INCH-POUND

MIL-PRF-32603
21 August 2018

PERFORMANCE SPECIFICATION

MAGAZINE, 5.56 MILLIMETER

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This performance specification establishes the performance requirements and verification procedures for the 5.56 millimeter (mm) magazine to be used with the M16 family of rifles/M4 family of carbines/M249 Squad Automatic Weapon hereafter referred to simply as the magazine.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all requirements cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 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 cited in the solicitation or contract.

Comments, suggestions, or questions on this document should be addressed to: Commander, U.S. Army ARDEC, ATTN: RDAR-EIQ-SA, Picatinny, New Jersey 07806-5000, or emailed to usarmy.picatinny.ardec.list.ardec-stdzn-branch@mail.mil handbooks form a part of this document to the extent specified herein. Since contact information can change, you may want to verify the currency of this address information using the ASSIST online database at https://assist.dla.mil.

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DEPARTMENT OF DEFENSE SPECIFICATIONS

A-A-52624	–	Antifreeze, Multi Engine Type
MIL-PRF-2104	–	Lubricating Oil, Internal Combustion Engine, Gr.10w30, 40, 15w40
MIL-L-46000	–	Lubricant, Semi-Fluid (Automatic Weapons)
MIL-PRF-372	–	Cleaning Compound, Solvent (For Bore of Small Arms and Automatic Aircraft Weapons)
MIL-PRF-680	–	Degreasing Solvent
MIL-PRF-5606	–	Hydraulic Fluid, Petroleum Base, Aircraft, Missile & Ordinance
MIL-PRF-14107	–	Lubricating Oil, Weapons, Low Temperature
MIL-PRF-32033	-	Lubricating Oil, General Purpose, Preservative, Water-Displacing, Low Temperature)
MIL-PRF-46170	–	Hydraulic Fluid, Rust Inhibited, Fire Resistant, Synthetic Hydrocarbon Base, NATO Code No. H-544
MIL-PRF-63460	–	Lubricant, Cleaner and Preservative for Weapons and Weapons Systems
MIL-DTL-83133	–	Turbine Fuel, Aviation, Kerosene Type, JP-8 (NATO F-34), NATO F-35, and JP-8+100 (NATO F-37)

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-810G	–	Environmental Engineering Considerations and Laboratory Tests
MIL-STD-1916	–	DOD Preferred Methods for Acceptance of Product

(Copies of these documents are available online at http://quicksearch.dla.mil .)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publication of the exact revision listed below form a part of this specification to the extent specified herein.

DRAWINGS

US ARMY ARDEC

7546870	Cartridge, 5.56 mm, Special Ball, Long Range, MK262
9342868	Cartridge, 5.56 mm, Ball, M855
9348200	Machine Gun, 5.56 MM: M249
9349000	Rifle, 5.56 MM, M16A2
9390000	Carbine, 5.56 MM, M4

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9341508	Cartridge, 5.56 mm, Plastic, Ball, Practice, M862
10523632	Cartridge, 5.56 mm, Ball, M193
10542379	Cartridge, 5.56 mm, Blank, M200
11010483	Clip, Cartridge, 5.56 mm, 10 Round
11010484	Filler, Magazine, 5.56 mm, 10 Round
11833491	Bolt, Automatic Weapon (Practice), M2
12956131	Cartridge, 5.56 mm, Armor Piercing, M995
12972700	Carbine, 5.56 MM, M4A1
12973001	Rifle, 5.56 MM, M16A4
13008767	Cartridge, 5.56 mm, Marking Rifle
13015255	Holder, Multi-Magazine
13020533	Cartridge, 5.56 mm, Ball, M855A1
13029994	Cartridge, 5.56 mm, Tracer, M856A1

(Copies of these documents may be requested online at usarmy.pica.rdecom-ardec.list.drawing-request-help-desk@mail.mil.)

US ARMY TEST AND EVALUATION COMMAND (ATEC)

TOP 3-2-045	–	Automatic Weapons, Machine Guns, Hand and Shoulder Weapons, Test Operations Procedures (TOPs)
TOP 3-2-609	–	Chemical Compatibility of Nonmetallic Materials Used in Small Arms Systems (TOPs)

(Copies of these documents are available online from http://www.atec.army.mil/publications/topsindex.aspx)

ARMY REGULATION

AR 70-38	-	Research, Development, Test and Evaluation for Extreme Climatic Conditions

(Copies of these documents are available online from https://armypubs.army.mil/ProductMaps/PubForm/AR.aspx)

TECHNICAL MANUAL

TM 9-1005-319-23&P-	Field Maintenance Manual

(Copies of these documents are available online from https://www.logsa.army.mil)

FIELD MANUAL

FM 3-11.5	-	Multiservice Doctrine for Chemical, Biological, Radiological, and Nuclear Operations

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2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are issues of the documents cited in the solicitation.

ASTM INTERNATIONAL

ASTM D910	-	Standard Specification for Aviation Gasolines
ASTM D975	-	Standard Specification for Diesel Fuel Oils
ASTM D1141	-	Standard Practice for the Preparation of Substitute Ocean Water

(Copies of ASTM standards may be ordered online at http://www.astm.org/ .)

SAE INTERNATIONAL

SAE-AMS-STD-595	-	Colors Used in Government Procurement

(Copies of these documents are available from https://www.sae.org/)

2.4 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 takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Design verification. When specified (see 6.2), a sample of magazines shall be subjected to design verification in accordance with Table III and 4.2.

3.2 First article inspection. When specified (see 6.2), a sample of magazines shall be subjected to first article inspection in accordance with Table III and 4.3.

3.3 Conformance inspection. Unless otherwise specified (see 6.2), a sample of magazines shall be subjected to conformance inspection in accordance with Table III and 4.4.

3.4 Operating requirements.

3.4.1 Operation. All moving magazine components shall operate throughout their full range of travel without binding.

3.4.2 Magazine capacity. The magazine shall be capable of holding 30 rounds of 5.56 mm ammunition. It shall not hold more than 30 rounds.

3.4.3 Function. The magazine shall operate in all attitudes without stoppages or unserviceable parts when firing 5.56 mm ammunition using weapons per Table II.

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3.4.4 Magazine release. When the magazine catch button on the weapon is depressed it shall disengage from both an empty magazine and a full magazine. Upon release, the magazine shall drop out of the receiver without assistance.

3.4.5 Bolt catch. When the last 5.56 mm round in a magazine is fired from the weapon, the magazine mechanism shall automatically engage the bolt catch keeping the bolt carrier assembly in the rear locked position.

3.4.6 Pre-load. The magazine shall be capable of fully functioning without failure after being fully loaded and stored for 30 days at ambient temperature.

3.4.7 Magazine reliability. The magazine shall be capable of firing 750 rounds of ammunition when mounted in the weapon. There shall be no greater than 1 magazine related failure per magazine. There shall be no greater than 5 magazine related stoppages or malfunctions combined for a total of 30,000 rounds of 5.56 mm ammunition.

3.4.8 Maintenance. The magazine shall be able to be completely cleaned without the use of any special tools to disassemble or reassemble the magazine. The magazine shall only be capable of reassembling one way, it shall not be possible to incorrectly reassemble the magazine.

3.5 Interface and interoperability requirements.

3.5.1 Weight. The weight of an empty magazine shall not be greater than 9.0 ounces.

3.5.2 Finishes. The magazine finish shall be dull/non-reflective. The magazine color shall be available in tan and black. Color for tan magazines shall be approximately Color No. 20150 but not lighter than Color No. 20220 of AMS-STD-595. Color for black magazines shall be approximately Color No. 27041 of AMS-STD-595. Gloss levels per flat finish apply for both tan and black magazines.

3.5.3 Chemical resistance. The magazine and its components shall not be degraded by exposure to petroleum, oil, lubricant products, insect repellents, and conditioning chemicals found in TOP 3-2-609 as well as Concentrated Bleach to simulate bleach used in operator wipe-down chemical-biological decontamination per paragraph 4.a.(1), FM 3-11.5.

TABLE I. Conditioning chemicals.

Number	Description	Specification
1	Cleaning compound, solvent	MIL-PRF-372
2	Degreasing solvent	MIL-PRF-680, type I or equivalent
3	Engine oil	MIL-PRF-2104
4	Lubricant, semi-fluid, automatic weapons	MIL-L-46000 (LSA)
5	Lubricating oil, general purpose	MIL-PRF-32033
6	Lubricant, cleaner, preservative	MIL-PRF-63460 (CLP)
7	Gasoline, commercial	ASTM D 910

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8	Turbine fuel (JP-8)	MIL-T-83133
9	Fuel oil diesel (DL-2)	ASTM D 975 Grade Low Sulfur No 2
10	Insect repellent	NSN 6505-01-507-5074
11	Dexron III	Transmission fluid
12	Antifreeze, ethylene glycol	A-A-52624
13	Water	Water (distilled)
14	Simulated sea water or 5% sodium chloride	ASTM D1141
15	Lubricating oil, weapons	MIL-PRF-14107 (LAW)
16	Hydraulic fluid, petroleum base	MIL-PRF-5606
17	Hydraulic fluid, fire resistant	MIL-PRF-46170

3.5.4 Weapon durability. The function and durability of the weapon shall not be adversely affected when a total of 30,000 rounds of 5.56 mm ammunition are fired utilizing the magazine.

TABLE II. Weapons

Drawing No	Description
12972700	M4A1
9390000	M4
12973001	M16A4
9349000	M16A2

3.5.5 Protrusion. The magazine shall not protrude more than 5.0" from the rear of the magazine well to the heel of the magazine, and not more than 4.5" from the front of the magazine well to the toe of the magazine from the weapons.

3.5.6 Fit and retention. The magazine shall fit into the magazine well of a weapon (ref Table II and 3.5.9) and shall be positively retained in place by the magazine catch. The magazine shall contain a magazine catch slot**.** The magazine shall not be able to be removed (or released) without the activation of the magazine release button.

3.5.7 Accessory compatibility. The magazine shall be compatible with: magazine pouches (13015255), M2 practice bolt (11833491), magazine filler (11010484), and cartridge clip (11010483).-The magazine pouch compatibility test is for characterization purposes.

3.5.8 Ammunition compatibility. The magazine shall fire 30 rounds each of the following M193 (10523632), M856A1 (13029994), M995 AP (1295613), Ultimate Training Munitions (UTM) (13008767), M855 (9342868), M200 blank (10542379), Mk262 (7546870), and M862 (9341508) ammunition without magazine related stoppages or malfunctions.

3.5.9 M249 SAW compatibility. Using the M249 per Drawing 9348200, the magazine shall be capable of firing 30 rounds of 5.56 mm ammunition without magazine related stoppages or malfunctions.

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3.5.10 Round Count Indicator. The magazine shall allow for rapid visual estimation/cue to the number of rounds remaining when the magazine is loaded in the weapon.

3.6 Environmental requirements.

3.6.1 Corrosion resistance. The magazine shall be free of corrosion and function as intended after exposure to a salt fog atmosphere. The magazine shall fire 5.56 mm ammunition without magazine related stoppages or malfunctions after exposure to a salt fog environment.

3.6.2 Fungus resistance. There shall be no detrimental performance effects on non-metallic components of the magazine due to fungal growth.

3.6.3 Temperature. The magazine shall operate at temperatures between -60°F (–51° C) to +160°F (+71° C) per AR 70-38.

3.6.4 Rough handling. The loaded magazine shall remain intact and operational after being dropped from a height of five (5) feet individually and while inserted into a weapon at ambient, hot, and cold temperatures.

3.6.5 Sand/dust. The magazine shall fire 5.56 mm ammunition without magazine related stoppages or malfunctions after exposure to sand/dust environment.

3.7 Support and inspection.

3.7.1 Marking. The magazine shall be permanently marked with the manufacturer's cage code, item designation, month and year of manufacture, in an area that is not subject to wear or obstructed from view when removed from the weapon.

3.7.2 Workmanship. The magazine shall be free of dents, scratches, cracks, sharp edges, corrosion, foreign matter, burrs, chips, and any other defects, which may affect functioning of either the magazine or the weapon.

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4. VERIFICATION

TABLE III. Requirement/verification cross-reference matrix

	Section 3 Requirements	Inspection sample size and criteria			Verification Methods	Section 4 Verification Procedures
		Design Verification	First Article	Conformance Inspection (One lot)		
Design verification	3.1	X				4.2
First article inspection	3.2		X			4.3
Conformance inspection	3.3			X		4.4
Operation	3.4.1	100-0-1[1]	128-0-1	128-0-1	Test & Examination	4.5.1
Magazine capacity	3.4.2	100-0-1	128-0-1	128-0-1	Test & Demonstration & Examination	4.5.2
Function	3.4.3	100-0-1	128-0-1	128-0-1	Test	4.5.3
Magazine release	3.4.4	100-0-1	128-0-1	128-0-1	Test & Examination	4.5.4
Bolt catch	3.4.5	100-0-1	128-0-1	128-0-1	Test & Demonstration & Examination	4.5.5
Pre-load	3.4.6	8-1-2			Test	4.5.6
Magazine reliability	3.4.7	40-5-6			Test	4.5.7
Maintenance	3.4.8	100-0-1			Examination	4.5.8
Weight	3.5.1	100-0-1	128-0-1	VL II [2]	Examination	4.6.1
Finishes	3.5.2	100-0-1			Examination & Verification	4.6.2
Chemical resistance	3.5.3	5-0-1			Test	4.6.3
Weapon durability	3.5.4	40-0-1			Demonstration	4.6.4
Protrusion	3.5.5	100-0-1	128-0-1	VL II [2]	Examination	4.6.5
Fit and retention	3.5.6	100-0-1	128-0-1	128-0-1	Examination	4.6.6
Accessory compatibility	3.5.7	8-0-1			Test	4.6.7
Ammunition compatibility	3.5.8	8-0-1			Test	4.6.8
M249 SAW compatibility	3.5.9	8-0-1			Test	4.6.9
Round Count Indicator	3.5.10	100-0-1	128-0-1	100%	Examination	4.6.10
Corrosion resistance	3.6.1	8-1-2	8-1-2	VL I [2]	Test Examination	4.7.1
Fungus resistance	3.6.2	4-1-2			Test	4.7.2
Temperature (Hot)	3.6.3	8-1-2			Test	4.7.3.1
Temperature (Cold)	3.6.3	8-1-2			Test	4.7.3.2
Rough handling (Ambient)	3.6.4	8-1-2			Test	4.7.4.1
Rough handling (Hot)	3.6.4	8-1-2			Test	4.7.4.2
Rough handling (Cold)	3.6.4	8-1-2			Test	4.7.4.3
Sand/dust	3.6.5	8-1-2			Test	4.7.5
Marking	3.7.1	100-0-1	128-0-1	100%	Examination	4.8.1
Workmanship	3.7.2	100-0-1	128-0-1	100%	Examination	4.8.2

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[1] Test one hundred (100) - Accept with zero (0) failures- Reject with one (1) failure (See Table IV)
[2] Failure to meet the requirement shall be cause for rejection of the lot of magazines

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

a. Design verification (see 4.2).
b. First article inspection (see 4.3).
c. Conformance inspection (see 4.4).

4.2 Design verification. When specified, magazines shall be subjected to design verification in accordance with Table III, requirement/verification cross-reference matrix. The government reserves the right to choose any combination of weapons from Table II.

4.2.1 Design verification quantity. Design verification shall be performed on a sample of 100 (one hundred) 5.56 mm magazines, unless otherwise specified, in Table III.

4.2.2 Design verification rejection. The magazine samples shall be rejected if any sample fails to comply with the design verification requirements and/or if any one of the following occurs:

4.3 First article inspection. Unless otherwise specified, the magazine sample shall be subjected to first article inspection in accordance with Table III, requirement/verification cross-reference matrix. The government reserves the right to choose any combination of weapons from Table II.

4.3.1 First article rejection. If any magazine sample fails to comply with any of the applicable requirements, the first article sample shall be rejected.

4.4 Conformance inspection. Unless otherwise specified, a sample of magazines shall be subjected to conformance inspection in accordance with Table III, requirement/verification cross-reference matrix. Verification Levels (VL) shall be in accordance with MIL-STD-1916. Half of the sample shall be testing in an M4A1 Carbine (Part Number 12972700), and half of the sample shall be tested in an M16A2 Rifle (Part Number 9349000).

4.4.1 Lot formation. Unless otherwise specified, lot formation shall be in accordance with MIL-STD-1916.

4.4.2 Lot size. Unless otherwise specified, an inspection lot shall consist of 25,000 magazines or a single month's production, whichever is smaller.

4.4.3 Lot identification. Each inspection lot shall be identified with a lot number.

4.4.4 Conformance inspection rejection. Failure to meet any of the requirements shall be cause for rejection of the magazines. (See 6.2)

4.5 Operating verifications.

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4.5.1 Operation. Visually and manually examine each sample magazine by fully compressing the spring and allowing it to return to its initial position. Failure of the spring to fully compress or return to its initial position shall be cause for rejection.

4.5.2 Magazine capacity. Fully load each sample magazine with M855A1 ammunition to its capacity. The magazine shall hold exactly 30 M855A1 rounds.

4.5.3 Function. For design verification and first article inspection only, all four (4) weapons from Table II shall be used. Each magazine shall be fully loaded with M855A1 ammunition and five rounds from each magazine shall be fired in each of the following attitudes; normal firing attitude, rotated 180º up-side down and rotated 90º horizontally to the left. Each magazine shall be reloaded and five rounds from each magazine shall be fired in each of the following attitudes; rotated 90º horizontally to the right, muzzle up, and down.

4.5.3.1 Function conformance inspection. For conformance inspection testing, each sample magazine shall be tested for functioning by firing a fully loaded magazine of M855A1 ammunition through the M4A1 weapon in the standard firing attitude. A stoppage attributed to the weapon shall not be cause for rejection of the magazine. The occurrence of a magazine related stoppage shall result in failure of the function test. The weapon shall be shoulder fired or mounted on a government approved stand simulating shoulder fire.

4.5.4 Magazine release. Each empty sample magazine shall be inserted into a weapon and then the magazine release shall be depressed. Failure of the magazine to drop out of the receiver shall result in failure of the test. The sample magazines shall then be loaded with 30 rounds of M855A1 ammunition and the test repeated. Failure of the magazine to drop out of the receiver without assistance shall result in failure of the test.

4.5.5 Bolt catch. After the last M855A1 round has been fired, visually make sure the bolt catch locks the bolt carrier in the rear position. Failure of the bolt carrier to remain in the rear locked position shall result in failure of the test.

4.5.6 Pre-load. Fully load each sample magazine with M855A1 ammunition and store loaded for 30 days. After 30 days of storage, fire eight (8) magazines for a total of 240 rounds. Any combination of two (2) weapons from Table II shall be used. The occurrence of one (1) magazine related stoppage shall result in failure of the pre-load test.

4.5.7 Magazine durability/reliability. Forty (40) magazines shall be subjected to a reliability test by firing 750 rounds on each magazine for a total of 30,000 rounds of M855A1 ammunition on any combination of four (4) weapons from Table II. Magazines shall alternate between semi-automatic and automatic modes of firing. Automatic firing shall be performed in 3-5 round bursts. Firing shall be accomplished with the weapon held in a fixture simulating shoulder firing. A stoppage attributed to the weapon shall not be cause for rejection of the magazine. The occurrence of more than one magazine related stoppage on an individual magazine or the occurrence of more than 5 magazine related stoppages total shall result in failure of the reliability test. See 4.5.8 and 4.5.8.1 for maintenance, and cleaning and lubrication instructions of weapons.

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4.5.8 Maintenance. As part of the magazine reliability testing of 4.5.7, maintenance on weapons shall be performed in accordance with the procedures specified in TM 9-1005-319-23&P or manufacturer's instruction.

4.5.8.1 Cleaning and lubrication. As part of the magazine reliability testing of 4.5.7, the weapons shall be cleaned and lubricated with lubricant per MIL-PRF-63460 after each series of approximately 600 rounds, and at the close of each day's firing. The weapon shall be protected against corrosion. No magazine parts shall be altered or replaced. Manufacturer's instructions and procedures shall be used for cleaning/lubrication of respective magazines.

4.6 Interface and interoperability requirements.

4.6.1 Weight. Physically weigh each sample magazine.

4.6.2 Finishes. Objective evidence shall be examined.

4.6.3 Chemical resistance. All components of the 5.56 mm 30 round magazine shall be tested in accordance with TOP 3-2-609 to determine conformance to the requirement.

4.6.4 Weapon durability. The results from the reliability test specified in 4.8.1 shall be used to verify conformance with weapon durability on any combination of four (4) weapons from Table II. The failure of any weapon component or evidence of atypical wear patterns of any weapon component that is attributable to the magazine shall result in failure of the durability test.

4.6.5 Protrusion. Insert each sample magazine into the weapon and measure the protrusion.

4.6.6 Fit and retention. Insert both an empty and a fully loaded magazine into the weapon. Visually and manually examine for fit and retention.

4.6.7 Accessory compatibility. Eight (8) magazines using any combination of two (2) weapons from Table II shall be tested for accessory compatibility by inspecting for interference with accessories and weapon features in accordance with TOP 3-2-045. Attach/insert the magazine to the accessory and check that it remains secure. Use the accessory for its intended purpose and observe its ability to perform its intended purpose, e.g., use a magazine pouch to store and transport the magazine during testing, and observe for fit, wear, and durability. Failure of the magazine to remain secure, interference with accessories or weapon features and observed loss of fit, durability or wear shall result in failure of the accessory compatibility test.

4.6.8 Ammunition compatibility. Eight (8) magazines shall be tested for the ammunition compatibility requirement by firing 30 rounds of M193, M856A1, M995 AP, Ultimate Training Munitions (UTM), M855, M200 blank, Mk262, and M862 cartridge respectively on each magazine in a weapon. Firing shall be accomplished with any combination of two (2) weapons from Table II held in a fixture simulating shoulder firing. Thirty rounds of each cartridge type shall be fired and rotated through the magazines until a total of 240 rounds have been fired

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through each magazine. The first fifteen rounds (15) of the magazine shall be fired in semi-automatic mode, and the next fifteen rounds (15) shall be fired in auto (or burst) mode in 3-5 round bursts. The occurrence of any magazine related stoppage shall result in failure of the ammunition compatibility test.

4.6.9 M249 SAW compatibility. Eight (8) magazines shall be tested for M249 compatibility by firing 30 rounds of M855A1 ammunition on each magazine with one M249. Firing shall be accomplished with the M249 held in a government approved soft mount. The M249 operation shall be monitored to determine that all firing is controlled by the trigger and that every spent cartridge is properly ejected. Thirty (30) rounds of M855A1 cartridges shall be fired from a fully loaded magazine in bursts of approximately 5 rounds each. Repeat test using the assigned barrel. The occurrence of 1 magazine related M249 stoppage, failure of the magazine to be retained in the M249 during firing, or the failure of any component part of the magazine shall result in failure of the M249 compatibility test.

4.6.10 Round Count Indicator. Visually examine the magazine.

4.7 Environmental requirements.

4.7.1 Corrosion resistance. The sample magazines shall be exposed to a 5 % salt fog test in accordance with Method 509.5 of MIL-STD-810G. The magazines shall be oriented per MIL-STD-810G, with the magazine feed lips upward. The test duration shall be 96 hours. The sample shall be rejected if corrosion is found anywhere on the magazine.

4.7.1.1 Test firing. The sample magazines shall be tested for the corrosion resistance requirement by firing a total of 240 rounds (30 rounds per magazine) of M855A1 ammunition on eight (8) magazines in a weapon (see Table II). The weapon shall be fired hand-held, in 120 round cycles. The occurrence of more than 1 magazine related stoppage shall result in failure of the test.

4.7.2 Fungus resistance. Components fabricated from susceptible natural materials shall be tested in accordance with method 508.6 of MIL-STD-810G to determine conformance to the requirement. The test cycle shall be 28 days.

4.7.2.1 Test firing. The sample magazines shall be tested, after the completion of the 28 day test cycle. Two weapons (see Table II) shall fire a total of 120 rounds of M855A1 ammunition on four (4) magazines. The weapon shall be fired hand-held, in 30 round cycles. The occurrence of more than 1 magazine related stoppage shall result in failure of the test.

4.7.3 Temperature.

4.7.3.1 Hot. Eight (8) magazines using any combination of two (2) weapons from Table II shall be tested for the high temperature requirement. Each weapon shall fire 120 rounds of M855A1 ammunition. The weapons, the sample magazines and 240 rounds of ammunition shall be initially conditioned at +160°F (+71° C) for at least six (6) hours. The weapons shall be shoulder fired or held in a fixture simulating shoulder fire, in 120 round cycles. If the weapons

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are fired outside of the hot chamber, they shall be returned to the hot chamber for a minimum dwell time of two (2) hours. Between each cycle allow the weapon to return to the conditioned temperature. Lubricant, cleaner and preservative for the weapons shall be in accordance with MIL-PRF-63460. The maintenance of the weapons and magazines shall be accomplished prior to the test. The occurrence of more than 1 magazine related stoppage shall result in failure of the hot temperature test.

4.7.3.2 Cold. Eight (8) magazines using any combination of two (2) weapons from Table II shall be tested for the low temperature requirement. Each weapon shall fire 120 rounds of M855A1 ammunition. The weapons, the sample magazines and 240 rounds of ammunition shall be initially conditioned at -60°F (–51° C) for at least six (6) hours. The weapons shall be shoulder fired or held in a fixture simulating shoulder fire, in 120 round cycles. If the weapons are fired outside of the cold chamber, they shall be returned to the cold chamber for a minimum dwell time of two (2) hours. Between each cycle allow the weapon to return to the conditioned temperature. Lubricant, cleaner and preservative for the weapons shall be in accordance with MIL-L-14107 (LAW). The maintenance of the weapons and magazines shall be accomplished prior to the test. The occurrence of more than 1 magazine related stoppage shall result in failure of the cold temperature test.

4.7.4 Rough handling.

4.7.4.1 Ambient drop. Eight (8) magazines, loaded with 30 rounds of M855A1 ammunition shall be manually/mechanically allowed to free-fall a distance of five (5) feet onto a clean, level, concrete surface. Each magazine shall free-fall in the following orientations: top down, bottom down, two adjacent sides down each, and two diagonally opposed. Each magazine shall also be inserted into a weapon and the weapon shall be dropped in an orientation that has the greatest impact on the magazine. The weapon shall be dropped with the bolt fully locked forward and no round in the chamber. Verify the proper impact orientation by video recording (preferred) or photographic records (IAW TOP 3-2-045). The magazine shall remain intact and no rounds shall separate from the magazine. Additionally, the magazines shall remain attached when dropped mounted to a weapon. The magazines shall then be loaded into a weapon from Table II and the full load of cartridges shall then be fired. The occurrence of more than 1 magazine related stoppage shall result in failure of the ambient drop test.

4.7.4.2 Hot drop. Eight (8) magazines, loaded with 30 rounds of M855A1 ammunition shall be conditioned at +160°F (+71° C) for six (6) hours. Each magazine shall be manually/mechanically allowed to free-fall a distance of five (5) feet onto a clean, level, concrete surface. Each magazine shall free-fall in the following orientations: top down, bottom down, two adjacent sides down each, and two diagonally opposed. Each magazine shall also be inserted into a weapon and the weapon shall be dropped in an orientation that has the greatest impact on the magazine. The weapon shall be dropped with the bolt fully locked forward and no round in the chamber. Verify the proper impact orientation by video recording (preferred) or photographic records (IAW TOP 3-2-045). The magazine shall remain intact and no rounds shall separate from the magazine. Additionally, the magazines shall remain attached when dropped mounted to a weapon. The magazines shall then be loaded into a weapon from Table II and the full load of cartridges shall then be fired. Visually inspect the magazines after each drop.

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Visually inspect the magazines after each drop. The occurrence of more than 1 magazine related stoppage shall result in failure of the hot drop test.

4.7.4.3 Cold drop. Eight (8) magazines, loaded with 30 rounds of M855A1 ammunition shall be conditioned at -60°F (-51° C) for six (6) hours. Each magazine shall be manually/mechanically allowed to free-fall a distance of five (5) feet onto a clean, level, concrete surface. Each magazine shall free-fall in the following orientations: top down, bottom down, two adjacent sides down each, and two diagonally opposed. Each magazine shall also be inserted into a weapon and the weapon shall be dropped in an orientation that has the greatest impact on the magazine. The weapon shall be dropped with the bolt fully locked forward and no round in the chamber. Verify the proper impact orientation by video recording (preferred) or photographic records (IAW TOP 3-2-045). The magazine shall remain intact and no rounds shall separate from the magazine. Additionally, the magazines shall remain attached when dropped mounted to a weapon. The magazines shall then be loaded into a weapon and the full load of cartridges shall then be fired. Visually inspect the magazines after each drop. The occurrence of more than 1 magazine related stoppage shall result in failure of the cold drop test.

4.7.5 Sand/dust test. Eight (8) magazines using any combination of two (2) weapons from Table II shall be tested for the sand/dust requirement per TOP 3-2-045, paragraph 4.5.4. Firing shall be accomplished with the weapon held in a fixture simulating shoulder firing. The sample magazines, loaded with 30 rounds of ammunition in each magazine, shall be placed in standard MOLLE-type pouches and initially conditioned in Desert-like dust (silica flour) blown into the chamber at a rate of $50 \pm 10 g/m^2$/min for a period of 30 minutes. Remove the magazines from the chamber and clean as much as possible by sharply jarring them. The magazines shall then be loaded into a weapon and the full load shall then be fired. The occurrence of more than 1 magazine related stoppage shall result in failure of the sand/dust test.

4.8 Support and inspection.

4.8.1 Marking. Visually examine the magazine.

4.8.2 Workmanship. Visually examine the magazine.

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5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

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 5.56 mm magazine, is intended for use in the M16 family of rifles/M4 family of carbines/M249 Squad Automatic Rifle. The magazines covered by this specification are military unique because they are intended to operate with a high reliability and under adverse combat conditions such as, rough handling, temperatures ranging from -60°F (–51° C) to +160°F (+71° C) and in a corrosive environment.

6.2 Acquisition requirements. Acquisition documents should specify the following:

a. Title, number and date of this specification.
b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1).
c. Packaging requirements (See 5.1).
d. Requirements for Design verification (See 4.2).
e. Requirements for First article (See 4.3).
f. Requirements for Conformance inspection (See 4.4)
g. Government Furnished Material or equipment (See 6.4).
h. Requirements for acceptance inspection equipment (AIE) designs. (See 6.3).
i. Applicable national stock number.
j. Serialization requirements, if applicable.
k. Certificate of conformance for each lot or shipment of product.
l. Requirements for demilitarization of excess magazines or components.
m. Requirements to ensure legal safeguarding and use of design relative to commercial sale.

6.3 Contractor acceptance inspection equipment (AIE). Provisions concerning the contractor's AIE used to verify the requirements of this specification should be specified in the contract.

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6.4 Submission of alternative conformance provisions. All contractor proposed alternative conformance provisions should be submitted to the Government for evaluation/approval as directed by the contracting activity.

6.5 Magazine essential functions. Table IV denotes the primary operations the magazine should be capable of performing. Failure to meet any one of these essential functions should result in a magazine related failure.

TABLE IV. Magazine essential functions

1	Permit operator to expeditiously insert magazine; retains its position after proper insertion into magazine well; and smoothly ejects upon release
2	Retains loaded ammunition cartridges
3	Presents cartridges in proper position to be stripped
4	Magazine can be fully loaded in an expedient manner with ammunition cartridges
5	Magazine effectively engages bolt lock to the rear after the last round

6.7 Subject term (key word) listing.

Cartridge: mm ammunition
Weapon: M4, M4A1, M16A2, M16A4, M249

Custodian:
Army – AR
Navy – OS
Air Force - 170

Preparing activity:
Army – AR
(Project 1095-2018-006)

Review activities:
Army – MR
Navy – AS, MC, SH
Air Force – 40, 99

Civil agency:
GSA – FAS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.dla.mil.

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