

MIL-C-18821 (NOrd)

29 June 1955

SUPERSEDING
O.S. 1507B (IN PART)
1 JUNE 1949

MILITARY SPECIFICATION
CARTRIDGE CASES, BRASS
5-INCH (38 CALIBER)

1. SCOPE

1.1 Scope.- This specification covers the detail requirements for 5-inch (38 Caliber) brass cartridge cases.

1.2 Classification.- Cartridge cases covered by specification shall be of the following Mark and Mod, as specified (see 6.2):

Mark 5 Mod 1
Mark 8 Mod 0

Drawing No. 517764
Drawing No. 517519

2. APPLICABLE DOCUMENTS

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

SPECIFICATION

MILITARY

MIL-C-18738 - Cartridge Cases, Brass (Other than Small Arms) General Specification for.

STANDARD

MILITARY

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

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DRAWINGS

BUREAU OF ORDNANCE

517519 - 5"/38 Cartridge Case Mk 8 Mod 0.
 517764 - 5"/38 Cartridge Case Mk 5 Mod 1.

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

3. REQUIREMENTS

3.1 General.-

3.1.1 Requirements for pilot lot, means and methods of manufacture, records, material, grain structure, and stress relief shall be in complete accordance with Specification MIL-C-18738 .

3.1.2 Requirements for machining, measurements, tolerances and allowances, weight, surface roughness and item identification marking shall conform to Specification MIL-C-18738 and to the applicable drawing (see 1.2 and 6.2)

3.2 Design.- The design requirements shall conform to Drawing No. 517764 for Mark 5 Mod 0 cartridge case and to Drawing No. 517519 for Mark 8 Mod 0 cartridge case.

3.3 Hardness.- Hardness determinations and values shall conform to Table I and shall be taken in the test regions shown on Figure 1.

TABLE I - Hardness Values 1

Region A	Region B	Region C		Region D	
Min.	Min.	Min.	Max.	Min.	Max.
70	43	31	67	31	49

1 Rockwell 30-T

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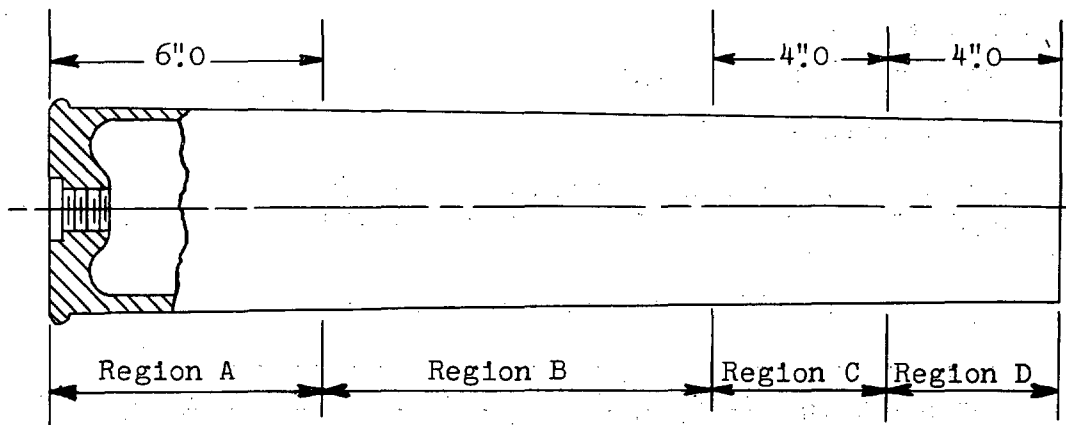


Fig. 1 - CARTRIDGE CASE

3.4 Screw Threads.- Screw threads, where applicable, shall conform to Drawing No. 517764, Drawing No. 517519, and Specification MIL-C- 18738.

3.5 Performance.- Cartridge case shall conform to the performance requirements of Specification MIL-C- 18738 . In addition, they shall show no defects under service firing that are detrimental to service.

3.6 Workmanship.- Workmanship shall be such as to produce a uniform product in accordance with the requirements of this specification, Specification MIL-C- 18738 , and the applicable drawings.

4. QUALITY ASSURANCE PROVISIONS AND TEST REQUIREMENTS

4.1 Lots.-

4.1.1 Pilot Lots.- Pilot lot requirements shall be in accordance with Specification MIL-C- 18738 and in quantities as specified in Table II.

4.1.2 Production lot.- Production lot requirements shall be in accordance with Specification MIL-C- 18738 and in quantities as specified in Table II.

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4.2 Sampling.-

4.2.1 For inspection.- Sampling procedures for production lot inspection shall be in accordance with Specification MIL-C- and Standard MIL-STD-105.

4.2.2 For test.- Sampling for pilot lot acceptance and production lot acceptance shall be in the quantities as shown in Table II.

TABLE II - Lot and sample sizes

Type of Lot	Lot Size	Sample Cases			Quantity (Total)
		for Ballistic test	for Metallurgical examination	for Strain test	
Pilot	---	20	3	2	25
Production	5,000	20	3	2	5025

4.3 Inspection.- Inspection procedures shall conform to Specification MIL-C-18738 . The inspection sampling level, acceptable quality level (AQL), and classification of defects shall be as specified by the procuring activity.

4.4 Test.-

4.4.1 General.- General test procedures shall conform to Specification MIL-C-18738

4.4.2 Hardness test.- The number of sample cartridge cases listed in Table II for metallurgical examination shall be checked for hardness to determine conformance to the requirements of 3.3. A sufficient number of hardness determinations shall be made on two quadrants of each cartridge case so as to represent adequately the hardness of the regions shown on Figure 1.

4.4.2.1 Hardness test procedures.- Hardness test procedures shall conform to Specification MIL-C-18738 . (A suitable method for determining the hardness values of cartridge cases is to take hardness readings on each of two sections cut longitudinally from each cartridge case. The cuts shall be made such that the diametrical plane of the case is coincident with the longitudinal centerline of the cut section.)

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4.4.3 Strain test.- The number of sample cartridge cases listed in Table II for strain test shall be tested and checked for cracks and splits in accordance with requirements of Specification MIL-C-18738.

4.4.3.1 Strain test procedures.- The procedures for strain testing cartridge cases shall conform to Specification MIL-C-18738. No mouth or primer plug shall be required in the strain test.

4.4.4 Ballistic test.- The number of cartridge cases listed in Table II for ballistic test shall be fired in quantities as specified in Table III to determine conformance to 3.5.

TABLE III - Ballistic test samples

Type of Lot	Service pressure (No. of rounds)	Proof pressure (No. of rounds)
Pilot	16	4
Production	12	8

4.4.4.1 Ballistic test procedures.- The procedure for ballistic testing cartridge cases shall be in accordance with Specification MIL-C-18738.

4.5 Rejected lots.- Rejections, retests, and the disposition of defective cartridge case lots shall be in accordance with Specification MIL-C-18738.

5. PREPARATION FOR DELIVERY

5.1 Packaging and Packing.-

5.1.1 For domestic shipment.- Unless otherwise specified in the contract or order (see 6.2) cartridge cases shall be prepared for domestic shipment in accordance with the preparation for delivery requirements of Specification MIL-C-18738. In addition, cartridge cases shall be packaged in such a manner that each case is separated from its adjacent case and from the shipping container by solid fiberboard dividers.

5.1.2 For overseas shipment.- Overseas shipments of cartridge cases shall be prepared for delivery in accordance with the

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requirements of the procuring activity, as specified in the contract or order (see 6.2).

5.2 Marking of shipments.- Unless otherwise specified in the contract or order (see 6.2), shipments shall be marked in accordance with Specification MIL-C-18738.

6. NOTES

6.1 Intended use.- The 5 inch (38 caliber) brass cartridge cases Mk 5 Mod 1 and Mk 8 Mod 0, when assembled with their appropriate primers, propellant charges, and cork plugs when used with their appropriate loaded projectiles, form complete rounds which are used as service ammunition in the 5-inch (38 caliber) guns.

6.2 Ordering data.- Procuring documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Mark and Mod of cartridge case required (see 1.2).
- (c) Packaging and packing requirements, if different from 5.1.
- (d) Marking requirements, if different from 5.2.

Patent 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 patent invention that may in any way be related thereto.

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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