

MIL-R-3211G  
16 February 1977  
SUPERSEDING  
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## MILITARY SPECIFICATION

### RACKS, STORAGE, SMALL ARMS

This specification is approved for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

- \* 1.1 Scope. This specification covers racks for use in the intermittent storage of small arms (see 6.1).

#### 2. APPLICABLE DOCUMENTS

- \* 2.1 Issues of documents. The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of the specification to the extent specified herein.

#### SPECIFICATIONS

<u>Military</u> MIL-W-13855	- Weapons: Small Arms and Aircraft Armament Subsystems, General Specification For
MIL-P-14232	- Parts, Equipment and Tools for Army Materiel, Packaging and Packing of
MIL-I-45607	- Inspection Equipment, Acquisition, Maintenance and Disposition of
MIL-C-45662	- Calibration System Requirements

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, US Army Armament Research and Development Command, ATTN: DRDAR-TST-S, Dover, NJ 07801 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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## STANDARDS

<u>Military</u>		
MIL-STD-105	-	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-109	-	Quality Assurance Terms and Definitions

## DRAWINGS

<u>Rock Island Arsenal</u>		
D6507453	-	Rack, Arm, M1920 for Automatic Pistol, Caliber .45, M911A1
F8407182	-	Rack, Arm, Submachine Gun, M7 (for Cal. .45 Sub Machine Gun)
F8429990	-	Rack, Storage, Small Arms, M11
F8449880	-	Rack, Storage, Small Arms: M12 (for M16 and M16A1 Rifle)

## PUBLICATIONS

<u>Rock Island Arsenal</u>		
F6507453	-	Packaging Data Sheet for Rack, Arm, M1920
P8407182	-	Packaging Data Sheet for Rack, Arm, Submachine Gun, M7
P8429990	-	Packaging Data Sheet for Rack, Storage, Small Arms (for M1 or M14 Rifles)
P8449880	-	Packaging Data Sheet for Rack, Storage, Small Arms, M12
IEL8429990	-	Index of Inspection Equipment List for Rack, Storage, Small Arms
QE-G-DL 8449880	-	Quality Engineering Data List for Rack, Storage, Small Arms, M12
<u>U.S. Government</u>		
SF-32	-	General Provisions

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

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

American National Standards Institute (ANSI)  
 ANSI B46.1 - Surface Texture  
 ANSI Y32.3 - Welding Symbols

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

### 3. REQUIREMENTS

\* 3.1 First article. Requirements for submission of first article shall be as specified in the contract (see 6.2). Unless otherwise specified (see 6.2), the first article shall include the pilot pack (see 5.1).

\* 3.2 Materials, construction and design. The storage racks shall conform to the material, construction and design requirements specified herein; on Drawing D6507453, F8407182, F8429990 or F8449880, as applicable; and in MIL-W-13855.

\* 3.2.1 Welding. Welding shall be as specified on the applicable drawing or of good commercial practice when not specified. Welding symbols shall be interpreted as specified in ANSI Y32.3.

### 3.3 Performance and product characteristics.

3.3.1 Locking mechanism. The opening and closing action of the master locking mechanism and the individual weapon locking device shall function smoothly without snag or bind. With the locking devices unlocked and moved to the open position, the weapon shall be easily inserted and withdrawn from the rack. With the locking devices closed and locked in position, each weapon shall be securely locked in place. The locking bar for all storage racks except for the M12 (see 3.3.2) shall be interchangeable with all racks produced by the same manufacturer.

\* 3.3.2 Locking bars, for Rack M12 (F8449880). The locking bars shall open to the right hand and left hand position without binding and shall remain in the upright open position under spring action. With the locking bars unlocked and moved to the open position, the weapon shall be easily inserted and withdrawn from the rack. With the locking bars closed and locked in position, each weapon shall be securely locked in place.

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3.4 Marking. The racks shall be marked in accordance with MIL-W-13855 and the applicable drawing.

3.5 Workmanship. Workmanship shall be in accordance with MIL-W-13855.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor 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 supplies and services conform to prescribed requirements.

\* 4.1.1 The contractor shall perform, as a minimum, inspections in accordance with the specifications, quality assurance provisions and the contract. These minimum inspections shall not be construed as relieving the contractor of his responsibilities under terms of the contract to furnish the Government with items complying with and conforming to the requirements of the contract, drawings and specifications.

4.2 Quality assurance terms and definitions. Quality assurance terms and definitions used herein are in accordance with MIL-STD-109.

\* 4.2.1 Commercial items, for purposes herein, are considered to be those items which are industry developed and manufactured and are available off-the-shelf to industry, the Government, and/or the general public.

4.3 Classification of inspection. The inspection requirements specified herein are as follows:

- a. First article inspection (see 4.4).
- b. Quality conformance inspection (see 4.5).

4.4 First article inspection. The first article (initial production unit(s)) shall be submitted for inspection in accordance with the contract (see 6.2). The first article shall be representative of the production processes to be used during quantity production. The first article shall be subjected to the quality conformance inspection specified herein and such other inspection as necessary to determine that all requirements of the contract have been met.

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\* 4.5 Quality conformance inspection.

4.5.1 Inspection lot. Unless otherwise specified (see 6.2), the formation, size and presentation of inspection lots shall be in accordance with MIL-STD-105 and MIL-W-13855. When Acceptable Quality Levels (AQL's) are specified, the AQL's shall be individually applied in accordance with MIL-STD-105.

4.5.2 In-Process control. The contractor shall establish in-process inspection at strategically located points throughout his manufacturing processes to assure continuous control of product quality. Except for unmodified Military standard and commercial parts (see 4.2.1 and 4.5.4.2), the contractor's inspection system shall provide for inspection and approval of the first piece at each operation and/or the finished part before quantity production. In addition, the contractor shall provide and maintain work gages and other measuring and testing devices necessary to accomplish inspection and control quality during his manufacturing processes.

4.5.3 Inspection records. Contractor's records of inspection shall be accurate, complete and available to the Government upon request. The contractor's records of inspection shall provide, as a minimum, the following information:

- a. Contract order number.
- b. Drawing and specification number with revision letter and revision date.
- c. Nomenclature of items inspected.
- d. Number of pieces inspected.
- e. Individual characteristics inspected.
- f. Conformance/nonconformance criteria.
- g. Description and quantity of defects found.
- h. Results of inspection (e.g. identification of conforming and of nonconforming product). Actual inspection and test results shall be recorded when actual measurements and tests were the basis for conformance/nonconformance decisions.
- i. Date of inspection.
- j. The following shall be included when sampling is used:
  - (1) Sampling plan
  - (2) AQL's used
  - (3) Lot size and lot number
  - (4) Sample size

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4.5.3.1 The contractor shall make available to the Government representative records of qualification of operators and equipment for special processes (i.e. magnetic particle, radiographic, etc.) to applicable specifications and standards. This shall apply whether the special processes are performed at the subcontractor's facility or at the contractor's plant. All inspection records, including certified test reports, operator/process certifications, test reports, reports of visits to the subcontractor, etc., shall be maintained on file at the contractor's plant and made readily available to the Government representative, upon request, for the duration of the contract and for three years thereafter.

#### 4.5.4 Certification provisions.

4.5.4.1 Certified test reports (CTR). When specified in the contract or in documents referenced therein, the contractor shall make available to the Government a certified test report for each lot of parts, assemblies, subsystems and systems by lot number prior to acceptance. Certified test reports are NOT required for Military standard and commercial items (see 4.2.1 and 4.5.4.2). This test report is in addition to, and not in lieu of, any rights of the Government under this contract or law. A CTR may be used as an element incident to, but shall not be used as the sole basis for, Government acceptance of the contract item(s). As a minimum, the report shall contain the following:

- a. Name of company and date.
- b. Contract number or purchase order number, national stock number and drawing number.
- c. Complete nomenclature of supplies together with lot number or other identification. The quantity in each lot or shipment shall be given.
- d. All inspections and tests required by contract (i.e., material, processes, performance, functional, etc.) shall be recorded in test reports. These reports shall identify each lot, submitted for acceptance by lot number, the specification or drawing, revision and date, grade or type as applicable, number of specimens tested, specified characteristics and requirements and actual results obtained.
- e. Reports of the raw material producer's chemical, mechanical, and physical analyses.
- f. A statement, as follows, certifying that material meets all requirements of the contract:

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"The undersigned individually, and as the authorized representative of the contractor, warrants and represents that: All of the information supplied above is true and accurate; the material covered by this certificate conforms to all contract requirements (including but not limited to the drawings and specifications); the inspection and test results, and the analyses appearing herein are true and accurate; and this certificate is made for the purpose of inducing payment and with knowledge that the information and certification may be used as a basis for payment."

g. Signature and title of certifying official.

4.5.4.2 Certificate of conformance (COC). A Certificate of Conformance (COC) is required for Military standard and commercial items (see 4.2.1 and 4.5.4.1). When a Certified Test Report (CTR) is NOT required for material and process specification requirements, a COC, supported by inspection and test data, material analyses, or certification from the raw material producer or processor, shall be made available to the Government for specifications covering raw material, processed material, and processes. The contractor shall make the COC available to the Government prior to or with the request to perform acceptance inspection approval by the Government. This is in addition to, and not in lieu of, any rights of the Government under this contract or law. A COC may be used as an element incident to, but shall not be used as the sole bases for, Government acceptance of the contract item(s). As a minimum, the COC shall contain the following:

- a. Name of company and date.
- b. Contract number or purchase order number, national stock number and drawing number.
- c. Complete nomenclature of supplies together with lot number or other identification. The quantity in each lot or shipment shall be given.
- d. A statement, as follows, certifying that material meets all requirements of the contract:

"The undersigned individually and as the authorized representative of the contractor, warrants and represents that: All of the information supplied above is true and accurate; the material covered by this certificate conforms to all contract requirements (including but not limited to the drawings and specifications); the analyses appearing herein are true and accurate analyses; and this certificate is made for the purpose of inducing payment and with knowledge that the information and certification may be used as a basis for such payment."



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## e. Signature and title of certifying official.

4.5.5 Application of quality assurance provisions. The inspection provisions specified should be applied at the earliest practical point in manufacture at which it is feasible to inspect for acceptance without risk of change in the characteristic by subsequent operations. Reinspection of these characteristics on the completed product is not required provided assurance exists that the characteristic has not been changed, degraded or damaged by subsequent manufacturing, assembly, or handling and that adequate inspection records are maintained. In any event, the Government reserves all rights under General Inspection Article 5, Standard Form 32.

4.5.6 Quality engineering inspection methods. The following methods apply as applicable:

- a. Where "Visual" is specified as the inspection method for protective coating, the coating shall be visually examined for completeness, uniformity in appearance and color, and for freedom from pits, corrosion, scratches and worm or bare spots.
- b. Where "Visual" is specified as the inspection method for dimensional inspection, the characteristic shall be either scaled, or compared with a specimen of known acceptable quality that has been established as an inspection standard for conformance to the requirements of the drawing.
- c. Where "Visual" is specified as the inspection method for assemblies, the assembly shall be visually examined for completeness, security, function and conformance to specified requirements. When possible, the functioning of the assembly shall be inspected by manual operation.
- d. Where "Visual" is specified as the inspection method for surface roughness values, a comparison standard conforming to ANSI B46.1 shall be used. If determination of surface roughness by a comparison standard is questionable, a surface measuring instrument shall be used.
- e. Where "SMTE" (Standard Measuring and Test Equipment) is specified as the method of inspection, the contractor may use any type of industry-developed, commercially available, multi-usage equipment or special inspection and/or testing equipment approved by the Government. (Previously identified as "SME", Standard Measuring Equipment and "STE", Standard Test Equipment.)



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- f. When Government Furnished Acceptance Inspection and Test Equipment is specified as the method of inspection in the contract or on the Data Lists, the contractor shall use inspection equipment fabricated in accordance with the Government drawing referenced. This requirement takes precedence over the Inspection Method in Table I (see h. below).
- g. Where "STM" (Special Test Method) is specified as the method of inspection, the methods and procedures shall be as specified.
- h. Alternative inspection methods and inspection equipment may be used by the contractor when such methods and equipment equal or exceed the specified accuracy and provide, as a minimum, the quality assurance required in the contractual documents. Prior to apply such alternative inspection methods and inspection equipment, the contractor shall describe them in a written proposal and shall demonstrate, for the approval of the Procuring Contracting Officer (PCO), that their effectiveness is equal to, or better than, the contractual quality assurance method or equipment.

4.5.7 Acceptance inspection and test equipment. INSPECTION AND TEST EQUIPMENT USED SHALL BE CAPABLE OF REPEATABLE MEASUREMENTS, BY VARIOUS EXPERIENCED INSPECTION/TEST PERSONNEL, TO AN ACCURACY OF 10% OF THE TOTAL TOLERANCE OF THE CHARACTERISTIC BEING INSPECTED.

- a. The contractor is responsible for providing all standard measuring and test equipment required.
- b. Required Government designed inspection and test equipment is shown on Index of Inspection Equipment List IEL 8829990 for Rack, M11 and Quality Engineering Data List QE-G-DL 8449880 for Rack, M12 and all documents listed thereon.
- c. The contractor is responsible for requisitioning the Government designed inspection and test equipment shown as available in the contract.
- d. The Government designed inspection and test equipment shown as not available in the contract shall be provided by the contractor in accordance with MIL-I-45607. This equipment shall be in accordance with the Government drawings.
- e. The contractor is responsible for providing such quantities of all inspection and test equipment, calibrated in accordance with MIL-C-45662, as required to support:

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- (1) Similar multiple inspection at the contractor's facilities.
- (2) Inspection operations at sub-contractor's facilities.
- (3) Required periodic calibration, maintenance or replacement.

4.5.7.1 Equipment utilization. Use of contractor's or Government-furnished inspection equipment, when desired by the Government representative, shall be permitted without charge. Government-furnished acceptance inspection equipment shall not be used by the contractor in lieu of contractor work gages and equipment.

4.5.7.2 Inspection standards. Inspection standards shall be utilized for those characteristics requiring inspection decisions by visual (eye sight) means. Items selected as visual comparison standards shall be mutually agreed to by the contractor and the Government, within drawing and specification requirements, and shall be used to assist in determining configuration and minimum acceptance criteria. The visual comparison standards selected shall be subject to approval by the responsible technical agency. Each comparison or inspection standard shall be kept under the control of the contractor's inspection element and be positively identified as to the characteristic or condition the standard represents, date established as the standard, number of the standard and identity of the contractor and the Government inspection personnel establishing the standard.

4.5.8 Parts inspection. Inspection of parts and subsequent assemblies shall be as specified in the contract (see 6.2) and shall be accomplished prior to assembly into the next higher assembly or the end item.

4.5.9 Examination. Each of the sample racks taken in accordance with 4.5.1 shall be examined to verify compliance with this specification. Examination shall be conducted in accordance with Table I. Any rack in the sample containing one or more defects shall be rejected and, if the number of defective racks in any sample exceeds the acceptance number of that sample, the lot represented by the sample shall be rejected.

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TABLE I

<u>Characteristic</u>	<u>AQL</u>	<u>Inspection Method</u>
1. Materials, construction and design (3.2).	---	Certification (see 4.5.4.1 and 4.5.4.2)
2. Improper assembly or missing parts (3.2).	1.5	Visual
3. Flatness, bottom surface of rack (3.2).	1.5	SMTE
4. Alignment of holes in top, bottom to top, back to back, or side to side (see 3.2)	1.5	Visual-SMTE
5. Missing welds, or defects in welding due to poor workmanship (see 3.2.1)	1.5	Visual
6. Performance of lock mechanism not as specified (3.3.1 and 3.3.2)	1.5	Visual-STM
7. Interchangeability of locking bar (3.3.1)	1.5	Visual-STM
8. Improper or missing identification marking (3.4)	4.0	Visual
9. Workmanship (3.5)	4.0	Visual

4.5.10 Inspection for acceptance. The contractor shall perform inspection for acceptance upon completion of all manufacturing and in-process inspection operations, prior to preservation and packing. Inspection for acceptance shall include, but is not limited to, inspection for workmanship, protective finish, missing features (missing operations), characteristics not previously inspected and characteristics that may have been altered or changed as a result of subsequent operations after prior inspections were completed.

4.5.11 Inspection of packaging. Unless otherwise specified (see 6.2), inspection to determine compliance with preservation, packing and marking requirements of the applicable packaging documentation, for the level designated in the contract, shall be as specified in MIL-P-14232.

## 5. PACKAGING

5.1 Pilot pack. A pilot pack shall consist of a complete rack preserved in accordance with the applicable Packaging Data Sheet (P6507453, P8407182, P8429990 or P8449880) for the level of protection specified in the contract (see 6.2), packed level B and forwarded as specified in 3.1.

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5.2 Levels A and B. Preservation, packing and marking shall be in accordance with the applicable Packaging Data Sheet (P6507453, P8407182, P8429990 or P8449880) for the level of protection specified in the contract (see 6.2).

## 6. NOTES

\* 6.1 Intended use. Each rack model is intended to store one type or closely related types of weapons, specifically: the M1920 rack for the M1911A1, Caliber .45 Automatic Pistol, the M7 rack for the M3A1, Caliber .45 Sub Machine Gun, the M11 rack for the M1 and M14 Rifle series and the M12 rack for the M16 Rifle series. The locked arms racks are normally located in arms rooms to meet Army security requirements. The padlock is not furnished with the arms racks.

6.2 Ordering data. Procurement documents should specify:

- a. Title, number and date of this specification.
- b. Drawings, publications and specifications pertinent to applicable rack showing applicable revision dates.
- c. Shipping instructions for first article and pilot pack (see 3.1, 4.4 and 5.1).
- d. Inspection lot size, if different (see 4.5.1).
- e. Examination and testing criteria for parts (see 4.5.6).
- f. Packaging inspection, if different (see 4.5.11).
- g. Selection of applicable level of protection, A or B (see 5.1 and 5.2).
- h. Place of final inspection and acceptance.
- i. Disposition of Government furnished property.

6.3 The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

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