

MIL-R-10964A

18 MARCH 1952

SUPERSEDING

MIL-R-10964(SigC)

23 FEBRUARY 1951

MILITARY SPECIFICATION
RACKS, ELECTRICAL EQUIPMENT
(RACK MT-452()/F and RACK MT-453()/F)

This specification was approved by the Departments of the Army, the Navy, and the Air Force for use of procurement services of the respective Departments.

1. SCOPE

1.1 This specification covers the requirements for prewired steel racks designed to provide mounting facilities for standard 19 inch wide electrical panel equipment.

2. APPLICABLE SPECIFICATIONS, STANDARDS, DRAWINGS, AND PUBLICATION

2.1 The following specifications, standards and drawings of the issue in effect on date of invitation for bids, form a part of this specification:

SPECIFICATIONS**MILITARY**

JAN-P-106 —Packaging and Packing for Overseas Shipment—Boxes; Wood, Nailed.

JAN-P-116 —Packaging and Packing for Overseas Shipment—Preservation, Methods of.

STANDARDS

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129—Marking for Shipments.

DRAWINGS**SIGNAL CORPS**

SC-D-26184 —Rack MT - 452()/F Drawing and Data List.

SC-D-26167 —Rack MT - 453()/F Drawing and Data List.

(Copies of specifications, standards and drawings required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Preproduction sample approval. — After award of contract the contractor shall manufacture 1 of each rack on order for approval. Tools and processes used shall be similar to those which will be used in quantity production. The samples shall be submitted for inspection and test to the bureau or agency concerned. If the samples are disapproved, the contractor will be required to furnish additional samples until a satisfactory sample has been submitted. Such additional samples shall be accompanied by a description of the changes which have been incorporated in the new samples to correct the faults of the rejected samples. When approved, samples will be returned to the contractor, who shall keep them intact and readily available for use by the Government inspector. Approval of the submitted sample shall not be construed as authorizing any waiver of the requirements.

3.1.1 *Marking and shipping.* — Samples shall be marked and shipped by the contractor as specified (see 6.1).

3.2 *Materials and construction.* — Materials, processes and construction shall be as

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specified herein or as shown on the applicable drawings listed in 2.1. Construction shall be rugged throughout and capable of withstanding rough shocks.

3.3 Welding.—Welds shall be of ample size with thorough penetration and good fusion and shall be free from scabs, blisters, abnormal pockmarks, bruises, or other surface defects. Where undesirable internal stresses may result from welding, the welded assembly shall be annealed to relieve the stresses. Welds shall be cleaned of scale, oxidation products, and excess flux by sandblasting, wire brushing, or other suitable means. Acid used for cleaning shall be completely neutralized and removed. Electrodes used for arc welding shall be of a type that will produce a weld having chemical and physical properties similar to those of the parent metal. Where tack or spot welds are employed to secure parts permanently, the number of welds shall be sufficient to provide adequate strength and at least 2 welds shall be used to hold each part. Grinding of joints shall be reduced to a minimum.

3.4 Cleaning.—Metal parts shall be cleaned in accordance with good commercial practice. Cleaning processes shall have no visible or latent, deleterious effect on the equipment. Corrosive material shall be removed completely before parts are assembled. After assembly the entire structure shall be thoroughly cleaned. Wiring and wired parts shall be thoroughly cleaned and shall be free from superfluous particles of solder or other foreign material.

3.5 Workmanship.—Workmanship shall be first class in every respect. All components, and the finished rack shall be free from any defect which might affect either serviceability or appearance.

4. SAMPLING, INSPECTION, AND TEST PROCEDURES

4.1 Preproduction inspection and test.—Samples forwarded as preproduction samples

in accordance with 3.1 shall be inspected and tested by the Government as specified in 4.4, 4.5, and 4.6.

4.2 Contractor's inspection.—Before being offered for acceptance on the contract, racks shall be inspected by the contractor for compliance with this specification. Inspection shall take place at the point of manufacture as specified (see 6.1). If a Government inspector is not assigned to observe such inspection, the contractor may be required to furnish satisfactory evidence of proper inspection such as certificates of compliance or certified test data.

4.3 Government acceptance inspection.—Inspection shall be conducted by the Government inspector as specified in 4.4, 4.5, and 4.6 when racks are submitted for acceptance on the contract. At the discretion of the contracting officer inspection may be conducted by either of the following methods:

- (a) 100 percent inspection and non-destructive testing
- (b) Statistical sampling with an acceptable quality level as specified in Table I in accordance with Standard MIL-STD-105.

<i>Inspection</i>	<i>Par.</i>	<i>Acceptable Quality Level</i>	
		<i>Major</i>	<i>Minor</i>
Visual and Mechanical	4.4	1% defective	4% defective
Continuity	4.5	1% defective	---

4.3.1 Inspection lots.—When required by the Government inspector, racks shall be submitted for acceptance inspection in discrete lots. The size of the lots and the manner in which they are formed shall be as specified by the Government inspector.

4.4 Visual and mechanical inspection.—A visual and mechanical inspection of the rack shall be made. Particular attention shall be given to the following:

- (a) Completeness
- (b) Fit of parts in their proper positions

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- (c) Loose nuts, screws and other fastenings
- (d) Wiring and ground connections
- (e) Welds
- (f) Finish
- (g) Quality of workmanship

4.5 Continuity test.—Electrical continuity of all wiring and ground connections shall be checked by a point-to-point test, or by an alternate test approved by the contracting officer, such as an operating test which inherently checks electrical continuity.

4.6 Inspection of welding.

4.6.1 Test.—In addition to visual inspection of welds, representative samples shall be prepared, whenever required by the Government inspector, and shall be inspected for undue weakening of welded material caused by the welding process. The samples shall then be tested to failure by a gradually increasing force so applied that maximum stress occurs at the welded joints and the joined parts tend to separate by tension, bending, or shear, at the weld. Failure shall not occur at the weld, and, if design is such that full strength of the joined parts is necessary, failure shall not occur in the immediate vicinity of the weld.

4.6.2 Qualification of welders.—The contractor shall be responsible that welders are fully qualified to perform the type of welding at which they are engaged. The contractor shall conduct all necessary qualification tests of welders, shall maintain test data thereof, and shall make such data available to the Government inspector. If the Government inspector considers that the work of any welder shows a lack of proficiency, that welder shall not continue to perform production welding on the equipment until he has passed a satisfactory requalification test. The Standard Qualification Procedure of the American Welding Society will be considered satisfactory for determining the ability of welders.

5. PREPARATION FOR DELIVERY

5.1 Preservation and packaging.

5.1.1 For domestic shipment.—Commercial preservation and packaging will be acceptable.

5.1.2 For oversea shipment.—Preserve and package Rack MT-452() and Rack MT-453() in accordance with Specification JAN-P-116 and further specified as follows:

5.1.2.1 Rack MT-452()/F and Rack MT-453()/F.—All loose components in the rack shall be blocked, braced and secured to prevent movement or shifting. Provide a wood mounting base with members of adequate cross section to receive the rack, riding on its back. The mounting base shall have a minimum of 6 mounting bolt holes to receive mounting bolts. Mount and secure the rack on the mounting base with flat metal strapping to prevent abrasion to rack.

5.2 Packing.

5.2.1 For domestic shipment.—The racks shall be packed in substantial commercial containers of the type, size, and kind, commonly used for the purpose, so as to afford maximum protection from normal hazards of handling and transportation and to insure acceptance at and safe delivery to the designated point by common or other carriers at the lowest applicable rate.

5.2.2 For oversea shipment.—Construct the components of a Style 2 nailed wood box conforming to the requirements of Specification JAN-P-106, modified to include a skid type base and interior diagonal bracing. Assemble the remaining components of the box over the rack, packaged as specified through 5.1.2.1 and secure to the base and skids. Strap the box as specified in the appendix of the box specification.

5.3 Marking.—In addition to any special marking required by the contract or order, interior packages and shipping containers

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shall be marked in accordance with Standard MIL-STD-129.

6. NOTES

6.1 Ordering data. — Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Place of inspection.
- (c) Marking and shipping of preproduction samples.
- (d) Whether domestic or oversea shipment is required.

6.2 Size.—Both racks are 22 inches wide and 18 inches deep but the MT-452 is 42 inches high whereas the MT-453 is 76 inches high, approximately.

Notice.—When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Custodian:

Army—Signal Corps

Other interest:

Army T

Navy S.

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 119-R004INSTRUCTIONS

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 (as indicated on reverse hereof).

SPECIFICATION

ORGANIZATION (Of submitter)

CITY AND STATE

CONTRACT NO.

QUANTITY OF ITEMS PROCURED

DOLLAR AMOUNT

\$

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)

DATE

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