

**INCH-POUND**

MIL-P-46296C (AR)  
AMENDMENT 6  
13 August 1996  
SUPERSEDING  
AMENDMENT 5  
8 February 1993

MILITARY SPECIFICATION

PRIMER, PERCUSSION, M82  
LOADING, ASSEMBLING AND PACKING

This Amendment forms a part of Military Specification MIL-P-46296C (MU), dated 21 September 1966, and is approved for use by the U.S. Army Armament, Research, Development and Engineering Center, and is available for use by all Departments and Agencies of the Department of Defense.

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2.1, Add the following new specification and standard:

"SPECIFICATION

MILITARY

MIL-P-46610 - Primers, Percussion, Styphnate and  
Chlorate Types, Small Arms Ammunition

STANDARDS

MILITARY

MIL-STD-331 - Fuze and Fuze Components,  
Environmental and Performance  
Tests for"

2.1, Add the following new drawings:

"10522621 - Primer No. 34  
8861199 - Ignition Element Assembly"

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2.1, Add the following new publication:

"TOP 4-2-602 - Test Operations Procedure 4-2-602  
U.S. Army Test and Evaluation  
Command"

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3.1, Add the following new paragraph:

"3.1.1 Primer No. 34. The primer No. 34 shall comply with Drawing 10522621 and all the requirements as specified in MIL-P-46610 when tested as Cartridge, 7.62mm, NATO, Ball, M80."

3.5.1, Line 1: Delete "Without black powder" and substitute "Static Test".

\* 3.5.2, Delete entire paragraph and substitute:

"Ballistic Test. The primers, with the black powder charge, shall fire with no perceptible hangfires, metal parts separation, or evidence of rupture or erosion and the primer must obturate and extract easily, when tested as specified in 4.3.3.2 (see 6.7)."

3.8, Add the following new paragraph:

"3.8 Modified Bruceton sensitivity test. A modified Bruceton sensitivity test shall be performed on each lot of No. 34 primers for use in the M82 primers. The test shall be conducted in accordance with 4.3.4 and the test results shall be fully evaluated for acceptance by the Technical Agencies prior to use in the M82 primers."

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Add the following new paragraphs:

"4.2.1.1 First article test. The first article test is a one time qualification test for new manufacturers of No. 34 primers for use in the M82 primers.

4.2.1.1.2 Submission. Test samples shall be randomly withdrawn from the first lot produced by the new manufacturer of No. 34 primers. The test sample shall be tested in accordance with all the requirements of this specification and with 4.2.1.1.3, 4.2.1.1.4 and 4.2.1.1.5. Until the first article test has been performed and found to be acceptable (the test data will be evaluated by the Technical Agencies), the contractor is in no way authorized by the Government to initiate second lot production unless otherwise directed by the Contracting Officer.

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4.2.1.1.3 Ignition element assembly vibration test. One thousand (1000) No. 34 primers shall be loaded into ignition element assemblies (Dwg. 8861199) and tested as follows:

4.2.1.1.3.1 145 degrees F. Five hundred (500) ignition element assemblies from 4.2.1.1.3 shall be conditioned at 145 degrees F for 24 hours and tested in accordance with test #119, procedure 2 of MIL-STD-331A vibration frequency 5Hz-500Hz-5Hz in sweep method. Sweep logarithmically in 30 minute cycles for one hour. After the vibration test, all the assemblies shall be subjected to visual inspection. Any evidence of break up of the cellulose disk or dusting of lead styphnate will be cause for rejection of the first article test samples.

4.2.1.1.3.2 -65 degrees F. Five hundred (500) ignition element assemblies from 4.2.1.1.3 shall be conditioned at -65 degrees F for 24 hours and tested in accordance with test #119, procedure 2 of MIL-STD-331A vibration frequency 5Hz-500Hz-5Hz in sweep method. Sweep logarithmically in 30 minute cycles for one hour. After the vibration test, all the assemblies shall be subjected to visual inspection. Any evidence of break up of the cellulose disk or dusting of lead styphnate will be cause for rejection of the first article test samples.

4.2.1.1.4 Loose cargo and functioning test. Four hundred and fifty (450) No. 34 primers shall be loaded into M82 primers and tested as follows:

4.2.1.1.4.1 145 degrees F. One hundred and fifty (150) M82 primers from 4.2.1.1.4 shall be conditioned at 145 degrees F for a minimum of 24 hours and subjected to loose cargo test in accordance with TOP 4-2-602. After the loose cargo test, all the M82 primers shall be tested for functioning in a M109 Howitzer with a bump spindle without propelling charge or projectile.

4.2.1.1.4.2 70 degrees F. One hundred and fifty (150) M82 primers from 4.2.1.1.4 shall be conditioned at 70 degrees F for a minimum of 24 hours and subjected to loose cargo test in accordance with TOP 4-2-602. After the loose cargo test, all the M82 primers shall be tested for functioning in a M109 Howitzer with a bump spindle without propelling charge or projectile.

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4.2.1.1.4.3 -65 degrees F. One hundred and fifty (150) M82 primers from 4.2.1.1.4 shall be conditioned at -65 degrees F for a minimum of 24 hours and subjected to loose cargo test in accordance with TOP 4-2-602. After the loose cargo test, all the M82 primers shall be tested for functioning in a M109 Howitzer with a bump spindle without propelling charge or projectile.

4.2.1.1.5 M82 primer functioning test. Two thousand (2000) No. 34 primers shall be loaded into M82 primers and tested as follows:

4.2.1.1.5.1 145 degrees F. One thousand (1000) M82 primers from 4.2.1.1.5 shall be conditioned at 145 degrees F for a minimum of 24 hours and tested for functioning in a M109 Howitzer with a bump spindle without propelling charge or projectile.

4.2.1.1.5.2 -65 degrees F. One thousand (1000) M82 primers from 4.2.1.1.5 shall be conditioned at -65 degrees F for a minimum of 24 hours and tested for functioning in a M109 Howitzer with a bump spindle without propelling charge or projectile."

4.2.1c Delete in its entirety and substitute the following:

"4.2.1c Black powder from not more than two lot numbers with the same interfix number from one manufacturer (see 6.10)."

4.4.2, Add the following:

"The contractor may elect to perform 100% inspection with automated equipment in lieu of sampling inspection for defects listed in this specification. In such cases, calibration plans shall be submitted to the Technical Agency (see 6.8) for approval for each automatic inspection station. The plans shall identify: (1) the frequency (production interval) for validating equipment functioning (2) the methods and procedures for validation including designs of defect standards and (3) a description of material control procedures to be imposed on product passing through each automated station during the production interval between validations. Under these provisions final acceptance will be withheld from material produced during a production interval until satisfactory validation of each of the automated stations so controlled. In the event of a validation failure of any station, the material processed through such station since the last acceptable validation shall be placed in a rejected status pending corrective action.

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Under certain circumstances, and for sufficient cause, the contractor may request the government's permission to use process controls or process inspections in lieu of the product inspections contained herein. In such instances, process control plans containing the aforementioned elements shall be submitted to the Technical Agency for approval."

4.4.2.1, Add the following Major 104:

"Major 104. Cellulose disk missing (see Note 1)

Note 1: Ignition element assemblies shall be either visually or automatically inspected 100% for the presence of the cellulose disk. Any sample which is found to have the disk missing inside the ignition element assembly shall be removed from the lot. Inspection may be performed immediately prior to inserting the primer or after the primer is inserted."

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4.2.2.5, Delete Major 102 in its entirety and replace with the following Major 102:

"Major 102. Lacquer missing (see Note 1)  
between ignition element  
assembly and body

Note 1: One sample shall be randomly withdrawn from each 1/2 hour accumulated production prior to insertion of the container charge assembly. The ignition element assembly shall be unscrewed and extracted from the primer body for inspection. Failure to find evidence of lacquer on the ignition assembly seat or thread shall be cause for rejection of entire production run represented by the sample."

4.2.2.5, Add Major Defect 103:

"103. Depth of Plunger, Max Gage"

Delete Minor Defect 201:

"201. Ignition element not fully seated Torque"

4.2.2.6, Change major defect 103 to read "Container Charge Assembly below flush max Gage".

4.3.3.1, Line 1: Delete "Without black powder" and substitute "Static Test".

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## 4.3.3.2, Delete entire paragraph and substitute:

"4.3.3.2 Ballistic test. The primers shall be assembled with a projectile and propelling charge system at a Government proving ground, and fired from a gun for which the primer is standard."

## Add the following new paragraphs:

"4.3.4 Modified Bruceton sensitivity test. Approximately two hundred (200) No. 34 primers shall be loaded into M82 primers without container charge assembly and tested as follows and the test result shall be submitted to the Technical Agency (see 6.8) for evaluation prior to loading of M82 primers:

4.3.4.1 50% point phase.

1. Set height to 5 inches and drop a steel ball with approximately 1 19/32 inches in diameter and weighing 16.34 plus or minus 0.02 ounces on a primer.
2. If primer fires, record result and lower height by 1/2 inch.
3. If primer does not fire, record result and raise height by 1/2 inch.
4. Repeat steps 2 and 3 until 8 reversals in direction of height adjustment between drops are performed. A reversal occurs whenever the height is adjusted in a direction opposite that of the previous adjustment.

4.3.4.2 No-fire phase.

1. Set height to 1/2 inch below the lowest fire which occurred during the 50% point phase.
2. If 5 consecutive primers do not fire, record results and raise height by 1/2 inch.
3. If any primer fires prior to the 5th consecutive no-fire at the set height, record the results and lower the height by 1/2 inch.
4. Repeat step 2 and 3 until 5 reversals in direction of height adjustment are performed.

4.3.4.3 All-fire phase.

1. Set height to 1/2 inch above the highest no-fire which occurred during the 50% point phase.

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2. If 5 consecutive primers fire, record results and lower height by 1/2 inch.
3. If any primer no-fires prior to the 5th consecutive fire at the set height, record the results and raise the height by 1/2 inch.
4. Repeat steps 2 and 3 until 5 reversals in direction of height adjustment are performed."

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Section 6, Add:

"6.8 Submission of calibration and process control plans. Prior to implementation of calibration or process control plans in accordance with 4.2.2, plans shall be approved by Commander, ARDEC, ATTN: AMSTA-AR-QAT-P, Picatinny Arsenal, NJ 07806-5000."

Add the following new paragraph:

"6.9 Modified Bruceton sensitivity test. All the modified Bruceton sensitivity test results shall be submitted to Commander, ARDEC, ATTN: AMSTA-AR-QAT-P, Picatinny Arsenal, NJ 07806-5000 for evaluation prior to loading of M82 primers using a new lot of No. 34 primers. In order to expedite the evaluation of the new lot of No. 34 primers, the test data should be datafaxed to AMSTA-AR-QAT-P."

\* Add the following new paragraph:

"6.10 Lot formation. Allowance for two black powder lots is for the purpose to facilitate LAP when a black powder lot is depleted and a new lot is introduced."

The margins of this amendment are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

Custodian:  
Army-AR

Preparing activity  
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