shall be filled with water to determine that the capacity is as specified. Any leaks or structural failure shall constitute failure of this test.

Item 10 - Tables, shirt, finishing, laundry, commercial. The type I shirt finishing (folding) table, shall be operated to determine that the foot or manually controlled electrically heated collar finishing and shaping mold functions satisfactorily and that the assembled item complies with the requirements of 3.5.6.1. Any failure to fold shirts shall constitute failure of this test. The type II shirt finishing folding table, semiautomatic operation, shall be operated to determine that the manually controlled, air

operated and electrically heated collar form functions satisfactorily and that the assembled item complies with the requirements of 3.5.6.2. Any failure to fold shirts shall constitute failure of this test.

Item 11 - Tanks, soap, laundry, commercial. The tank shall be filled with water to determine that the capacity is as specified and agitator operated. Any leaks, structural failure of the agitator to function shall constitute failure of this test.

Item 13 - Truck, hand, box. The truck shall be filled with water and examined for leaks and structural failure to determine compliance with the requirements of 3.5.9. Any leaks or structural failure shall constitute failure of this test.

Item 15 - Laundry tub. The compartments of the laundry tub shall be filled with water and the tub assembly examined for leaks and structural failure to determine compliance with the requirements of 3.5.10. Any leaks or structural failure shall constitute failure of this test.

Item 16 - Static load. The garment racks shall have 600 pounds in weight evenly distributed over the upper cross bar of the garment rack. The weight shall remain in position for a period not less than 5 minutes. The garment rack shall be examined to determine compliance with 3.5.11. Any deformation, fractures, or unsteadiness shall constitute failure of this test.

4.4.3 Functional testing.

4.4.3.1 Load test (handcarts, shirt, garment, and bundle). The shirt, garment, and bundle handcarts shall be uniformly loaded with 250, 300, and 500 pounds respectively, and rolled over three 1/2- by 3-inches wide by 24 inches long wood strips lying flat and held stationary on the floor. The wood strips shall be placed a minimum of 10 feet apart perpendicular to and lengthwise across the line of travel of the handcart and so all casters come in contact with the wood strips. Ten round trips shall be made over the three wood strips at a minimum speed of 5 feet per second. Any distortion to bin members, supporting frame, or casters shall constitute failure of the test.

4.4.3.2 Load test (damp box, laundry presswork). The damp box assembly shall be loaded with 75 pounds of damp laundry or the equivalent weight. With this load, the pedestal mounted box shall be tilted at 45° and examined to determine compliancy with the requirements specified in 3.5.2, 3.5.2.1.1. Any tipping over or buckling or distortion shall constitute failure of this test. The leg mounted damp box shall be loaded with 75 pounds of damp laundry or the equivalent weight. Any distortion or buckling shall constitute failure of this test.

4.5 Examination of preparation for delivery. Examination of preparation for delivery shall be in accordance with MIL-L-3153.

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, and packing. Laundry equipment shall be preserved, packaged, and packed in accordance with applicable level A, B, or C requirements of MIL-L-3153 (see 6.2).

5.2 Marking.

5.2.1 Civil agencies. In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with FED-STD-123.

5.2.2 Military requirements. In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The miscellaneous laundry equipment items covered by this specification are intended for use in fixed laundry installations.

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

(a) Title, number, and date of this specification.
(b) Item number, type and size required (see 1.2.1).
(c) When a first article is required (see 3.1, 4.2 and 6.3).
(d) Electrical characteristics required (voltage, phase, and frequency) (see 3.4.1).
(e) Finish if other than manufacturer's standard finish is required (see 3.4.6).
(f) Shape of soap tank when other than specified (see 3.5.7).
(g) Selection of applicable levels of preservation, packaging, and packing (see 5.1).

6.2.1 Contract Data Requirements. Any requirements for equipment manuals for the item covered by this specification should included in DD Form 1423 Contract Data Requirements List and cited in the contract.

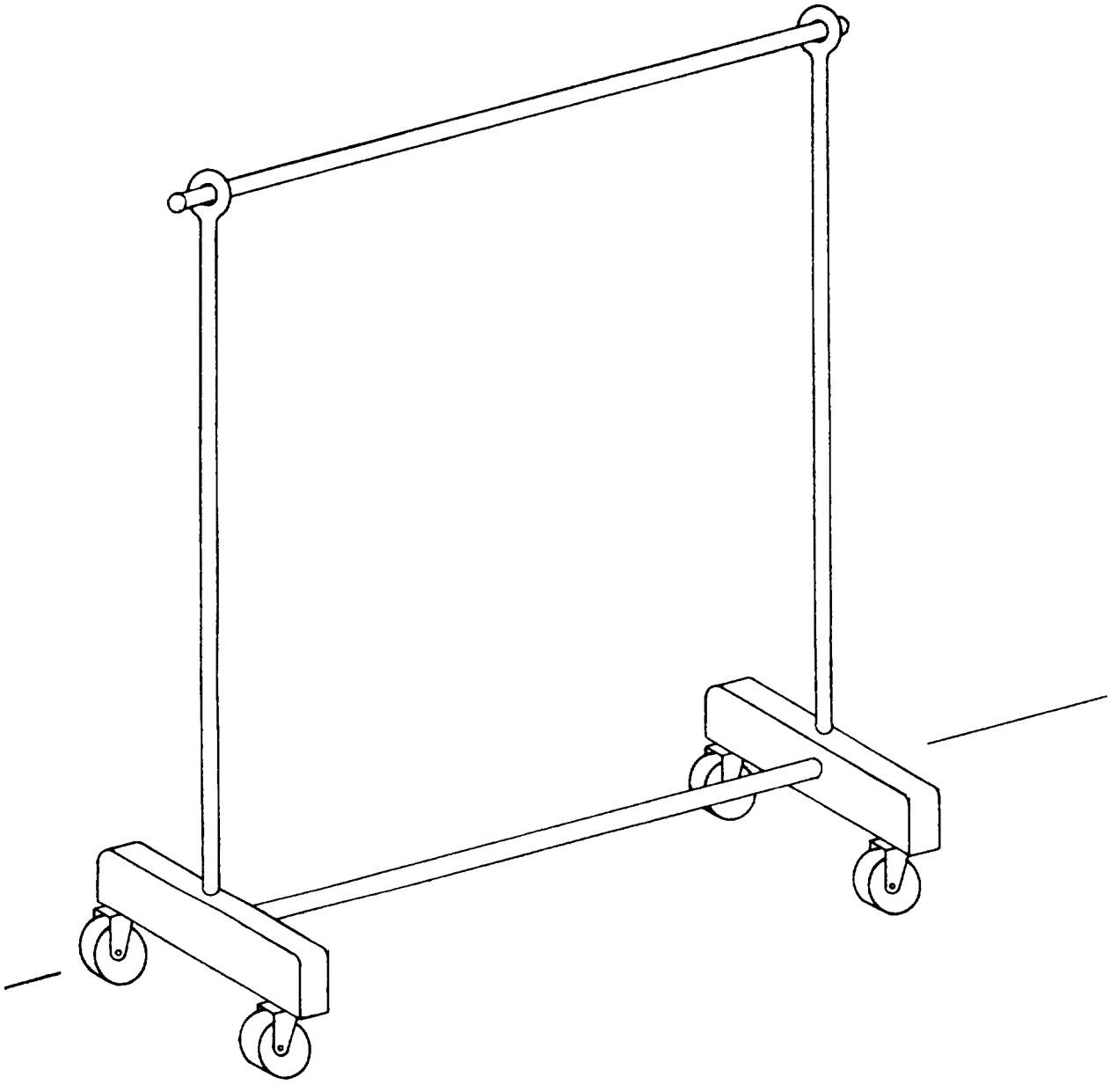

FIGURE 1. - Rack, garment, laundry, w/casters.

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of ASPR 7-104.55. The first article should consist of one unit of the item specified. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

6.4 Successful commercial operation. Invitation for bids should specify that no item of equipment will be acceptable (see 4.3.2.3) unless the manufacturer has had equipment of approximately the same type and size as that specified operating successfully in a commercial or institutional laundry or laundries for at least one year. Equipment installed for test purposes in a manufacturer's plant or laboratory shall not come within the category of successful commercial operation.

6.5 Supersession data. Classification changes between 00-L-131J dated November 6, 1969, and 00-L-131K are as follows:

00-L-131J	00-L-131K
Item 2.	Deleted.
Items 5.	Deleted.
Item 11.	Added size 4 and size 5.
Item 14.	Deleted.
	Item 16 - Added.

6.6 This specification includes the requirements of IP/DES 24-9, dated December 16, 1969.

MILITARY CUSTODIANS:

Army - GL
Navy - YD
Air Force - 84

Review activities:

Army - MD
Navy - MC

User activity:

Army - CE

Preparing activity:

Army - GL

Civil Agency Coordinating Activity:

VA
DMS

Project No. 3510-0109

☆ U. S. GOVERNMENT PRINTING OFFICE : 1972 O - 482-193 (3309)

Orders for this publication are to be placed with the General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein. Price 20 cents each.

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 22-R255

INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.

SPECIFICATION
00-L-131K Laundry Equipment, Miscellaneous, Commercial

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A
☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?
   A. GIVE PARAGRAPH NUMBER AND WORDING.

   B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?
   ☐ YES ☐ NO *(If "yes", in what way?)*

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity - Optional)*

DATE

DD FORM 1 JAN 66 1426

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.