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MIL-F-71131 (AR)
26 May 1992

MILITARY SPECIFICATION

FIN, MORTAR CARTRIDGE: M32

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

1. SCOPE

1.1 Scope. This specification covers requirements and quality assurance provisions for the fabrication of the Fin, Mortar Cartridge:M32. This is a pressure vessel application.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks 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).

SPECIFICATIONS

MILITARY

MIL-H-6088	-	Heat Treatment of Aluminum Alloys
MIL-A-48078	-	Ammunition, Standard Quality Assurance Provisions, General Specification for

STANDARDS

MILITARY

MIL-STD-109	-	Quality Assurance Terms and Definitions
MIL-STD-1167	-	Ammunition Data Card
MIL-STD-1169	-	Packaging, Packing and Marking for Shipment of Inert Ammunition Components

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document, should be addressed to: Commander U.S. Army ARDEC, ATTN: SMCAR-BAC-S, Picatinny Arsenal, New Jersey 07806-5000 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 1310

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

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS (see 6.5)

U.S. ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER (ARDEC)

12944199 - Fin, Mortar Cartridge:M32

(Copies of other Government documents, drawings and publications required by contractors in connection with specific acquisition functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.1.3 Non-Government publications

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM Method E-8 - Tension Testing of Metallic Materials
ASTM Method E-340 - Macroetching Metals and Alloys

Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among the technical groups and using Federal Agencies.

2.2 Order of precedence. In the event of a conflict between the text of this document and the references cited herein the text of this document shall take precedence. Nothing in this document, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

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

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3.2 Components and assemblies. The components and assemblies shall comply with all requirements specified on drawing 12944199 and associated drawings and with all requirements specified in applicable specifications and standards.

3.3 Mechanical properties. Mechanical properties shall be in accordance with the requirements of the applicable drawings and specifications.

3.4 Heat treatment. Heat treatment equipment, procedures and controls shall be in accordance with MIL-H-6088. The extrusion stock shall be solution heat treated in such a manner as to avoid overheating of the material or cracking during quenching.

3.5 Hydrostatic test. Each tail fin shall be able to withstand a hydrostatic load in accordance with drawing 12944199 and tested IAW 4.5.5. Each tail fin that successfully meets the requirements of this test shall be permanently stamped in accordance with drawing 12944199.

3.6 Data requirements. The contractor shall generate data in accordance with the requirements of the data item descriptions cited in 4.5.4.2 and 4.5.5. Ammunition data cards are required (see section 6 and MIL-STD-1167). All data cards shall list drawings and revisions for components and assemblies.

3.7 First article. This specification makes provisions for first article inspection. Requirements for submission of first article samples by the contractor shall be as specified in the contract and by 4.3 herein. (See 6.2)

3.8 Workmanship. The requirements for workmanship are as shown on the applicable drawing, referenced specification and the following sub-paragraphs.

3.8.1 Metal defective. Soundness of the material shall be as required by the applicable material specifications. Fins shall be homogeneous and free from cracks, laminations, porosity, pipe type or other deleterious defects.

3.8.2 Threads. Threads shall be full and undamaged for the entire minimum length or depth as required by the applicable drawings.

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3.8.3 Burr. No part shall have a burr which might adversely affect the assembly or function of the round or which might be injurious to personnel handling the item.

3.8.4 General. All parts and assemblies shall be free of burrs, chips, dirt, grease, rust, corrosion, and other foreign material that may adversely affect fit or function. The cleaning method used shall not be injurious to the parts nor shall any parts be contaminated. All packaging materials and the contents to be packaged therein shall be neat, clean and shall exhibit good workmanship.

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 the 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 inspections 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.

4.1.2 General provisions. The requirements of MIL-A-48078 form a part of the quality assurance provisions of this specification. Reference shall be made to MIL-STD-109 to define quality assurance term used herein.

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4.2 Classification of inspections. The following types of inspections shall be conducted on this item:

a. First Article Inspection (see 4.3)

b. Quality Conformance Inspection (see 4.4)

4.3 First article inspections.

4.3.1 Submission. The contractor shall submit a first article sample 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:

Following nominal cropping, one full cross-sectional specimen suitable for macroetch shall be selected from the front and rear of each extrusion bar.

QTY	Components To Be Inspected
10	Fins completely machined including flash holes
10	Fins completely machined less the flash holes
2	Flat tensile specimens
2	Round tensile specimens
2	Microstructure specimens

4.3.2 Inspection to be performed. See MIL-A-48078 and Table I specified herein.

4.3.3 Rejection. See MIL-A-48078.

TABLE I. First article inspection.

CLASSIFICATION OF CHARACTERISTICS

PARAGRAPH	TITLE Fins, Tails and Extrusion Stock	SHEET 1 OF 1		DRAWING NUMBER See below NEXT HIGHER ASSEMBLY
CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
	Extrusion Bar (front and rear blank)			
	Macroetch test	2 ea	3.8.1	Test/4.5.3
	Extrusion Blanks			
	Tension test	4 ea	3.1	Test/4.5.4
	Microstructure examination	2 ea	3.4	Test/4.5.4
	Fin, Mortar Cartridge: M32 Prior to drilling flash holes (dwg. 12944199)			
	Hydro test	10 ea	3.2	Test/4.5.5
	Fin, Mortar Cartridge: M32 (dwg. 12944199)			
	Examination for defects	10 ea	3.2	4.4.2.5

NOTES:

AMSMC Form 1570a-E, 1 Jul 89 Replaces AMSMC Form 1570a, 1 Apr 85, which may not be used.

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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. In addition, the extrusion lot shall consist of not more than 2000 pounds of extruded stock of the same alloy that has been thermally treated by the same method in the same furnace equipment at the same temperature and time in one unchanged process regardless of the solution heat treating method utilized. Each extrusion lot representing material that has been solution heat treated after extrusion, must be solution heat treated at the same time in the same furnace using the same temperature and time in that furnace. The extrusion lot thus constituted shall be the basis for selecting the sample blanks for the microstructure and tension tests herein after prescribed.

4.4.2 Examinations and tests.

a. Classification of characteristics. Quality conformance examinations and tests are specified in the following Classification of Characteristics paragraphs. The contractor's quality program or detailed inspection system shall provide assurance of compliance of all characteristics with the applicable drawing and specification requirements utilizing as a minimum the conformance criteria specified herein. Where cited herein, attributes Sampling Inspection shall be conducted in accordance with Table II below, using the inspection levels cited in the Classification of Characteristics paragraphs:

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Table II. Attributes sampling inspection

LOT SIZE	INSPECTION LEVELS I	II	III	IV	V	VI
2 to 8	*	*	*	*	5	3
9 to 15	*	*	*	13	5	3
16 to 25	*	*	*	13	5	3
26 to 50	*	*	32	13	5	3
51 to 90	*	*	32	13	13	5
91 to 150	*	125	32	13	13	5
151 to 280	*	125	32	32	20	8
281 to 500	*	125	32	32	20	8
501 to 1200	*	125	80	50	20	13
1201 to 3200	1250	125	80	50	32	13
3201 to 10000	1250	125	125	50	32	13
10001 to 35000	1250	315	125	80	50	13
35001 to 150000	1250	315	125	80	50	13
150001 to 500000	1250	500	200	125	50	13
500001 and over	1250	500	200	125	50	13

Numbers under inspection levels indicate sample size; asterisks indicate one hundred percent inspection. If sample size exceeds size, perform one hundred percent inspection. Accept on zero and reject on one or more for all inspection levels.

b. Alternative quality conformance provisions. Unless otherwise specified herein or provided for in the contract, alternative quality conformance procedures, methods or equipment, such as statistical provess control, tool control, other types of sampling plans, etc., may be used by the contractor when they provide, as a minimum, the level of quality assurance required by the provisions herein. Prior to applying such alternative procedures, methods or equipment, the contractor shall describe them in a written proposal submitted to the Government for evaluation (see 6.11). When required, the contractor shall demonstrate that the effectiveness of each proposed alternative is equal to or better than the specified quality conformance provision(s) herein. In case of dispute as to whether the contractor's proposed alternative(s) provides equivalent assurance, the provisions of this specification shall apply. All approved alternative provisions shall be specifically incorporated into the contractor's quality program or inspection system, as applicable.

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF CHARACTERISTICS

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PARAGRAPH	TITLE	SHEET 1 OF 1	DRAWING NUMBER
4.4.2.1	Extrusion Bar		NEXT HIGHER ASSEMBLY

CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
Critical	None defined			
Special A	Macroetch test	100%	3.8.1	Test/4.5.3
Major	None defined			
Minor	None defined			

NOTES:

AMSMC Form 1570b-E, 1 Jul 89 Replaces AMSMC Form 1570, 1 Feb 85, which may not be used.

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QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF CHARACTERISTICS

PARAGRAPH	TITLE	SHEET 1 OF 1	DRAWING NUMBER
4.4.2.2	Extrusion Blanks (following final heat treatment)		NEXT HIGHER ASSEMBLY

CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
Critical	None defined			
Special				
A	Tension test	4(a)	3.1	Test/4.5.4
B	Microstructure Examination	2	3.4	Test/4.5.4.1
Major	None defined			
Minor	None defined			

NOTES:

(a) See para. 4.4.1

AMSMC Form 1570b-E, 1 Jul 89 Replaces AMSMC Form 1570, 1 Feb 85, which may not be used.

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QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF CHARACTERISTICS

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PARAGRAPH	TITLE	SHEET 1 OF 1	DRAWING NUMBER
4.4.2.3	Fin, Mortar Cartridge:M32, Prior to Drilling Flash Holes		12944199
			NEXT HIGHER ASSEMBLY

CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
Critical	None defined			
Special A	Hydrostatic test	100%	3.5	Test/4.5.5
Major	None defined			
Minor 201	Poor workmanship	V	3.8	Visual

NOTES:

AMSMC Form 1570b-E, 1 Jul 89 Replaces AMSMC Form 1570, 1 Feb 85, which may not be used.

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QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF CHARACTERISTICS

PARAGRAPH	TITLE	SHEET 1 OF 3	DRAWING NUMBER 12944199
4.4.2.4	Fin, Mortar Cartridge: M32		NEXT HIGHER ASSEMBLY

CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
Critical	None defined			
Special				
A	Forward thread minor diameter, maximum	100%	3.2	Gage
B	Presence of burr or foreign matter in ignition cartridge cavity or in any flash hole	100%	3.8.3/ 3.8.4	Visual
C	Flash hole(s) missing	100%	3.2	4.5.2.1
D	Hydrostatic test stamp missing	100%	3.2	4.5.5
Major				
101	Runout between outside diameter of fin blades and pitch diameter of forward thread and front face	III	3.2	Gage
102	Outside diameter of fin blades	III	3.2	Gage
103	Taper of Fin blade thickness at basic diameters	III	3.2	Gage

NOTES:

AMSMC Form 1570b, 1 Jul 89 Replaces 1570, 1 Feb 85, which may not be used.

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QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF CHARACTERISTICS

PARAGRAPH	TITLE	SHEET 2 OF 3	DRAWING NUMBER 12944199
4.4.2.4	Fin, Mortar Cartridge: M32		NEXT HIGHER ASSEMBLY

CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
Major				
104	Length from forward face to forward edge of fins (6 places)	III	3.2	Gage
105	Runout between boom outside diameter, boom face and forward thread	III	3.2	Gage
106	Pitch diameter of rear thread	III	3.2	Gage
107	Pitch diameter of forward thread	III	3.2	Gage
108	Aft thread effective length, min	III	3.2	Gage
109	Forward thread effective length, min	III	3.2	Gage
110	Outside diameter of boom	III	3.2	Gage
111	Flash holes improperly located (8 places)	III	3.2	Gage
112	Diameter of flash holes (8 places)	III	3.2	Gage
113	Length from inner fin base diameter to the aft face of the shot gun shell cavity	III	3.2	Gage
114	Inside diameter of longitudinal boom thru hole	III	3.2	Gage
115	Runout between inside diameter of longitudinal boom thru hole, boom forward face and forward thread	III	3.2	Gage
116	Boom outside diameter between fin blades	III	3.2	Gage

NOTES:

AMSMC Form 1570b, 1 Jul 89 Replaces 1570, 1 Feb 85, which may not be used.

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QUALITY CONFORMANCE INSPECTION
CLASSIFICATION OF CHARACTERISTICS

PARAGRAPH	TITLE	SHEET 3 OF 3	DRAWING NUMBER 12944199
4.4.2.4	Fin, Mortar Cartridge: M32		NEXT HIGHER ASSEMBLY

CLASSIFICATION	EXAMINATION OR TEST	CONFORMANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD REFERENCE
Major (cont'd)				
117	True position between fin blades at basic diameters to outside diameter, boom face and forward thread	III	3.2	Gage
118	True position between aft thread to inside diameters of longitudinal boom thru hole	III	3.2	Gage
Minor				
201	Length from front face to inner fin base diameter	V	3.2	Gage
202	Fin radii missing at boom/fin interface	V	3.2	Visual
203	Inner fin base diameter	V	3.2	Gage
204	Length from end of fin to inner fin base diameter (6 places)	V	3.2	Gage
205	Forward thread lean-in chamfer missing	V	3.2	Visual
206	Fin forward chamfers missing (6 places)	V	3.2	Visual
207	Fin aft outside radii missing	V	3.2	Visual
208	Fin aft inside chamfers missing (6 places)	V	3.2	Visual
209	Poor workmanship	V	3.8	Visual

NOTES:

AMSMC Form 1570b, 1 Jul 89 Replaces 1570, 1 Feb 85, which may not be used.

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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 described in this specification is identified either directly or by reference, in the "Paragraph Reference/Inspection Method" column of the Quality Conformance Inspection Tables herein. 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 Methods of inspection.

4.5.1 Materials, components and processes. Compliance with all requirements of Section 3 of this specification shall be ascertained by current and continuing examination of inspection and test data to determine that all components (parts, subassemblies, and materials) have been inspected and tested and found to comply with their respective drawing and specification requirements, and that all specified manufacturing processes have been followed.

4.5.2 Flash hole inspection.

4.5.2.1 Missing flash holes. Each fin shall be inspected by an electronic/mechanical system capable of determining the presence of the required number of flash holes (see drawing).

4.5.2.2 Excessive flash holes. The sample fins shall be visually inspected for the presence of flash holes in excess of the drawing requirement.

4.5.3 Macroetch test. Following nominal cropping, full cross section macroetch specimens from the front and back of each individual extrusion billet shall be examined. Failure to comply with the requirements of 3.8.1 will require an additional length of discard from the defective extrusion end(s) of the remaining length of extruded material. This procedure must be continued until a sufficient length of the defective extrusion has been discarded and the requirements of 3.8.1 are met. Suitable identification of each length of extrusion and corresponding macroetch must be maintained until the extruded material is accepted. The specimens shall be macroetched using the criteria prescribed in ASTM Method E-340 except that sodium hydroxide shall be used as the macroetching reagent.

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4.5.4 Tension test. Four specimens total shall be taken from each extrusion lot (as defined by 4.4.1). For press-quench production, two specimens (one round and one flat) shall be taken from both the front and rear of each extrusion lot representing the first and last material respectively which has been extruded and is in accordance with the provisions of 4.4.1. For solution heat treatment following extrusion, two specimens (one round and one flat) shall be chosen from any zones of a furnace meeting the requirements of MIL-H-6088.

The flat tensile specimens shall be the largest flat-type specimens obtainable from the blade area, and the remaining two specimens shall be the largest round-type specimens obtainable from the housing portion.

Specimens shall be taken longitudinally. Failure of any tension test specimen to comply with the yield strength or elongation requirements of the applicable drawing shall be cause for rejection of the lot. The test criteria for all four tensile specimens shall be as prescribed by ASTM Method E-8. The number of specimens and their location is to determine the acceptability of the mechanical property requirements. The Government shall not be restricted from testing additional specimens at any location to determine that the mechanical properties meet the drawing requirements for yield strength and elongation.

4.5.4.1 Microstructure examination. From each of the flat samples submitted for tension testing, one wafer approximately 1/2 inch square shall be prepared for metallographic examination from an undeformed portion of the specimen. When suitably prepared, the specimen shall be etched with Keller's reagent and examined by scanning under a metallurgical microscope at a minimum magnification of 500 diameters. Overheating shall be evidenced by the presence of rosettes in the microstructure or incipient melting at the grain boundaries (see 6.6). Evidence of the above shall be cause for rejection of the extrusion lot.

4.5.4.2 Quality inspection report. The contractor shall submit a quality inspection test, demonstration and evaluation report giving detailed test results of data generated in accordance with paragraphs 4.5.4 and 4.5.5. (See 6.3).

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4.5.5 Hydrostatic test. After final machining, but prior to drilling flash holes and prior to gaging, each fin shall be subjected to a hydrostatic test to determine compliance with the requirements of the drawing. Rupture, cracking, or bulging shall be evidence of fin failure and cause for rejection of the fin. The fin shall be hydrostatically tested using the equipment capable of performing the test accurately and consistently. In performing the test, the pressure will be applied until the required minimum pressure by the drawing is reached and held for the required time. The equipment shall be calibrated prior to the start of each day's operation and at intervals of not over 4 hours of continuous operation. It shall also be calibrated prior to restarting the operation after a lay-off of three hours or more. It it has been found that the equipment is out of calibration in such a direction that the pressure was actually lower than required by the applicable drawing, the fins tested since the last satisfactory calibration shall be retested after the calibration error has been corrected. Each fin that successfully passes the test shall be stamped in accordance with the drawing. The contractor shall submit a monthly quality defect report summarizing the number and type of defects found and pressure at rupture. (See 6.3).

5. PACKAGING

5.1 Packing. The tail fins shall be packaged in containers in accordance with the best current standards of industry so that they will arrive in prime condition and can be stored in such a manner as to remain in that condition.

5.2 Marking. In addition to any special marking required by the contract, unit packages, intermediate packages, and shipping containers shall be marked in accordance with the requirements of MIL-STD-1169.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The components covered by this specification are intended for use on the Cartridge 81MM: Practice, Short Range, M880.

6.2 Acquisition requirements.

a. See MIL-A-48078.

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b. Issue of DODSS to be cited in the solicitation and if required, the specific issue of individual documents reference (see 2.1).

c. Provisions for submission of first article sample.

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied to the contract.

Reference Paragraph	DID Number	DID Title
4.5.4.2	QCIC-81200	Quality Inspection Test Demonstration and Evaluation Report
4.5.5	QCIC-81200	Quality Inspection Defect Report

The above DID's were those 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 a (Copies of data item descriptions required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

6.4 Submission of inspection equipment designs for approval. See 6.2.3 of MIL-A-48078 (AR). Submit equipment designs, as required, to: Commander, U.S. Army Armament Research, Development and Engineering Center (ARDEC), ATTN: SMCAR-QAT-I, Picatinny Arsenal, NJ 07806-5000. This address will be specified on the Contract Data Requirements List, DD Form 1423 in the contract.

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

6.6 Microstructure examination. Microstructure examination of solution heat treat specimens should be performed by a skilled metallographer familiar with aluminum alloys.

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6.7 Alternative sample selection. An alternative method of defining an extrusion lot for the purposes of selection of samples for tension or microstructure examination will be considered. Proposed alternatives shall be submitted thru the PCO to the Cognizant Government Technical Agency for approval prior to implementation.

6.8 Visual examination qualifications. When compliance with the applicable requirements is in doubt as a result of visual examination, this characteristic may be measured or gaged to determine acceptability.

6.9 Surface roughness. The roughness comparison specimens prescribed by ANSI-B46.1 shall be used as a basis for surface roughness determination. Four power (4X) magnification may be used in performing visual examination.

6.10 Submission of test data. One copy of test data gleened through the performance of this specification shall be forwarded to the following: Commander, ARDEC, ATTN: SMCAR-QAT-B, SMCAR-FSS-DM, and SMCAR-FSA-MM, Picatinny Arsenal, NJ 07806-5000.

6.11 Submission of alternative quality conformance provisions. All contractor proposed alternative quality conformance provisions will be submitted to the Government for evaluation/approval by the technical activity responsible for the preparation of this specification.

6.12 Subjet term (key word) listing

Heat treatment
Tensile testing
Hydrostic testing
Workmanship criteria

Custodian:
Army-AR

Preparing activity:
Army-AR

(Project 1310-A507)

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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.

I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-F-71131 (AR)	2. DOCUMENT DATE (YYMMDD) 26 MAY 1992

3. DOCUMENT TITLE FIN, MORTAR CARTRIDGE: M32

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets if needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)	b. ORGANIZATION	
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON (If applicable)	7. DATE SUBMITTED (YYMMDD)

8. PREPARING ACTIVITY

a. NAME Paul Tremblay	b. TELEPHONE (Include Area Code) (1) Commercial 201-724-6671 (2) AUTOVON DSN-880-6671
c. ADDRESS (Include Zip Code) Commander: U.S. Army ARDEC ATTN: SMCAR-BAC-S Picatinny Arsenal, New Jersey 07806-5000	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340