

MIL-C-63240(AR)  
22 April 1977

MILITARY SPECIFICATION  
CASE, CARTRIDGE, PRACTICE, XM212

PART FOR

This specification is approved for use by the U.S. Army Armament Research and Development Command and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 This specification contains requirements not normally covered by the drawings and provides quality assurance provisions for the fabrication of parts, assembly and packing of one type of case cartridge designated as Case, Cartridge, Practice, XM212.

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 this specification to the extent specified herein:

SPECIFICATIONS

FEDERAL

PPP-T-45 - Tape, Paper, Gummed, Sealing and Securing  
PPP-B-636 - Boxes, Fiber

MILITARY

MIL-A-48078 - Ammunition, Standard Quality Assurance Provisions, General Specification For

FSC 1310

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-QA, Dover, New Jersey 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

MILITARY

- MIL-STD-105 - Sampling, Procedures and Tables for Inspection by Attributes
- MIL-STD-1169 - Packaging, Packing and Marking for Inert Ammunition Components

DRAWINGS (SEE 6.4)

U.S. ARMY ARMAMENT RESEARCH AND DEVELOPMENT COMMAND

9322230 - Case, Cartridge, Practice XM212

3. REQUIREMENTS

3.1 Material. - Materials shall be in accordance with the applicable drawings and specifications.

3.2 Part. - The part shall comply with all requirements specified on Drawing (Dwg.) 9322230, all associated drawings, and with all requirements specified in applicable specifications.

3.3 First article inspection. - This specification contains technical provisions for first article inspection. Requirements for the submission of first article samples by the contractor shall be as specified in the contract.

3.4 Workmanship. - All parts shall be fabricated and finished in a thorough, workmanlike manner. They shall be free of burrs, chips, sharp edges, cracks, unblended radii, surface defects, dirt, grease, rust, corrosion products, and other foreign matter. The cleaning method used shall not be injurious to any parts, nor shall the parts be contaminated by the cleaning agents. All marking and stamping shall be neat and sharply defined.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection and Standard Quality Assurance Provisions. - Unless otherwise specified herein or in the contract, the provisions of MIL-A-48078 shall apply and are hereby made a part of this detail specification.

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4.2 Classification of Inspections. - The following types of inspection shall be conducted on this item:

- a. First Article Inspection
- b. Quality Conformance Inspection

4.3 First Article Inspection. -

4.3.1 Submission. - The contractor shall submit a first article as designated by the Contracting Officer for evaluation in accordance with the provisions of 4.3.2. The first article sample shall consist of the following items in sample quantities as indicated:

<u>Part Description</u>	<u>Drawings</u>	<u>Quantity</u>
Case, Cartridge	9322230	25

4.3.2 Inspections to be performed. - See MIL-A-48078 and TABLE 1 herein.

4.3.3 Rejection. - See MIL-A-48078.

TABLE I FIRST ARTICLE INSPECTION  
**CLASSIFICATION OF DEFECTS & TESTS**

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PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
					SEE BELOW
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE / INSPECTION METHOD
	<u>Case, Cartridge</u> (Dwg. 9322230) Examination for defects	25		3.1	4.4.2.1
NOTES:					

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4.4 QUALITY CONFORMANCE INSPECTION

4.4.1 Inspection Lot Formation. - Inspection lots shall comply with the lot formation provisions of MIL-A-48078.

4.4.2 Examination. - See MIL-A-48078.

a. Sampling Plans. - Unless otherwise specified in the Classification of Defects and Test Tables, sampling plans for major and minor defects shall be in accordance with MIL-STD-105, Inspection Level II.

QUALITY CONFORMANCE INSPECTION  
**CLASSIFICATION OF DEFECTS & TESTS**

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PARAGRAPH	TITLE	SHEET 1 OF 1			DRAWING NUMBER
					9322230
		NEXT HIGHER ASSEMBLY			
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE / INSPECTION METHOD
<u>Critical</u>	None defined	*			
<u>Major</u>					
101	Total Length		0.40%	3.1	Gage
102	Second largest outside diameter (see 6.5)		0.40%	3.1	Gage
103	Diameter second largest outside diameter		0.40%	3.1	Gage
104	Depth of cavity from rear of case		0.40%	3.1	Gage
105	Largest outside diameter		0.40%	3.1	Gage
106	Diameter flash hole		0.40%	3.1	Gage
107	Concentricity of second largest inside diameter with second largest outside diameter		0.40%	3.1	Gage
108	Concentricity of largest outside diameter with second largest outside diameter		0.40%	3.1	Gage
<u>Minor</u>					
201	Thickness of flange		0.65%	3.1	Gage
202	Depth of counterbore		0.65%	3.1	Gage
203	Largest inside diameter, open end (see 6.6)		0.65%	3.1	Gage
204	Second largest inside diameter, open end		0.65%	3.1	Gage
205	Color incorrect		0.65%	3.1	Visual
206	Marking misleading or unidentifiable		0.65%	3.1	Visual
207	Evidence of poor workmanship		0.65%	3.4	Visual
<b>NOTES:</b>					
* See paragraph 4.5.1					

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4.4.3 Testing. - Testing is described in the First Article and Quality Conformance Inspection Tables.

4.4.4 Inspection Equipment. - The inspection equipment required to perform the examinations and tests prescribed herein is described in the Paragraph Reference/Inspection Method column in the tables starting with Paragraph 4.4.2.1. The contractor shall submit for approval inspection equipment designs in accordance with the terms of the contract. See Section 6 of MIL-A-48078 and 6.3 herein.

4.5 Test Methods and Procedures. -

4.5.1 Dimensional control of molded or plastic parts. - In place of the normal sampling and inspections associated with the Classification of Defects, and after a curing time for the parts has been approved (See Note 1) a sample of three (3) parts (as molded) from each cavity shall be fully inspected dimensionally to qualify a new or reworked cavity for use in production. The molded parts shall carry the individual cavity identification. As a control of each cavity during production, the above quantity of parts from each cavity shall be inspected for at least the defects listed in paragraph 4.4.2.1 after continuous production of each 5,000 parts or at the end of each week, whichever occurs first. Of the three (3) samples, one (1) sample shall be the last part produced. If any defective parts are found during qualification of the cavity, the cavity producing the defective part will not be used in production. If any defective parts are found when inspection is performed for the control of the cavity, the cavity producing the defective part shall be removed from production. Further, that portion of production since the last control check shall be returned to the contractor for inspection for each separate type of defect according to MIL-STD-105, using an AQL of 0.40 percent for each major defect and an AQL of 0.65 percent for each minor defect. All cavities removed from production because of some fault, may, after reworking, be returned to production providing they pass the qualification test above. The contractor may request a change of inspection frequency providing he presents objective evidence to the Contracting Officer to substantiate the request. Contractor designs of gages and test equipment required to perform the inspections listed here-

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in shall be forwarded to Commander, ARRADCOM, Dover, New Jersey 07801, ATTN: DRDAR-QAA-I for approval prior to manufacture of equipment. The noted sub-paragraph identify those items and minimum inspections subject to the requirements of this paragraph.

NOTE 1: In establishing a curing time, dimensionally check ten (10) parts from each cavity at periodic intervals (e.g. every 30, 60 etc mins) until dimensional stability is attained. The curing time will be from the time the part comes out of the mold until dimensional stability is attained. The inspection data used in determining the curing time shall be sent to ARRADCOM, Dover, New Jersey 07801 ATTN: DRDAR-QAA-Q. If there is a change in material, or in the cycle time, or if a cavity is reworked, or a new cavity is used, a new curing time shall be established and approved.

## 5. PACKAGING

### 5.1 Preservation and packaging

5.1.1 Level C. - The Case, Cartridge, XM212, shall be packaged for shipment as described below:

5.1.1.1 Case, Cartridge, XM212. - Five hundred (500) cases shall be packed base down in five (5) layers in Type 1, Class 1, "B" Flute, 175 pound minimum, domestic class, RSC Style, Specification PPP-B-636 fiberboard box. Inside dimensions of fiber box shall be 18 3/4 X 18 3/4 X 9 3/4 high ( $\pm$  1/16 tol). Each layer shall be composed of an egg crate type separator in a 10 X 10 pattern. Separators shall fit snug in fiber box, length and width. Height of separator to 1 1/2 inches. A filler 18 X18 shall be used between layers and on top as required for tight packing. Material used for separators and fillers shall be the same as that used for the fiber box.

5.1.1.2 Alternate pack for Case, Cartridge, XM212. - Three hundred (300) cases shall be packed in six (6) layers in Type 1, Class 1, "B" flute, 175 pound minimum, domestic class, RSC Style, Specification PPP-B-636 fiberboard box. Inside dimensions of fiber box shall be 17 1/2 X 8 3/4 X 11 5/8 high. Each layer shall be composed of an egg crate type separator in a 10 X 5 pattern. Separators shall fit snug in fiber box, length and width. Height of separator to be 1 1/2 inches. A filler 17 X 8 shall be used between layers, and on



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top as required for tight packing. A spacer 8 5/8 X 8 5/8 shall be placed between flaps on bottom and on top of fiber box. Material used for separator, fillers and spacers shall be the same as that used for fiber box.

## 5.2 Packing

### 5.2.1 Level C. - See 5.1.1.

5.3 The construction of the fiber box and the material requirements of the fiber box shall comply with PPP-B-636. When assembled, the corrugations of the fiber box shall parallel the manufacturer's joint on the fiber box depth. The manufacturer's joint on the fiber box shall be reinforced with paper tape or metal stapled or stitched.

Spacing of sample or stitches shall not average over 1 1/2 inches apart, center to center. A manufacturing tolerance of plus or minus 1.8 inch is permissible. The parts manufactured shall be furnished pre-production samples of all packing materials so that proper fit of packing material dimensions provide a proper fit of all parts, as determined to be necessary by examination of sample packs, are permissible.

5.4 Sealing. - The fiber box flaps shall be secured with gummed Kraft paper not less than 3 inches wide, comply with PPP-T-45, Grade B Tape. The tape shall be centered the full length of the outer flap seams and extend over each end of the fiber box at least 3 inches. The flap edge seams shall be similarly sealed with the tape extending at least 3 inches along the corners of the fiber box. Tape shall be properly moistened and sufficiently compresses to insure tight adhesion to the fiber box.

5.5 Marking. - Marking of the fiber box shall comply with MIL-STD-1169.

5.6 Shipping. - When shipments from more than one lot are shipped as a carload, each lot shall be kept separate, and the division between lots clearly indicated to prevent mixing of the lots in transit.

## 6. NOTES

6.1 Intended Use. - The component covered by this specification is intended for use on Cartridge, 40MM, Practice, XM781.

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6.2 Ordering Data. - See MIL-A-48078.

6.3 Submission of Inspection Equipment Designs for Approval. - See MIL-A-48078. Submit equipment designs as required to Commander, ATTN: DRDAR-QAA-I, ARRADCOM, Dover, N.J. 07801. Request letter of submittal state contractor, contract number, specification number, item nomenclature and classification of defects or test paragraph.

6.4 Drawings. - Drawings listed in Section 2 of this specification under the heading US Army Armament Research and Development Command (ARRADCOM) may also include drawings prepared by and identified as, Edgewood Arsenal, Frankford Arsenal, Rock Island Arsenal or Picatinny Arsenal drawings. Technical data originally prepared by these activities is now under the cognizance of ARRADCOM.

6.5 If the requirement cannot be met in the free state, the "go" inside diameter plug gage may be inserted in the cartridge case while inspecting the "go" and "no go" second largest outside diameter. If the "go" inside diameter plug is utilized, the data cards shall be annotated accordingly.

6.6 If the requirement cannot be met in the free state, a confining fixture may be utilized while inspecting the "go" and "no go" largest inside diameter. If the confining fixture is utilized, the data cards shall be annotated accordingly.

Custodian:  
Army-AR

Preparing Activity:  
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MIL-C-63240 CASE CARTRIDGE, PRACTICE XM212 PARTS FOR	
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