MIL-G-12297H(AR)
20 July 1984
SUPERSEDING
MIL-G-12297G(EA)
16 December 1975

MILITARY SPECIFICATION

GRENADE, HAND, INCENDIARY, TH3, AN-M14

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 contains requirements not covered by the drawings and provides quality assurance provisions for the fabrication of parts, assembly and packing of one type of incendiary grenade.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.2 Specifications and standards. Unless otherwise specified (see 6.2), the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

PPP-B-621	- Boxes, Wood, Nailed and Lock-Corner.
PPP-F-320	- Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.

MILITARY

MIL-G-1353	- Grenade, Hand, Inert, Components For
MIL-B-2427	- Boxes, Ammuntion Packing; Wood, Nailed.
MIL-A-48078	- Ammunition, Standard Quality Assurance Provisions, General Specification For.

FSC 1330

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 Center, Attn. DRSMC-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.

STANDARDS

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129 - Marking for Shipment and Storage

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein.

DRAWINGS

US ARMY ARMAMENT RESEARCH AND DEVELOPMENT CENTER (ARDC)

D13-17-3 - Grenade, Hand, Incendiary, TH3, AN-M14.
D13-9-98 - Packaging, Grenade - Assembly and Bill of Material (One Grenade).
D13-17-30 - Marking Drawing - Shipping, Container, Grenade, Hand Incendiary, TH3, AN-M14.

DEFENSE AMMUNITION CENTER AND SCHOOL

19-48-4116/65G - Unitization Procedures for Boxed Ammuntion and Components on 4-Way Entry Pallets

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

2.1.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

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

3.2 Assembly. The assembly shall comply with all requirements specified on Drawing D13-17-3 and with all requirements specified in applicable specifications.

3.3 Leakage. The Body and Top assembly shall not leak when tested in accordance with 4.4.3.3.

3.4 Compliance of chemical mixtures. For each chemical mixture, the contractor shall provide a certificate of analysis to these requirements, as determined by the contracting officer.

3.5 Loading. The incendiary mixture Drawing B143-13-1 shall be loaded into the grenade body assembly Drawing C13-17-24 in one or, at most, two substantially equal increments. A final increment comprising a 50 ± 10 grams (g) layer of first fire mixture VII Drawing C143-9-1 shall be added. Each increment shall be consolidated under a minimum dead load of 8-1/2 tons using a ram having a face contour with dimensions which will produce the final face configuration shown on Drawing C13-17-3. The disposition of each increment of filling shall be controlled to give optimum uniformity of layer thickness and density (See 6.5).

3.6 Functioning. The grenade shall ignite and burn, and the incendiary mixture shall be completely consumed in no more than 40 seconds when tested in accordance with 4.4.3.1.

3.7 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 specified in the contract.

3.8 Workmanship. All parts shall be fabricated and loaded in a thorough, workmanlike manner. They shall be free of chips, burrs, sharp edges, cracks, dirt, grease, rust and other foreign material. The metal parts shall not contain metal defects such as inclusions, cold shuts, or porous areas. The cleaning method used shall not be injurious to any part, nor shall the parts be contaminated by the cleaning agent. Exterior surface coatings shall be continuous except for a few light scratches not exposing base material. All required markings 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.

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 sample as designated by the Contracting Officer for evaluation in accordance with provisions of 4.3.2. The first article sample shall consist of the items sample quantities as indicated in Table I.

4.3.2 Inspections 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 DEFECTS & TESTS

MIL-G-12297H(AR)

PARAGRAPH	TITLE: Grenade, Hand, Incendiary, TH3, AN-M14		SHEET 1 OF 2		DRAWING NUMBER: See below
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
	First Fire Mixture (Dwg. B143-9-1)				
	Examination for defects	20		3.2	4.4.2.1
	Incendiary Mixture Thermate, TH3 (Dwg. B143-13-1)				
	Examination for defects	20		3.2	4.4.2.2
	Body Assembly (Dwg. C13-17-24)				
	Examination for defects	20		3.2	4.4.2.3
	Leak Test	20(a)		3.3	4.4.3.3
	Top Assembly (Dwg. C13-17-29)				
	Examination for defects	20		3.2	4.4.2.4
	Leak Test	20(a)		3.3	4.4.3.3
	Grenade (Prior to Assembling Top) (Dwg. D13-17-3)				
	Examination for defects	20		3.2	4.4.2.5
	Loading	20(a)		3.6	

NOTES: (a) Above units to be used for test.

DRSMC-QA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

TABLE I. First article inspection

CLASSIFICATION OF DEFECTS & TESTS MIL-G-12297H(AR)

PARAGRAPH	TITLE: Grenade, Hand, Incendiary, TH3, AN-M14		SHEET 2 OF 2		DRAWING NUMBER: See below
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
	Grenade, Hand, Incendiary (Dwg. D13-17-3)				
	Examination for defects	30		3.2	4.4.2.6
	Functioning	30(a)		3.7	4.4.3.1
	Grenade, Packaging (Dwg. D13-9-98)				
	Examination for defects	30		3.2	4.4.2.7
	Leak test	30(a)		3.3	4.4.3.3

NOTES:

(a) Above units to be used.

DRSMC-OA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

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, inspection lots of Grenade Assemblies shall contain:

a. Lotting. Fuze lots with the same interfix number from one manufacturer. However, no more than one lot of fuzes shall be represented in any one lot of assembled grenades.

b. Components (metal components, smoke or starter incredients) of the same interfix number shall be produced by one manufacturer at one plant in no more than five (5) consecutive work shifts not to exceed two (2) weeks consecutive duration.

4.4.2 Examination. See MIL-A-48078.

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

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.1	First Fire Mixture				B143-9-1
					NEXT HIGHER ASSEMBLY
					D13-17-3
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined.				
Major	None defined.				
Minor 201	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DRSMC-OA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-G-12297H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.2	Incendiary Mixture Thermate, TH3				B143-13-1
					NEXT HIGHER ASSEMBLY
					D13-17-3
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major 101	Moisture content		0.40%	3.2	4.4.3.2
Minor 201	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DRSMC-QA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

CLASSIFICATION OF DEFECTS & TESTS

MIL-G-12297H(AR)

PARAGRAPH	TITLE	SHEET	DRAWING NUMBER
4.4.2.3	Body Assembly	1 OF 1	C13-17-24
			NEXT HIGHER ASSEMBLY: D13-17-3

CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major 101	Leak test		0.40%	3.3	4.4.3.3
Minor 201	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DRSMC-QA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-G-12297H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.4	Top Assembly				C13-17-29
					NEXT HIGHER ASSEMBLY
					D13-17-3
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Solder incomplete		0.40%	3.2	Visual
102	Leak test		0.40%	3.3	4.4.3.3
Minor					
201	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DPSMC-QA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.5	Grenade Hand, (Prior to Assembling Top)				D13-17-3
					NEXT HIGHER ASSEMBLY D13-17-3
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major 101	Height of first fire		0.40%	3.2	Gage
Minor 201	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DRSMC-OA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

CLASSIFICATION OF DEFECTS & TESTS

MIL-G-12297H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.6	Grenade, Hand, Incendiary, TH3, AN-M14				D13-17-3
					NEXT HIGHER ASSEMBLY D13-9-96
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical					
1	Safety pin missing, incorrectly formed or assembled		100%	3.2	Visual
Major					
101	Fuze damaged or missing		0.40%	3.2	Visual
102	Tape missing, loose or incorrect		0.40%	3.2	Visual
103	Marking incorrect		0.40%	3.2	Visual
104	Fuze torque incorrect		0.40%	3.2	Gage
105	Functioning	30	0-1	3.6	4.4.3.1
Minor					
201	Marking missing or illegible		0.65%	3.2	Visual
202	Finish damaged or missing		0.65%	3.2	Visual
203	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DPSMC-DA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

CLASSIFICATION OF DEFECTS & TESTS

MIL-G-12297H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.7	Grenade, Packaging				D13-9-98
					NEXT HIGHER ASSEMBLY
					D13-17-30
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Container leakage		0.40%	3.2	4.4.3.3
102	Container incorrect		0.40%	3.2	Visual
103	Container closure incorrect		0.40%	3.2	Visual
104	Loose pack		0.40%	3.2	Visual
105	Keys missing		0.40%	3.2	Visual
106	Protective finish missing		0.40%	3.2	Visual
107	Marking missing, illegible or incorrect		0.40%	3.2	Visual
Minor					
201	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DRSMC-OA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

MIL-G-12297H(AR)

PARAGRAPH	TITLE		SHEET 1 OF 1		DRAWING NUMBER
4.4.2.8	Marking Drawing, Shipping Container, Hand Incendiary, TH3, AN-M14				D13-17-30
					NEXT HIGHER ASSEMBLY
CATEGORY	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
Critical	None defined				
Major					
101	Instruction card missing		0.40%	3.2	Visual
102	Keys missing		0.40%	3.2	Visual
Minor					
201	Evidence of poor workmanship		1.0%	3.8	Visual

NOTES:

DRSMC-QA (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

4.4.3 Tests.

4.4.3.1 Functioning. The grenade shall be held in an upright position and submerged in water to a minimum depth of 1 inch below the surface of the water for a minimum period of 30 minutes. The temperature of the water shall be equal to but no higher than 10°F above the temperature of the grenade at time of immersion. The grenade shall be functioned within one hour after being removed from the water. The grenade shall be held in one hand with the fuze lever pressed against the grenade body by the palm of the hand. The safety pin shall be removed and the grenade shall be thrown downwind 10 to 20 yards in a substantially flat trajectory onto a relatively level terrain. (See 6.7)

4.4.3.2 Moisture content. The moisture content of the incendiary mixture at the loading station at the time of loading shall be tested in accordance with Dwg. B143-13-1.

4.4.3.3 Body leakage. The body assembly shall be leak tested in accordance with MIL-G-1353.

4.4.3.4 Container leakage. The closed container (Drawing D13-9-98) shall be submerged in water at a temperature of 185°F ± 5°F to a depth of 1 to 2 inches below the surface of the water for a period of 25 ± 5 seconds and observed for leakage (See 6.6).

5. PACKAGING

5.1 Packaging, Level A. The grenade shall be packaged as specified on Drawing D13-9-98.

5.2 Packing, Level A. Sixteen grenades, packaged as specified in 5.1, shall be packed together in one layer in an overseas type wooden shipping container conforming to Class 2, Style 4, for a Type 2 load of PPP-B-621. Inside dimensions of the shipping container shall be 11 1/2 x 11 1/2 x 6 3/4 (length, width, and depth, respectively). Filler pads, conforming to Grade W5C of PPP-F-320, shall completely separate the contents from the ends, sides, top and bottom of the shipping container. Additional pads of the same material shall be used as required to insure a tight pack. The box shall be fitted with a 16-celled interlocking partition conforming to C13-9-99. The shipping container and all wood parts thereof shall be fully immersed for a minimum of one minute in a water repellant, wood preservative conforming to composition specified in MIL-B-2427. Prior to packing the grenades in the treated shipping container, the preservative shall be dry when tested in accordance with MIL-B-2427. An instruction card conforming to Dwg. B13-17-22 shall be placed face up in the shipping container on top of the packed grenades. Two keys per Dwg. D22-129-1, when required per 6.1, shall be placed in vertical positions between the packages and the side filler pads on opposite sides of the container. The shipping container shall be closed and strapped in accordance with PPP-B-621.

5.3 Marking. In addition to any special marking required by the contract or order, unit packages shall be marked in accordance with MIL-STD-129 and with Drawing D13-9-98. Shipping containers shall be marked in accordance with Drawing D13-17-30. Sufficient drying time shall be allowed after application of the wood preservative to insure that all marking shall be clear, legible and permanent.

5.4 Palletization. When specified in the contract or order, shipping containers shall be palletized in accordance with Drawing 19-48-4116/65G.

6. NOTES

6.1 Intended use. The components covered by this specification are intended for use on the Grenade, Hand, Incendiary TH3, AN-M14.

6.2 Ordering data. See MIL-A-48078.

6.3 Submission of inspection equipment for design approvals. See MIL-A-48078. Submit designs as required to: Commander, US Army Armament Research and Development Center, ATTN: DRSMC-QAT-I(D), Dover, NJ 07801.

6.4 Distribution of ammunition data cards. Distribution of data cards include the following: Commander, US Army Armament Research and Development Center, ATTN: DRSMC-QAT-M(D), Dover, NJ 07801.

6.5 Precautions. Because of the hazards inherent in grenade ingredients, suppliers are advised to protect personnel from injury during grenade filling and loading operations.

6.6 Leakage. Closed containers showing evidence of leakage when tested, per 4.4.3.3, if otherwise satisfactory, may be wiped with a dry cloth to prevent moisture from being drawn into the container. Leaking solder seams may be resoldered. Leaking end seams may not be repaired.

6.7 Caution. The M14 grenade burns with an intense flame, therefore protective equipment for the eyes should be worn by personnel when functioning the grenade.

6.8 Drawings. Drawings listed in Section 2 of this specification under the heading US Army Armament Research and Development Center (ARDC) may also include drawings prepared by, and identified as US Army Armament Research and Development Command (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 ARDC.

6.9 Changes from Previous Issue. Asterisks are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Custodian:
Army-AR

Preparing activity:
Army-AR

(Project 1330-A199)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
MIL-G-12297H	GRENADE, HAND, INCENDIARY, TH3, AN-M14

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR ☐ USER ☐ MANUFACTURER ☐ OTHER *(Specify)*: _____
b. ADDRESS *(Street, City, State, ZIP Code)*	

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

DD FORM 82 MAR 1426

PREVIOUS EDITION IS OBSOLETE.