

MIL-C-51361B(EA)
20 October 1976
SUPERSEDING
MIL-C-51361A(EA)
7 June 1976

MILITARY SPECIFICATION

CANISTER, SMOKE, HC, 105MM

PROJECTILE, M1, COMPONENTS FOR

This specification is approved for use by Edgewood Arsenal, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 This specification covers the components for one type of canister.

2. APPLICABLE DOCUMENTS

2.1 Government 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-B-587 - Box, Wood, Wirebound Pallet Type.
- PPP-F-320 - Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade) and Cut Shapes.

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- MIL-A-2550 - Ammunition, General Specification For.

STANDARDS

FEDERAL

- Fed-Std-141 - Paint, Varnish, Lacquer and Related Materials, Methods of Inspection, Sampling and Testing.

FSC 1315

: Beneficial comments (recommendations, additions, deletions) and any :
: pertinent data which may be of use in improving this document should :
: be addressed to: Commander, Edgewood Arsenal, Attn: SAREA-TS-S, :
: Aberdeen Proving Ground, MD 21010 by using the self-addressed :
: Standardization Document Improvement Proposal (DD Form 1426) appear- :
: ing at the end of this document or by letter. :

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- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-1167 - Ammunition Data Card.
- MIL-STD-1168 - Lot Numbering of Ammunition.

US ARMY ARMAMENT COMMAND

EDGEWOOD ARSENAL

- TDPL-15-11-22 - Canister, Smoke, HC, 105MM Projectile, M1;
Components for.

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

3. REQUIREMENTS

3.1 Materials and components.

3.1.1 Materials. All materials cited on TDPL-15-11-22 shall conform to the specifications listed thereon or to the specific characteristics set forth on the drawings.

3.1.2 Components. All components of the canisters shall conform to the specifications and drawings listed on TDPL-15-11-22.

3.2 Assembly. The body and body assembly shall be in accordance with Drawings C15-11-28 and C15-11-27.

3.3 Welds. The body assembly shall not contain more than three separated projections when tested as specified in 4.4.4.1.

3.4 Preproduction. Prior to the start of regular production, a pre-production lot shall be produced in accordance with this specification for examination and test (see 4.3).

3.5 Workmanship. The components shall be free from contamination (foreign matter, oil or grease) and damage such as dents, cracks or deformation which could affect their intended use.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.

4.1.1 Supplier's responsibility. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier 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.

4.1.2 Additional responsibility of supplier. Drawings for contractor designed inspection equipment (other than standard measuring equipment) should be forwarded to design agency for approval prior to production (see 6.2). Ammunition data cards prepared in accordance with MIL-STD-1167 shall be forwarded with each lot of components.

4.1.3 Government responsibility.

a. The Government will be responsible for the performance of the tests to establish the minimum mechanical properties required on Drawing C15-11-28 for the preproduction quantity only. Samples from the preproduction quantity shall be forwarded to the laboratory designated by the contracting officer (see 6.2).

b. The canister metal components manufacturer shall be responsible for the performance of the tests to establish the minimum mechanical properties required on Drawing C15-11-28 for each canister lot produced during regular production.

4.1.4 Objective evidence. The supplier shall provide objective evidence acceptable to the contracting officer that the requirements of 3.1 and section 5 for which specific inspection has not been provided in this specification have been satisfied. Specifically laboratory test data shall be provided to the contracting officer as proof of compliance of the material specified for the metal components.

4.2 Classification of inspections.

- (a) Preproduction inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).

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4.3 Preproduction inspection.

4.3.1 Lot. A preproduction lot of 500 sets of components (body assemblies, closing disks, packing disks, and zinc sleeves) shall be manufactured using the same methods, materials, equipment, and processes as will be used during regular production.

4.3.2 Sampling.

4.3.2.1 For examination. Components sufficient to assemble 50 canisters shall be taken at random from the preproduction lot. In addition, five each of the body (Drawing C15-11-28), tube (flat development) and tube, formed (Drawing C15-11-29) shall be selected at random from the preproduction quantity.

4.3.2.2 For destructive tests.

(a) Body assembly. Ten body assemblies (Drawing C15-11-27) shall be taken at random from the preproduction lot.

(b) Body. Five bodies (Drawing C15-11-28) shall be taken at random from the preproduction lot for testing by the Government (see 4.1.3a).

4.3.3 Inspection procedure.

4.3.3.1 For examination. The sample components shall be examined in accordance with the classification of defects (4.4.3.3) and MIL-STD-105. The individual bodies, and tube in flat and formed configurations shall be examined for conformance to their respective drawings. The acceptance number is 0.

4.3.3.2 For destructive tests.

(a) Body assemblies. Five body assemblies shall be tested in accordance with 4.4.4.1. No body assembly shall contain more than three separated projections.

(b) Body assemblies. Five body assemblies shall be tested in accordance with 4.4.4.2. Body assemblies shall not exhibit rust beyond 1/8 inch from any unpainted edge or score mark.

(c) Body. The sample bodies shall be tested in accordance with Drawing C15-11-28. The acceptance number is zero (see 4.1.2).

4.3.4 Acceptance/rejection criteria. The preproduction samples shall comply with 4.3.3 to be acceptable. The supplier shall obtain written

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approval from the contracting officer prior to proceeding with regular production.

4.4 Quality conformance inspection.

4.4.1 Lotting. Each lot shall be identified and controlled in accordance with MIL-STD-1168. A lot shall consist of like components or like sub-assemblies of one interfix number, produced by one manufacturer, from the same materials and under essentially the same manufacturing conditions. No one lot of any component shall contain steel from more than one heat of steel.

4.4.2 Sampling.

4.4.2.1 For examination. Sampling shall be conducted in accordance with MIL-STD-105.

4.4.2.2 For destructive tests.

(a) Body assembly. Ten body assemblies (Drawing C15-11-27) shall be taken at random from each lot.

(b) Body. Five bodies (Drawing C15-11-28) shall be taken at random from each canister lot and tested by the contractor (see 4.1.3 b.)

4.4.3 Inspection procedure.

4.4.3.1 For examination. The sample components shall be examined in accordance with the classification of defects (4.4.3.3) and MIL-STD-105.

4.4.3.2 For destructive tests.

(a) Body assemblies. Five body assemblies shall be tested in accordance with 4.4.4.1. No body assembly shall contain more than three separated projections.

(b) Body assemblies. Five body assemblies shall be tested in accordance with 4.4.4.2. Body assemblies shall not exhibit rust beyond 1/8 inch from any unpainted surface.

(c) Body. The sample bodies shall be tested in accordance with Drawing C15-11-28. The acceptance number is zero (see 4.1.2).

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4.4.3.3 Classification of defects.(a) Body assembly (Drawing C15-11-27).

<u>Categories</u>	<u>Defects</u>
<u>Critical:</u>	None defined
<u>Major:</u>	AQL 1.0 percent defective
101	Perpendicularity incorrect
102	True position incorrect
103	Formed radius incorrect
104	Tube O. D. incorrect
105	Tube flange protrusion incorrect
106	Tube holes missing
107	Tube and flange butt joint space excessive after assembly
108	Body length incorrect
109	Body O. D. incorrect
110	Body thickness incorrect
111	Coating missing or incorrect
112	Tube length from outside bottom of body to bottom of slot incorrect
113	Workmanship (3.5)
114	Flash tube will not plug gage
115	Flash tube will not ring gage

(b) Disk, closing (Drawing C15-11-26).

<u>Categories</u>	<u>Defects</u>
<u>Critical:</u>	None defined
<u>Major:</u>	AQL 1.0 percent defective
101	Outside diameter incorrect
102	Hole diameter incorrect
103	True position incorrect
104	Coating incorrect
105	Edge radius incorrect
106	Thickness incorrect
107	Workmanship (3.5)
108	Width incorrect (.124"-.156")

(c) Disk, packing (Drawing B15-11-223).

<u>Categories</u>	<u>Defects</u>
<u>Critical:</u>	None defined
<u>Major:</u>	AQL 1.0 percent defective
101*	Diameter incorrect
102*	Hole diameter incorrect
103	Thickness incorrect (by certification)

(d) Sleeve, zinc (Drawing C15-11-24).

<u>Categories</u>	<u>Defects</u>
<u>Critical:</u>	None defined
<u>Major:</u>	AQL 1.0 percent defective
101	Thickness incorrect (by certification)
102	Length incorrect
103*	Seam incorrect
104	Staking or spot welds missing
105*	Stake diameter incorrect
106*	Inside diameter incorrect

*Tool control. Tooling to be checked prior to and upon completion of production or any time tooling is modified or changed. Tooling must be correct at each check.

4.4.4 Tests. Tests shall be conducted as follows:4.4.4.1 Welds.

- (a) Secure assembly in suitable fixture.
- (b) Place a 24-inch rigid hollow bar snugly over perforated tube (bar shall have a 1/8-inch maximum wall thickness and shall show no evidence of bending during test). Move bar laterally, touching diametrically opposite walls and return to center.
- (c) Rotate assembly 90 degrees and repeat (b) above.
- (d) Remove bar and remove assembly from fixture.
- (e) Examine projection welds for metal separation, cracks or other failures.

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4.4.4.2 Salt spray test. Body assembly and closing disk shall be subjected to a salt spray test in accordance with Fed-Std-141, Method 6061, except use 5 percent sodium chloride solution for 48 hours.

5. PREPARATION FOR DELIVERY

5.1 Packaging and packing (interplant shipment).

5.1.1 Body assembly, metal (see 6.2).

5.1.1.1 Expendable container. A uniform quantity of empty metal canisters shall be packed together in an economical and efficient manner which will assure delivery of the canisters to a first receiving activity in an undamaged condition. Canister assemblies shall be capable of being handled and stowed under normal shipping and receiving conditions and shall be of type, size and gross load weight commensurate with the rules and regulations of the applicable mode of transportation.

5.1.2 Zinc sleeve. Zinc sleeves shall be packed in a manner to prevent damage or disfigurement by placing them in a shipping container utilizing interlocking partitions in which each sleeve shall occupy an individual cell. The quantity of sleeves that shall be packed together in a shipping container shall be commensurate with sound economic and efficient packing practices and shall assure safe delivery to a first receiving activity in an undamaged condition.

5.1.3 Disk, packing. Disks shall be packed together in a manner which will prevent physical damage or disfigurement by placing them in equal quantity stacks within a shipping container which shall provide sound economic and efficient packaging and provide safe delivery to a first receiving activity in an undamaged condition.

5.1.4 Disk, closing. Disks shall be packed together in a manner which will make use of their stacking ability. Sufficient quantities shall be packed together to provide an economical and efficient package and assure safe delivery to a first receiving activity in an undamaged condition.

5.2 Marking. In addition to any special marking required by the contract or order, shipping containers shall be marked in accordance with the domestic marking requirements of MIL-STD-129.

6. NOTES

6.1 Intended use. These components are intended for M1 canisters to be used in the 105mm HC Smoke Cartridge, M84A1.

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6.2 Ordering data. Procurement documents should specify the following:

- (a) The title, number, and date of this specification.
- (b) Interplant shipment.

(1) Interplant shipment shall be defined as material which will not enter the military supply system. Typical are shipments of component parts from a vendor to a prime contractor, a subcontractor, or a supplier to a military installation or plant. The responsibility of acceptance of the material is the contractors.

(2) Selection of containers cited in 5.1.1.1 and 5.1.1.2 shall be at the option of the procuring activity and shall be designated in the contract or order.

- (c) Preproduction.

(1) Time allowed for supplier submission of samples for Government test and evaluation after award of contract.

(2) Name and address of test facility and shipping instructions when testing is performed by the Government.

(3) Time required for the Government to notify the supplier whether or not to proceed with production.

(d) Design agency where drawings for contractor designed inspection equipment should be forwarded.

Custodian:

Army - EA

Preparing activity:

Army - EA

Project No. 1315-A285

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 22-R255
<p>INSTRUCTIONS: 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. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.</p>		
SPECIFICATION		
ORGANIZATION		
CITY AND STATE		CONTRACT NUMBER
MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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 - Optional)		DATE

DD FORM 1426
1 JAN 66

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.