

INCH-POUND

MIL-C-18757D(OS)  
19 June 1991  
SUPERSEDING  
MIL-C-18757C(OS)  
15 April 1981

## MILITARY SPECIFICATION

### CARTRIDGE CASES, STEEL (OTHER THAN SMALL ARMS) GENERAL SPECIFICATION FOR

*This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.*

#### 1. SCOPE

1.1 Scope. This specification covers the general requirements for 20 millimeter (mm) and larger (other than small arms) steel cartridge cases. Specific requirements for a particular caliber, Mk and Mod steel cartridge case, are covered by the applicable detail specifications (see 6.11).

#### 2. APPLICABLE DOCUMENTS

##### 2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

#### STANDARDS

##### MILITARY

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

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer, Naval Ordnance Station, Standardization Branch (Code 3730), Indian Head, MD 20640-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or sending a letter.

AMSC N/A

FSC 1395

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<b>MIL-STD-129</b>	<b>Marking for Shipment and Storage</b>
<b>MIL-STD-1167</b>	<b>Ammunition Data Card</b>
<b>MIL-STD-1168</b>	<b>Ammunition Lot Numbering</b>
<b>DOD-STD-2101</b>	<b>Classification of Characteristics</b>

(Unless otherwise indicated, copies of federal and military specifications and standards are available from: Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

**2.2 Non-Government publications.** The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

**AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)**

<b>ASTM B117</b>	<b>Salt Spray (Fog) Testing, Standard Test Method of (DOD adopted)</b>
<b>ASTM B487</b>	<b>Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of a Cross Section, Standard Test Method for (DOD adopted)</b>
<b>ASTM B499</b>	<b>Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals, Standard Test Method for (DOD adopted)</b>
<b>ASTM E8</b>	<b>Tension Testing of Metallic Materials, Standard Test Methods of (DOD adopted)</b>
<b>ASTM E18</b>	<b>Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials, Standard Test Methods for (DOD adopted)</b>

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187).

**NATIONAL RAILROAD FREIGHT COMMITTEE**

**Uniform Freight Classification (UFC) 6000**

(Application for copies should be addressed to the National Railroad Freight Committee, 222 South Riverside Plaza, Suite 1120, Chicago, IL 60606-5945.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

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**2.3 Order of Precedence.** In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

**3. REQUIREMENTS**

**3.1 Associated detail specifications.** The individual item requirements shall be as specified herein and in accordance with the applicable detail specifications (see 6.2). In the event of any conflict between the requirements of this specification and the associated detail specification, the latter shall govern.

**3.2 First article.** When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.4) in accordance with 4.5.

**3.3 Material.** The material used in the manufacture of steel cartridge cases shall be in accordance with the applicable detail specification and drawings.

**3.4 Design.** The design of each cartridge case shall be in accordance with the design requirements specified in the applicable detail specification and drawings.

**3.5 Chambering (M101).** Each cartridge case shall fully chamber in the appropriate Navy approved cartridge case body gage specified in the applicable detail specification (see 4.7.2).

**3.6 Heat treatment.** The cartridge case shall be overall heat treated to obtain the hardness, yield strength, and elongation values specified in the applicable detail specification.

**3.7 Hardness.** Cartridge case hardness shall be in accordance with the applicable detail specification (see 4.7.3).

**3.8 Elongation.** The cartridge case shall meet the elongation requirements specified in the applicable detail specification (see 4.7.4).

**3.9 Tension (M102).** The cartridge cases shall meet the yield strength requirements specified in the applicable detail specification (see 4.7.5).

**3.10 Protective coating (M103).** Unless otherwise specified in the contract or purchase order (see 6.2), the protective coating shall be specified on the applicable detail specification with the following exceptions: the exterior thickness shall be between 0.0003 inch and 0.0008 inch. The interior plating thickness shall be 0.00015 inch minimum, except thinner plating at the inert standoff contact points shall be acceptable. The protective coating shall show no corrosion of basis metal. The size and frequency of the black corrosion products of zinc shall not exceed that of the established standard as specified in the appropriate detail specification. After testing, white corrosion products of zinc that do not interfere with chambering of the cartridge case shall be acceptable (see 4.7.6).

**3.11 Ballistics (M104).** The cartridge case shall meet the ballistic requirements specified in the applicable detail specification (see 4.7.7).

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**3.11.1 Case extraction (M105).** Cartridge cases tested under automatic and semiautomatic action shall be ejected and shall in no way cause the weapon to cease firing. When fired in the single shot mode, the cartridge case shall be capable of being extracted by manual operation of the extraction system. (NOTE: The term "ejected" means that the cartridge case is thrown clear of the breech, permitting loading of the subsequent round. The term "extract" means that the cartridge case is loosened and pulled to the rear, by the normal operation of the extraction system, sufficiently to permit ready removal.)

**3.11.2 Case rechambering.** All cartridge cases fired at service pressure in single-shot action shall be capable of being rechambered by hand in the gun in which they were fired. The case shall seat and the breech shall fully close.

**3.12 Item identification.** Item identification marking of all cartridge cases shall be in accordance with the contract or purchase order (see 6.2) and the applicable documentation (see 5.2).

**3.13 Workmanship [C-1] (M108).** The cartridge case shall be produced in such a manner as to ensure compliance with all the requirements of this specification and the applicable detail specification. There shall be no burrs, [cracks, tears] or other imperfections of manufacture, which in the opinion of the Government inspector, may adversely affect either the assembly, functioning or handling of the product. (Flutes, draw marks, loopers, slug marks, and pits shall not exceed 10 percent of the calculated wall thickness in the affected area nor be of sufficient magnitude to cause minimum or maximum dimensions to be exceeded. (NOTE: Grain orientation directionality is produced by rolling. A looper is a visible pattern of this grain orientation extended by drawing.) There shall be no flutes, pitting, draw marks or loopers in the region between the base and a circumferential line 3 inches from the base of the cartridge case.) The only acceptable surface defects on the interior base-to-wall radius are those exemplified by the sample board approved by the contracting activity.

## 4. QUALITY ASSURANCE PROVISIONS

**4.1 Responsibility for inspection.** Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

**4.1.1 Responsibility for compliance.** All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

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**4.2 Classification of inspections.** The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.5)
- b. Quality conformance inspection (see 4.6)

**4.3 Classification of characteristics.** The requirements verified by the tests and examinations specified herein are classified as critical, major or minor in accordance with DOD-STD-2101. Tests and examinations that verify critical characteristics are identified by the symbol (C), and major characteristics by the symbol (M). The number following the classification symbol indicates the serial number of the characteristics. Requirements not annotated with a classification code are classified as minor.

**4.4 Sampling.** Unless otherwise specified in the detail specification or contract (see 6.2), the Government inspector shall use sampling plans and procedures conforming to the provisions of MIL-STD-105 in the determination of acceptability of steel cartridge cases submitted by the contractor for Government inspection and testing.

**4.4.1 First article sample.** The first article sample shall consist of the quantity of cartridge cases as specified in the applicable detail specification.

**4.4.2 Production lot.** The production lot shall consist of cartridge cases of all the same size, mark, mod and caliber. The production lot shall be manufactured under the same conditions using the process resulting from the approval of the first article sample and submitted for Government acceptance at one time. The formation of lots shall be as defined in MIL-STD-105.

**4.4.2.1 Lot size.** The quantity of cartridge cases in a production lot shall be as specified in the applicable detail specification. The production lot shall consist of the quantity of cartridge cases specified in the detail specification plus the sample cartridge cases selected for inspection and tests. Unless otherwise specified in the contract or purchase order (see 6.2), all cartridge cases submitted for inspection and test purposes shall be provided at the expense of the contractor.

**4.5 First article inspection.** First article inspection shall consist of the examinations and tests specified in table I. Sampling and acceptance shall be in accordance with table I.

**4.6 Quality conformance inspection.** Quality conformance inspection shall consist of the examinations and tests specified in table I. Sampling and acceptance shall be in accordance with table I.

### **4.7 Tests.**

**4.7.1 Inspection of materials.** The cartridge cases shall be visually inspected for conformance to 3.3.

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TABLE I. First article sample and quality conformance inspection and sampling.

Test or examination	Requirement paragraph	Method paragraph	First article sample inspection			Quality conformance inspection		
			Number of units to be inspected	Number of defects allowed		Number of units to be inspected	Number of defects allowed	
				Accept	Reject		Accept	Reject
Dimensional	3.4	4.7.8	158	0	1	See applicable detail specification		
Chamber gage	3.5	4.7.2	158	0	1	100%	All defective cases shall be rejected	
Hardness	3.7	4.7.3	4	0	1	MIL-STD-105 Inspection Level S-1	AQL = 2.5%	
Elongation	3.8	4.7.4	See applicable detail specification			See applicable detail specification		
Tension	3.9	4.7.5	See applicable detail specification			See applicable detail specification		
Protective coating	3.10	4.7.6						
a. Thickness			4	0	1	5	0	1
b. Corrosion			3	0	1	3	0	2 <sup>1/</sup>
Ballistic case extraction	3.11	4.7.7	See applicable detail specification			See applicable detail specification		
Packaging and marking	section 5	4.8	158	0	1	MIL-STD-105 Inspection Level S-3	AQL = 1.0%	
Workmanship	3.13	4.7.8	158	0	1	100%	All defective cases shall be rejected	

<sup>1/</sup> Nonconformance of one sample to meet the corrosion code requirements shall require testing of an additional 3 samples. Failure of any of the additional samples of meet the corrosion code requirement shall be cause for rejection of the lot.

**4.7.2 Chamber gage examination.** Each cartridge case shall be chamber gaged as specified in the applicable detail specification to determine conformance to the requirements of 3.5.

**4.7.3 Hardness.** Cartridge cases shall be prepared and tested in accordance with ASTM E18 to determine conformance to 3.7. The hardness shall be checked at the locations specified in the applicable detail specification. Sufficient tests shall be performed to assure hardness values are representative of the respective test areas.

**4.7.4 Elongation.** Cartridge cases shall be tested in accordance with ASTM E8 to determine conformance to 3.8. The case shall be sectioned circumferentially as specified in the applicable detail

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specification. Specimen dimensions shall be as indicated in figure 6 of ASTM E8. Specimens shall be subsize specimens or as directed in the contract or applicable detail specification. Unless otherwise specified, the specimens shall be straightened by pressing and rolling and shall be stress relieved at  $610 \pm 10^\circ\text{F}$  for  $30 \pm 5$  minutes and then cooled at room temperature for a minimum of 1 hour. The head separation rate shall be 0.05 inch per minute.

**4.7.5 Tension.** The cartridge case shall be prepared and tested as specified in the applicable detail specification.

**4.7.6 Protective coating.** Unless otherwise specified in the contract or purchase order (see 6.2) or applicable drawings, nondestructive measuring of coating thicknesses shall be made using the procedure specified in ASTM B499 and destructive measuring of coating thicknesses shall be made using the procedure specified in ASTM B487. For referee tests, the procedure of ASTM B487 shall be used. Unless otherwise specified in the contract or purchase order (see 6.2) or applicable drawings, the protective coating shall be tested in accordance with ASTM B117 with continuous exposure to salt spray for 96 hours. The assigned plating thickness value of the interior recessed area of the cartridge case head shall be determined as specified in 4.7.6.1 and 4.7.6.2.

**4.7.6.1 Test condition.** Three specimen sections shall be taken from each of three cases at approximately  $120^\circ$  apart. Six measurements, approximately 0.1 inch apart, shall be taken on each section (see figure 1) and recorded.

**4.7.6.2 Calculation.** The assigned plating thickness value (T) shall be calculated as follows:

$$T = \frac{t_a + t_b + t_c}{3}$$

Where:

- T = case coating thickness
- $t_a$  = specimen a coating thickness
- $t_b$  = specimen b coating thickness
- $t_c$  = specimen c coating thickness

$$t_a = \frac{t_{a1} + 6t_{a2} + t_{a3}}{8}$$

and where:

- $t_{a1}$  = coating thickness reading preceding  $t_{a2}$
- $t_{a2}$  = minimum coating thickness reading of specimen a
- $t_{a3}$  = coating thickness reading following  $t_{a2}$
- ( $t_b$  and  $t_c$  are computed in a similar manner)

NOTE: If  $t_{a2}$  is a measurement at location 1 or 6, use  $t_{a1} = t_{a3}$  in above formula (use on any segment). (See Figure 1.)

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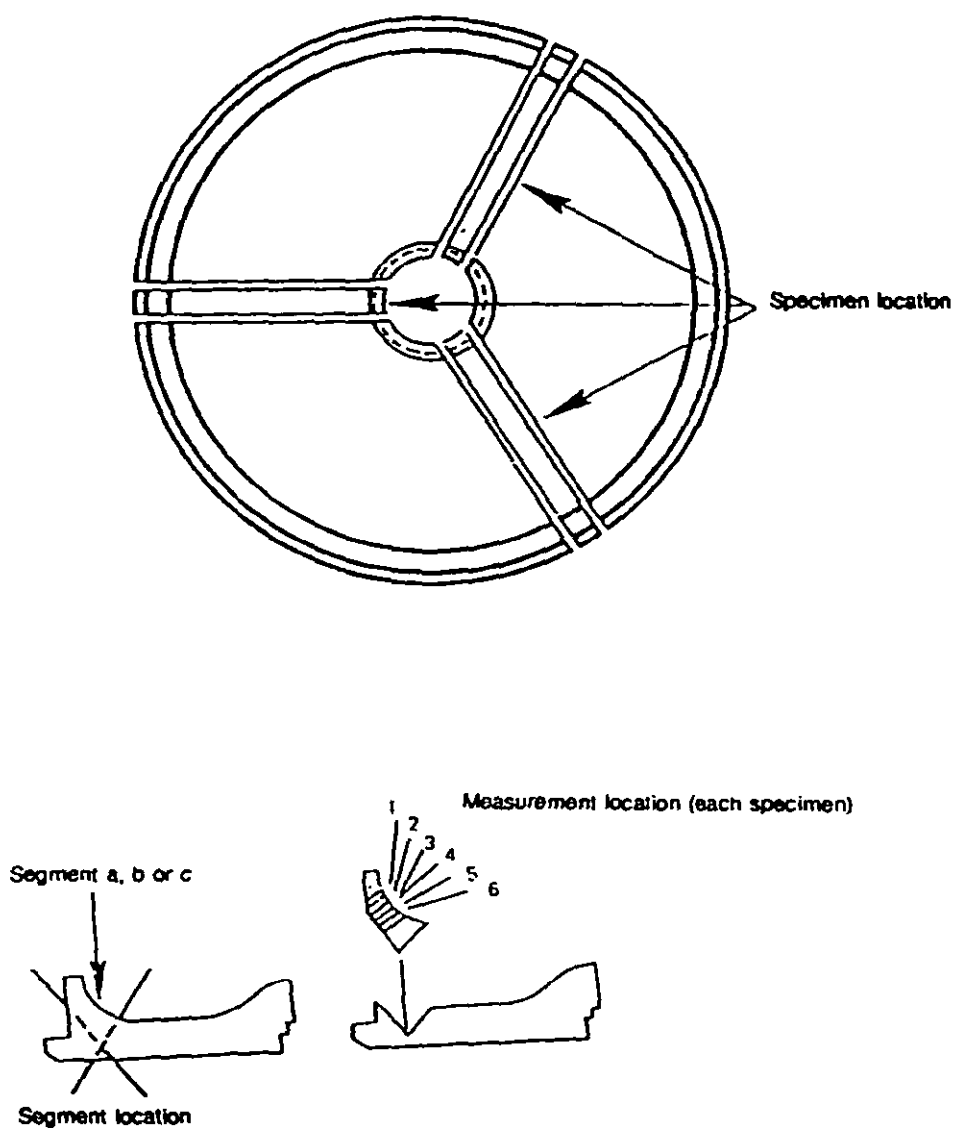


FIGURE 1. Metallographic sectioning.



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**4.7.7 Ballistic.** Cartridge cases, assembled as part of service and proof rounds, shall be fired at the pressures, temperatures and rates specified in the applicable detail specification.

**4.7.7.1 Weapon.** Unless otherwise specified in the contract or purchase order (see 6.2), the ballistic tests shall be performed with a weapon of service quality (see 6.9.1). A weapon of service quality shall be used for ballistic testing at proof pressure except where specific exemption has been authorized and the test weapon used in lieu thereof has been approved by the contracting activity.

**4.7.8 Visual.** Each cartridge case shall be visually examined for conformance with 3.13. Non-conformance shall cause only the rejection of the individual unit.

**4.7.9 Visual examination of workmanship.** Each cartridge case submitted to the contracting activity for acceptance shall be visually examined for conformance to 3.4 and 3.13.

**4.8 Inspection of packaging.** Each of the fully prepared shipping containers, containing cases, selected as a sample unit from the production lot, shall be examined for conformance to section 5.

## 5. PACKAGING

### 5.1 Packing.

**5.1.1 Level C (M106).** Unless otherwise specified by the contracting activity (see 6.2), cartridge cases shall be packed by the contractor for domestic shipment in 200 lb test RSC boxes conforming to Rule 41 of Uniform Freight Classification UFC 6000. Care shall be taken to protect the mouth and the primer hole and to separate the cases so none will be damaged in shipment. Cartridge cases shall be packed in each box with the mouth of the cartridge case in an upright position. The boxes shall be appropriately marked to assure that the mouth of the cartridge case will be maintained in an upright position. The requirements of applicable detail specifications also shall be met.

**5.2 Marking (M107).** In addition to any special markings required by the contract (see 6.2), all markings shall be in accordance with MIL-STD-129 and the requirements of the applicable detail specifications.

**5.3 Lot number.** Lot number for each lot of cases shall be in accordance with MIL-STD-1168 (see 4.4.2).

**5.4 Ammunition data cards.** When specified in the contract or purchase order (see 6.2), each production lot shall be accompanied by ammunition data cards prepared in accordance with MIL-STD-1167 (see 6.3).

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**6. NOTES**

**6.1 Intended use.** (See detail specifications.)

**6.2 Acquisition requirements.** Acquisition documents must specify the following:

- a. *Applicable detail specification (see 3.1)*
- b. *Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced in 2.1 and 2.2*
- c. *Whether a first article is required (see 3.2)*
- d. *Protective coating if different from 3.10*
- e. *Responsibility for the place of inspection if different from 4.1*
- f. *Sampling if different from 4.4*
- g. *Whether production lot samples shall be at the expense of the contractor (see 4.4.2.1)*
- h. *Measurement and testing of coating if different from 4.7.6*
- i. *Level C packing requirements if different from 5.1.1*
- j. *Special markings required (see 5.2)*
- k. *Whether ammunition data cards are required (see 5.4)*
- l. *If documented methods of manufacture is required (see 6.5)*
- m. *Maintenance and submission of records (see 6.6)*
- n. *Chemical analysis report if required (see 6.7)*
- o. *That the safety precaution requirements of the "Contractor's Safety Manual for Ammunition, Explosives and Related Dangerous Material," DOD 4145.26M are applicable (see 6.8).*

**6.2.1 Additional samples.** Additional samples required because of failure of any sample(s) to pass the prescribed inspections will be provided by and inspected at the expense of the contractor .

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**6.3 Consideration of data requirements.** The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DID's) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DID's are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DOD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

<u>Reference paragraph</u>	<u>DID Number</u>	<u>DID Title</u>
5.4	DI-MISC-80043	Ammunition Data Card
6.5	DI-P-1641	Manufacturing Methods Report (Interim)
6.6	DI-T-30255	Informal Technical Data
6.7	DI-P-1638	Chemical and Physical Properties for Forging or Cast Analysis Report

The above DID's were cleared as of the date of this specification. The current issue of DOD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423.

**6.4 First article.** When a first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be a preproduction sample, a first article sample, a first production item, a sample selected from the first production items, a standard production item from the contractor's current inventory (see 3.2), and the number of items to be tested as specified in 4.5. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to reply on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate unless specifically requested to do so in the solicitation.

**6.5 Approval.** When specified by the contracting activity (see 6.2), methods of manufacture documented by the contractor should be submitted for approval, prior to manufacture (see 6.3).

**6.6 Records.** Unless otherwise specified by the contracting activity, the contractor should maintain complete permanent records on the development of the first article sample and during the manufacture of the production lots and these should be made available at any time required. When specified in the contract or purchase order (see 6.2), the records should be submitted to the contracting activity at the conclusion of responsibility under the contract (see 6.3).

**6.7 Chemical analysis.** When specified in the contract or purchase order (see 6.2), a chemical analysis report of the material representing the first article sample and production lot should be submitted by the contractor to the contracting activity (see 6.3).

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**6.8 Safety precautions.** The safety precaution requirements of the "Contractor's Safety Manual for Ammunition, Explosives and Related Dangerous Material" (DOD 4145.26M) are applicable and should be specified in the contract as required by the Federal Acquisition Regulation (FAR) 23-3. **NOTE:** When this document is used as part of the description of work to be accomplished by a Government activity, the safety precaution requirements of "Ammunition and Explosives Ashore" (OP5) should be made applicable.

**6.9 Definitions.**

**6.9.1 Weapon of service quality.** A "weapon of service quality" is a gun with a barrel in its second or third quarter of life, and the housing, slide and loading mechanism is of current service design and is in an operating condition satisfactory for unrestricted use.

**6.10 Test site.** The selected tests for hardness, elongation, tension, protective coating and ballistics shall be conducted by the Government at the facilities designated by the contracting activity. However, the contracting activity may authorize the contractor to perform hardness, elongation, tension, and protective coating tests on the cases selected from the production lot at the place of manufacture or at another testing laboratory, provided that the places and testing equipment have been approved by the contracting activity. If the hardness, elongation, tension, and protective coating tests are performed by the contractor, they must be witnessed by a Government inspector.

**6.11 Related specifications.** The following detail specifications have been issued for steel cartridge cases:

MIL-C-18757/1	Cartridge Case, Steel, 40-Millimeter, Mk 3 MOD 0
MIL-C-18757/2	Cartridge Case, Steel, 3-Inch, Mk 9 All MODS (50 Caliber)
MIL-C-18757/3	Cartridge Case, Steel, 5-Inch, Mk 10 All MODS (38 Caliber)
MIL-C-18757/4	Cartridge Case, Steel, 5-Inch, Mk 9 All MODS (54 Caliber)
MIL-C-18757/5	Cartridge Case, Steel, 76-Millimeter (62-Caliber)

**6.12 Subject term (key word) listing.**

Ballistic cases  
Gun

**6.13 Changes from previous issue.** Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Preparing Activity:  
Navy - OS  
(Project 1395-N262)

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

<b>RECOMMEND A CHANGE</b>		1. DOCUMENT NUMBER MIL-C-18757D(OS)	2. DOCUMENT DATE (YYMMDD) 910619
3. DOCUMENT TITLE <b>CARTRIDGE CASES, STEEL (OTHER THAN SMALL ARMS), GENERAL SPECIFICATION FOR</b>			
4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)			
5. REASON FOR RECOMMENDATION			
6. SUBMITTER		7. ORGANIZATION	
a. NAME (COTC, FPO, MOBILE, INDUSP)		b. ORGANIZATION	
c. ADDRESS (Include Zip Code)		d. TELEPHONE (Include Area Code)	e. DATE SUBMITTED (YYMMDD)
		(1) Commercial	
		(2) AUTOVON (if applicable)	
8. PREPARING ACTIVITY			
a. NAME		b. TELEPHONE (Include Area Code)	
Commanding Officer Naval Ordnance Station		(1) Commercial (301)743-4358	(2) AUTOVON 364-4358
c. ADDRESS (Include Zip Code)		IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:	
Code 3730 Indian Head, MD 20640-5000		Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340	