

MIL-F-45144D(AR)
8 June 1984

SUPERSEDING
MIL-F-45144C(PA)
8 February 1974

MILITARY SPECIFICATION

FUSE, BLASTING, TIME, M700, AND FUSE, BLASTING, TIME, INERT, LOADING, ASSEMBLING AND PACKING

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 quality assurance provisions and preparation for delivery for two types of fuse designated as:

Type I. Fuse, Blasting, Time, M700.

Type II. Fuse, Blasting, Time, Inert.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified (see 6.1), 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-T-45 - Tape, Gummed, Paper, Reinforced and Plain, for Sealing and Securing.
L-P-390 - Plastic, Polyethylene Molded and Extruded Shape, Sheets and Tubing.

FSC 1375

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 1428) appearing at the end of this document or by letter.

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- MIL-P-116 - Preservation, Packaging Method of.
- MIL-C-10464- Cans, Hermetic Sealing, Metal, Light Gage Tear and Strip Type.
- MIL-A-48078- Ammunition, Standard Quality Assurance Provisions, General Specification for.
- MIL-C-45469- Cap, Blasting, Non-Electric, M7.

STANDARDS

FEDERAL

- FED-STD-595 - Colors.

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- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes (ABC-STD-105).
- MIL-STD-1168 - Ammunition Lot Numbering

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 (See 6.5)

US ARMY ARMAMENT RESEARCH AND DEVELOPMENT CENTER

- 9242364 - Can, Metal, Packing, Ammunition For Fuse, Blasting, time, M700.
- 9242365 - Box, Packing, Ammunition, For Fuse, Blasting, Time, M700.
- 9242366 - Box, Fiberboard, Ammunition, For Fuse, Blasting, Time, M700.
- 9242367 - Box, Packing, Ammunition, For Fuse, Blasting, Time, M700.

(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.)

NATIONAL BUREAU OF STANDARDS

- H4-1 - Federal Supply Code for Manufacturers.

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.)

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2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

AMERICAN SOCIETY FOR TESTING MATERIALS SPECIFICATIONS.

D2645-74 - Roller-Drafted Yarns, Tolerances For (R1979).
D 541-79 - Single Jute Yarn, Spec For Rev. A.

(Application for copies of ASTM publications should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 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 Fuze.

3.1.1 Fuse Type I. The fuse shall be a safety type, suitable for firing M7 Non-Electric Blasting Cap. The fuse shall consist of a continuous delay train of black powder, with cotton yarns, tightly wrapped and inclosed by jute yarns. The fuse is then counterwound with cotton yarns, coated with asphalt material, then covered by an extruded plastic sheath. Construction of the fuse shall be as specified herein. See Figure 1.

3.1.2 Fuse Type II. The inert fuse shall be of the same configuration as the Fuse Type I except it shall contain an inert material in place of the black powder.

3.2 Material. Material shall be in accordance with applicable drawings and as specified herein. Material shall be free of all defects and imperfections that might affect the serviceability of the finished product.

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3.2.1 Black powder (Fuse Type I only). Black powder shall contain sixty-nine percent to seventy-three percent (69% to 73%) by weight potassium nitrate, and approximately 10% sulfur and 16% charcoal.

3.2.2 Cotton yarn. Cotton yarn used in the manufacture of the fuse shall be natural, unfinished yarn spun from thoroughly clean, staple carded cotton fiber. The cotton shall be evenly drawn, spun, and twisted into a smooth and even yarn, free from any lumps, lint, or other imperfections which would adversely affect the finished fuse.

Yarn number shall be as specified herein for the particular use and shall be taken as the number of 840 yard hanks per pound. The breaking strength of the yarn when tested in skeins equivalent to 120 yards of single end shall not be less than the standard obtained as follows:

Standard breaking strength = $\frac{1800}{\text{yarn number}} + (3)$ times number of piles.

The breaking strength of single strands in ounces shall be not less than 12.5 percent of the standard breaking strength in pounds.

3.2.3 Jute yarn for fuse manufacture. The yarn shall be batched with a single application containing an emulsion of water, mineral oil, and a suitable emulsifying agent, which will not adversely affect the finished yarn. The yarn shall be otherwise untreated and shall have a natural color. Oil (natural or other) content of the yarn shall not exceed one percent by weight. Volatile matter shall not exceed thirteen percent (13.5%) by weight.

All jute yarns shall be essentially level and free from bark, rove, large and loose knots, slubs, and excess of root fibers. The allowable imperfections must pass through a cleaner to remove all foreign material larger than .051 inch diameter.

The yarn shall be number 14 1/2 plus or minus 20%, and shall have a single yarn breaking strength of not less than 9.7 pounds. The average yarn number of the spinning jute yarns shall range from 13.77 to 15.23. Yarn number shall be taken as 496 yard hanks per pound. The yarn shall be spun with a left hand or Z twist. See Figure 1. The average number of turns per inch shall be three and thirty-six hundredths plus or minus ten percent ($3.36 \pm 10\%$) plus or minus 10%. This is calculated from the formula $1.85 \frac{\text{lea}}{\text{yarn number}}$ where the lea is 48 count divided by yarn numbers.

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3.2.4 Asphalt. See 6.6.

3.2.4.1 Softening point. Softening point shall be 148 to 162° Fahrenheit (F).

3.2.4.2 Penetration. Penetration shall be 22 plus or minus 2 at 77°F and not greater than 130 at 115°F.

3.2.4.3 Volatile matter. Asphalt shall contain not more than 0.1% of volatile matter.

3.2.4.4 Solubility. Solubility of the asphalt in carbon disulfide shall be not less than 99.5%.

3.2.5 Plastic.

3.2.5.1 Fuse Type I. The plastic used for coating the fuse shall comply with L-P-390 Type I except that the elongation shall be not less than 70% when tested as specified in 4.5. The plastic shall match green color No. 34079 of Federal Standard No. 595 by addition of a pigment or dye which will not adversely affect the physical and chemical properties of the plastic.

3.2.5.2 Fuse Type II. The plastic shall be as stated in 3.2.5.1 except that it shall match blue color 35109 of Federal Standard 595.

3.3 Delay train.

3.3.1 Fuse Type I. The delay train shall consist of a continuous train of black powder having three cotton center longitudinal yarns. The three yarns shall be of 15/3 or 10/2 or 24/2/2 absorbent cotton yarns. The delay train thus formed shall be continuous throughout the length of the train and shall be of such density and formulation as to comply with the requirements specified herein for the finished fuse. (See figure 1).

3.3.2 Spinning and countering. The spinning shall consist of a tight spiral wrap of 10 jute yarns applied with a right hand or S twist. The wrap shall completely enclose the powder train. See 6.6. The countering shall consist of a tight spiral wrap of 10 cotton yarns number 10/2 applied with a left hand or Z twist. The fuse thus formed shall not exceed 0.164 inch in diameter. See Figure 1. (Note: Yarn has right hand or "S" twist, if when held vertically, the spirals or twists are seen to incline upward in a left hand direction. Conversely the thread or yarn has left hand or "Z" twist if the spirals, or twists incline upward in a right hand direction).

3.4 Coating.

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3.4.1 Asphalt. The fuse shall be treated with asphalt and wiped to give a coating from 1.1 to 1.6 pounds per 1000 feet of fuse.

3.4.2 Plastic. The outer coating shall be an extruded sheath of a plastic complying with the requirements specified in 3.2.5. The covering shall be applied with cross head extrusion equipment and shall be smooth and free of foreign matter, pin holes, bubbles, breaks, discontinuity, or other defects which would adversely affect the function of the finished fuse. Wall thickness of the extruded coating shall be not less than 0.012 inch at any point.

3.5 Size and length. The outside diameter of the finished fuse shall be 0.200 plus or minus 0.005 inch. The fuse shall be cut into 50 feet plus 4 inches minus 0 inches.

3.6 Fuse Type II. The inert delay train shall be of the same configuration as Fuse Type I, except it shall contain an inert material instead of black powder.

3.7 Splicing. The fuse, packaged in 500 feet quantities shall contain not more than one splice per 500 feet package. Splices shall be made by overlapping the fuse ends six inches continuously wrapping with tape and overlap plus one inch beyond each end of the overlap.

3.8 Functioning (Type I only).

3.8.1 Burning time and flame intensity. The burning time of the fuse in the open at sea level, when burned in 3 foot lengths, shall be 120 plus or minus 12 seconds and the flame of the fuse shall ignite the blasting cap. When tested as in 4.6.1.

3.8.2 Waterproofness. The fuse shall withstand submersion in water for a minimum time period of 24 hours and shall function satisfactorily by burning and igniting the blasting cap in a minimum of 70 seconds when tested as specified in 4.6.2.

3.9 Marking.

3.9.1 Fuse Type I. The fuse shall be marked with single bands every 18 inches plus 1/2 minus 1/4 inch. The tolerance is noncumulative. The fuse shall be marked with double bands every 90 inches plus 1 1/2 inches minus 1/2 inch. See Figure 2.

3.9.2 Fuse Type II. The fuse shall be marked as specified in 3.9.1. In addition, the fuse shall be marked "INERT" using 1/8 inch high black lettering. One marking shall be required every 50 feet and on each end.

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3.10 Workmanship. All parts and assemblies shall be fabricated and loaded in a thorough, workmanlike manner. They shall be free of holes, tears, voids, blisters, pores, dirt, grease, fungus, and other foreign matter, and defects which would affect their serviceability. The cleaning method used shall not be injurious to any part nor shall the parts be contaminated by the cleaning agent. 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 inspection requirements specified herein are classified as follows:

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

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 following items in same quantities as indicated below and Table I.

<u>Part Description</u>	<u>Drawings</u>	<u>Quantities</u>
Fuse, Blasting M700 (Tactical)	N/A	25
Fuse, Blasting M700 (Inert)	N/A	25
Can, Metal Packing, Ammunition For Fuse, Blasting Time, M700	9242364	10
Carton, Packing, Ammunition for Fuse	9242366	10
Box, Packing, Ammunition, For Fuse	9242365	10
Blasting Time, M700	9242367	10

NOTE: The contracting officer shall designate the type of fuse, tactical or inert, which shall be submitted for first article examination.

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

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PARAGRAPH	TITLE	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AGL OR 100%	SHEET		DRAWING NUMBER	PARAGRAPH REFERENCE / INSPECTION METHOD
					1	OF		
	Fuse, Blasting, Time, M700, and Fuse, Blasting, Time, Inert					4	--	
	<u>TACTICAL M700 DEVICE</u>						--	
	Examination of defects		25			3.1-3.10 (1)		4.4.2.1
	<u>TESTS</u>							
	Burning tests and flame intensity		10			3.8.1		4.5.1
	Waterproofness		10			3.8.2		4.5.2
	Cotton yarn		5			3.2.2		ASTM D2645-74
	Jute yarn		5			3.2.3		ASTM D541-79
	Asphalt-softening point		5			3.2.4.1		SS-R-406-216
	Asphalt - penetration		5			3.2.4.2		SS-R-406-214-.01
	Asphalt - volatiles		5			3.2.4.3		SS-R-406-211.0
	Asphalt - solubility		5			3.2.4.4		SS-R-406-2118
	Plastic Color		5			3.2.5.1		L-P-390
NOTE (1)	As applicable for gaging and visual examinations.							

FORM SMC-0A (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**

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PARAGRAPH	TITLE	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	SHEET		DRAWING NUMBER
				2	4	
CATEGORY				AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
	Fuse, Blasting, Time, M700, and Fuse, Blasting, Time, Inert					
	<u>Can, Metal, Packing, Ammunition, for Fuse, Blasting, time, M700 (Dwg. No. 9242364)</u> Examination for defects Leakage Test Salt Spray Test		10 10 10		3.2 3.2 3.2	4.4.2.3 4.5.3 MIL-C-10464
	<u>Carton, Packing, Ammunition, for Fuse (Dwg. No. 9242366)</u> Examination for defects Heat Seal		10 10		3.2 3.2	4.4.2.4 MIL-P-116
	<u>Box, Packing, Ammunition, for Fuse, Blasting Time, M700, Prior to Closing (Dwg. Nos. 9242365 & 9242367)</u> Examination for defects		10		3.2	4.4.2.5
	<u>Box, Packing, Ammunition, for Fuse, Blasting Time, M700, Sealed (Dwg. Nos. 9242365 & 9242367)</u> Examination for defects		10		3.2	4.4.2.6
	NOTE:					

SMC-NA (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-F-45144D (AR)

PARAGRAPH	TITLE	SHEET		NO. OF SAMPLE UNITS	EXAMINATION OR TEST	AOL OR 100%	REQUIREMENT PARAGRAPH	DRAWING NUMBER
		3	4					
	Fuse, Blasting, Time, M700, and Fuse, Blasting, Time, Inert							---
								NEXT HIGHER ASSEMBLY

								PARAGRAPH REFERENCE /INSPECTION METHOD
	INERT M700 DEVICE Examination of defects						3.1-3.10 (1)	4.4.2.2
	TESTS							
	Cotton yarn		5				3.2.2	ASTM D2645-74
	Jute yarn		5				3.2.3	ASTM D541-79
	Asphalt - softening point		5				3.2.4.1	SS-R-406-216
	Asphalt - penetration		5				3.2.4.2	SS-R-406-214.0
	Asphalt - volatiles		5				3.2.4.3	SS-R-406-211.6
	Asphalt - solubility		5				3.2.4.4	SS-R-406-2118
	Plastic color		5				3.2.5.1	L-P-390
	Can, Metal, Packing, Ammunition for Fuse Blasting Time, M700 (Dwg. No. 9242364)							
	Examination for defects		10				3.2	4.4.2.3
	Leakage test		10				3.2	4.5.3
	Salt spray test		10				3.2	MIL-C-10464
<p>NOTE: (1) As applicable for gaging and visual examinations.</p>								

NSM-C-NA (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-F-45144D (AR)

PARAGRAPH	TITLE	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	AQL OR 100%	SHEET 4 OF 4	DRAWING NUMBER	
						---	---
CATEGORY				REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE / INSPECTION METHOD	NEXT HIGHER ASSEMBLY	
	Fuse, Blasting, Time, M700, and Fuse, Blasting, Time, Inert		10 10			4.4.2.4 MIL-P-116	
	<u>Carton, Packing, Ammunition for Fuse (Dwg. No. 9242366)</u> Examination for defects Heat Seal		10			4.4.2.5	
	<u>Box, Packing, Ammunition for Fuse, Blasting Time, M700, Prior to Closing (Dwg. Nos. 9242365 & 9242367)</u> Examination for defects		10			4.4.2.6	
	<u>Box, Packing, Ammunition for Fuse, Blasting Fuse, M700, Sealed (Dwg. Nos. 9242365 & 9242367)</u> Examination for defects		10				

NOTES

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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, each lot shall contain:

a. Black powder of one lot interfix number from one manufacturer.

b. Materials each of one lot interfix number from one manufacturer.

4.4.2 Examination. See MIL-A-48078.

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

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CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	SHEET		DRAWING NUMBER
				1	OF	
CATEGORY				AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE / INSPECTION METHOD
4.4.2.2	Fuse, Blasting Time, M700 Inert Device			100%	3.9	Visual/Gage
<u>Critical</u> 1	Marking					
<u>Major</u> 101	Cotton yarn		5/0/1	---	3.2.2	ASTM D2645-24
102	Jute yarn		5/0/1	---	3.2.3	ASTM D541-79
103	Asphalt - softening point		5/0/1	---	3.2.4.1	SS-R-406-216
104	Asphalt - penetration		5/0/1	---	3.2.4.2	SS-R-406-214.01
105	Asphalt - volatile		5/0/1	---	3.2.4.3	SS-R-406-211.0
106	Asphalt - solubility		5/0/1	---	3.2.4.4	SS-R-406-2118
107	Plastic elongation		5/0/1	---	3.2.5.1	Gage
108	Plastic color		5/0/1	---	3.5.5.1	L-P-390
109	Delay Train		10/0/1	---	3.3.1	Visual
110	Asphalt coating		10/0/1	---	3.4.1	Gage
<u>Minor</u> 201	Size and coating			0.65%	3.5	Gage
202	Thickness of fuse			0.65%	3.5	Gage
203	Splicing			0.65%	3.7	Gage/Visual
204	Plastic costing			0.65%	3.4.2	Visual
205	Spinning and countering			0.65%	3.3.2	Visual
206	Poor workmanship			1.0%	3.10	Visual

NOTE

SMC-NA (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

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PARAGRAPH	TITLE	SHEET		NO. OF SAMPLE UNITS	EXAMINATION OR TEST	AQL OR 100%	REQUIREMENT PARAGRAPH	DRAWING NUMBER	NEXT HIGHER ASSEMBLY	PARAGRAPH REFERENCE / INSPECTION METHOD
		1	OF							
4.4.2.3	Can, Metal, Packing, Ammunition, for Fuse, Blasting, Time, M700	1	1					9242364		
<u>Category</u>										
<u>Critical</u>	None defined.									
<u>Major</u>	Leakage Test					.40%	3.2			4.5.3
101	Inside diameter					.40%	3.2			Gage
102										
<u>Minor</u>	Container dented or deformed					.65%	3.10			Visual
201	Marking misleading or unidentifiable					.65%	3.5.3			Visual
202	Number of assemblies in can incorrect					.65%	5.1.1			Visual
203	Poor workmanship					1.0%	3.10			Visual
204										

NOTE:

SMC-0A (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

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PARAGRAPH	TITLE	SHEET		NO. OF SAMPLE UNITS	EXAMINATION OR TEST	AQL OR 100%	REQUIREMENT PARAGRAPH	DRAWING NUMBER	NEXT HIGHER ASSEMBLY	PARAGRAPH REFERENCE / INSPECTION METHOD
		1	OF							
4.4.2.4	Carton, Packing, Ammunition, for Fuse	1	1					9242366	--	
<u>Critical</u>	None defined.									
<u>Major</u> 101	Heat Seal					0.40%	3.			MIL-P-116
<u>Minor</u> 201 202	Wrapping, 50 foot lengths Number of assemblies in carton incorrect					.65%	5.1.2			Visual
203	Marking misleading or unidentifiable					.65%	5.1.2			Visual
204	Poor workmanship					1.0%	5.3 3.10			Visual
NOTE:										

QUALITY CONFORMANCE INSPECTION

CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE	EXAMINATION OR TEST	NO. OF SAMPLE UNITS	SHEET		DRAWING NUMBER
				1	1 OF	
CATEGORY				AQL OR 100%	REQUIREMENT PARAGRAPH	PARAGRAPH REFERENCE /INSPECTION METHOD
4.4.2.5	Box, Packing, Ammunition, for Fuse, Blasting Time, M700, Prior to Closing					MIL-P-45144D (AR) 9242365/9242367 NEXT HIGHER ASSEMBLY --
<u>Critical</u>	None defined.					
<u>Major</u>	None defined.					
<u>Minor</u>	Number of metal cans or cartons incorrect (as applicable)			.658	5.2.1	Visual
201	Marking, misleading or unidentifiable			.658	5.3	Visual
202	Contents missing			.658	5.2.1	Visual
203	Poor workmanship			1.08	3.10	Visual
204						
NOTE:						

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CLASSIFICATION OF DEFECTS & TESTS

PARAGRAPH	TITLE	SHEET		NO. OF SAMPLE UNITS	EXAMINATION OR TEST	AQL OR 100%	REQUIREMENT PARAGRAPH	DRAWING NUMBER	PARAGRAPH REFERENCE / INSPECTION METHOD
		1	OF						
4.4.2.6	Box, Packing, Ammunition, for Fuse, Blasting Time, M700, Sealed	1	1					9242365/9242367	NEXT HIGHER ASSEMBLY
<u>Critical</u>									
Major									
101	None defined.								
102	Contents loose					.40%	5.2.1/2	Manual	
103	Strapping broken or loose Box, damaged to the extent that contents are exposed					.40%	5.2.1/2	Manual/Visual	
104	DOD symbol misleading or unidentifiable					.40%	5.3	Visual	
105	Board, broken or split					.40%	5.2.1/2	Visual	
Minor									
201	Strapping improperly engaged					.65%	5.2.1/2	Manual/Visual	
202	Metallic seal, unsealed or improperly positioned					.65%	5.2.1/2	Manual/Visual	
203	Marking misleading or unidentifiable					.65%	5.3	Visual	
204	Poor workmanship					1.0%	3.10	Visual	
<u>NOTE:</u>									

MSMC-0A (D) Form 160, 1 Aug 83 replaces edition of 1 Jul 77 which may be used until exhausted.

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4.4.3 Testing. Testing is described in the First Article and Quality Conformance Inspection tables.

4.4.3.1 Submission of product. At the time the completed lot of product is submitted to the Government for acceptance, the contractor, in accordance with DI-R-1724, shall supply the following information accompanied by a certificate which attests that the information provided is correct and applicable to the product being submitted:

- a. A statement that the lot complies with all the quality assurance provisions specified within this specification.
- b. Number of units of product inspected.
- c. Results obtained for all inspections performed.

4.4.4

4.5 Test methods and procedures.

WARNING: The operator shall be protected from the blast of the cap by a suitable shield or maintain sufficient distance from the blast.

4.5.1 Burning time and flame intensity (Type I only). A three foot long specimen shall be cut from each of the fuses in the sample to be tested. One end shall be inserted into a M7 Blasting Cap and double crimped with an M2 Cap Crimper. The opposite end of each fuse shall be ignited. The burning time shall be determined by means of an approved timing system with accuracy of 1/5 second. If the device fails to comply with all of the specified requirements it shall be classed defective (Destructive test).

4.5.2 Waterproofness. (Type I only). (Burning time and flame intensity). The sample fuses used for testing in 4.6.1 may be used for the specimens required for this test. A three-foot six-inch long specimen shall be cut from each of the fuses in the sample to be tested. Each specimen shall be tied so that the two ends of each length form a separate loop. Each loop shall be submerged in a suitable vessel of water to within four inches of the ends. Each end of the fuse shall be sealed by crimping on an empty blasting cap cup with a double cutthroat bench type cap crimper. The vessel shall be closed and pneumatic or hydraulic pressure within the vessel increased to 75 pounds per square inch (psi) and maintained above 70 psi during the test. The sample shall remain in the vessel under pressure for the specified time and then removed. A three inch section with the cup shall be cut off from each end of the sample fuse lengths and discarded. One end of the remaining sample fuse lengths shall be inserted into an M7 Blasting Cap and double crimped with an M2 Cap Crimper. Then immerse it in 2 1/2 inches of water at 70 degrees plus or minus 10 degrees F with 2 inches of the opposite end of the fuse out of the water. The fuse shall be ignited and the burning time shall be determined as specified in 3.8.1.

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4.5.3 Leakage test of metal packing can. The sealed can containing the fuse shall be placed in a test chamber and a measured volume of air introduced into the chamber to provide the required pressure. Observation shall be made to determine if failure occurs as evidenced by any drop in pressure during the time specified on the applicable Drawing No. 9242364.

5. PACKAGING.5.1 Preservation - packaging.

5.1.1 Level A. Blasting fuse shall be packaged in accordance with Dwg. 9242364.

5.1.2 Level C. Blasting fuse shall be packaged in accordance with Dwg. 9242366, except no DOT marking shall appear on the box.

5.2 Packing.

5.2.1 Level A. Packing shall be in accordance with Dwg. 9242365.

5.2.2 Level C. Blasting fuse shall be packed as specified in Dwg. 9242367.

5.3 Marking. Unit and exterior containers shall be marked in accordance with instructions contained in Dwg. 9242364, 9242365, 9242366 and 9242367 as applicable.

6. NOTES

6.1 Ordering data. (See MIL-A-48078).

6.2 Submission of inspection equipment designs for approval. (See MIL-A-48078). Equipment designs shall be submitted as required to: Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: DRSMC-QAT-I(D), Dover, New Jersey 07801. Request letter of submittal should state contractor, contract number, specification number, item nomenclature, and classification of defects and tests paragraph number.

6.3 Data cards. (See MIL-A-48078). Distribution of data cards shall include the following: Commander, ARDC, ATTN: DRSMC-QAT-M(D), Dover, New Jersey 07801.

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6.4 Data items. Data required by this specification are cited in the paragraphs listed below. The Form DD 1423 should include distribution of data cards as specified in 6.3.

<u>Paragraph</u>	<u>Data Requirement</u>	<u>Applicable DID</u>
4.4.3.1	Quality Inspection Test Demonstration and Evaluation Report	DI-R-1724

6.5 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, Edgewood Arsenal, Frankford Arsenal, Rock Island Arsenal or Picatinny Arsenal drawings. Technical data originally prepared by these activities are now under the cognizance of AMCCOM.

6.6 Bitumen. Bitumen and bituminous materials are referred to as asphalt. (See 3.2.4 and Spec SS-R-406.)

6.7 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:
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(Project 1375-A248)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-F-45144D		2. DOCUMENT TITLE FUZE, BLASTING, TIME, M700, AND FUZE, BLASTING, INERT, LAP	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION <i>(Mark one)</i> <input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER <i>(Specify):</i> _____	
b. ADDRESS <i>(Street, City, State, ZIP Code)</i>			
5. PROBLEM AREAS			
a. Paragraph Number and Wording:			
b. Recommended Wording:			
c. Reason/Rationale for Recommendation:			
6. REMARKS			
7a. NAME OF SUBMITTER <i>(Last, First, MI) - Optional</i>		b. WORK TELEPHONE NUMBER <i>(Include Area Code) - Optional</i>	
c. MAILING ADDRESS <i>(Street, City, State, ZIP Code) - Optional</i>		8. DATE OF SUBMISSION <i>(YYMMDD)</i>	