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MILITARY SPECIFICATION

HEADSET, ELECTRICAL, H-216 A U

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

1 SCOPE

1 1 Scope. This specification covers the H-216 A/U headset. It has a nominal impedance of 600 ohms and an extended range of 100 to 7 000 hertz (Hz)

2 APPLICABLE DOCUMENTS

2 1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein

SPECIFICATIONS

FEDERAL

QQ-S-781	- Strapping, Steel, Flat and Seals
PPP-B-585	- Boxes, Wood, Wirebound
PPP-B-601	- Boxes, Wood, Cleated-Plywood
PPP-B-621	- Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	- Box, Fiberboard
PPP-T-60	- Tape Pressure-Sensitive Adhesive, Waterproof, for Packaging
PPP-T-76	- Tape, Pressure-Sensitive Adhesive Paper (for Carton Sealing)

MILITARY

MIL-P-116	- Preservation-Packaging, Methods of.
MIL-I-631	- Insulation, Electrical, Synthetic-Resin Composition, Nonrigid
MIL-P-642	- Plugs, Telephone, and Accessory Screws ; General Specification For.
MIL-M-13231	- Marking of Electronic Items.
MIL-F-14072	- Finishes For Ground Signal Equipment
MIL-C-45662	- Calibration System Requirements

STANDARDS

MILITARY

MIL-STD-105	- Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	- Marking for Shipment and Storage
MIL-STD-130	- Identification Marking of US Military Property
MIL-STD-147	- Palletized and Containerized Unit Loads 40" x 48 4-Way (Partial) Pallet Skids, Runners, or Pallet-Type Base
MIL-STD-202	- Test Methods for Electronic and Electrical Component Parts
MS75105	- MS47 Headband Assembly.
MS75127	- Earphone Assembly.

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

3 REQUIREMENTS

3 1 Materials. Materials shall be as specified herein However when a definite material is not specified, a material shall be used which will enable the headsets to meet the performance requirements of this specification Acceptance or approval of any constituent material shall not be construed as a guaranty of the acceptance of the finished product

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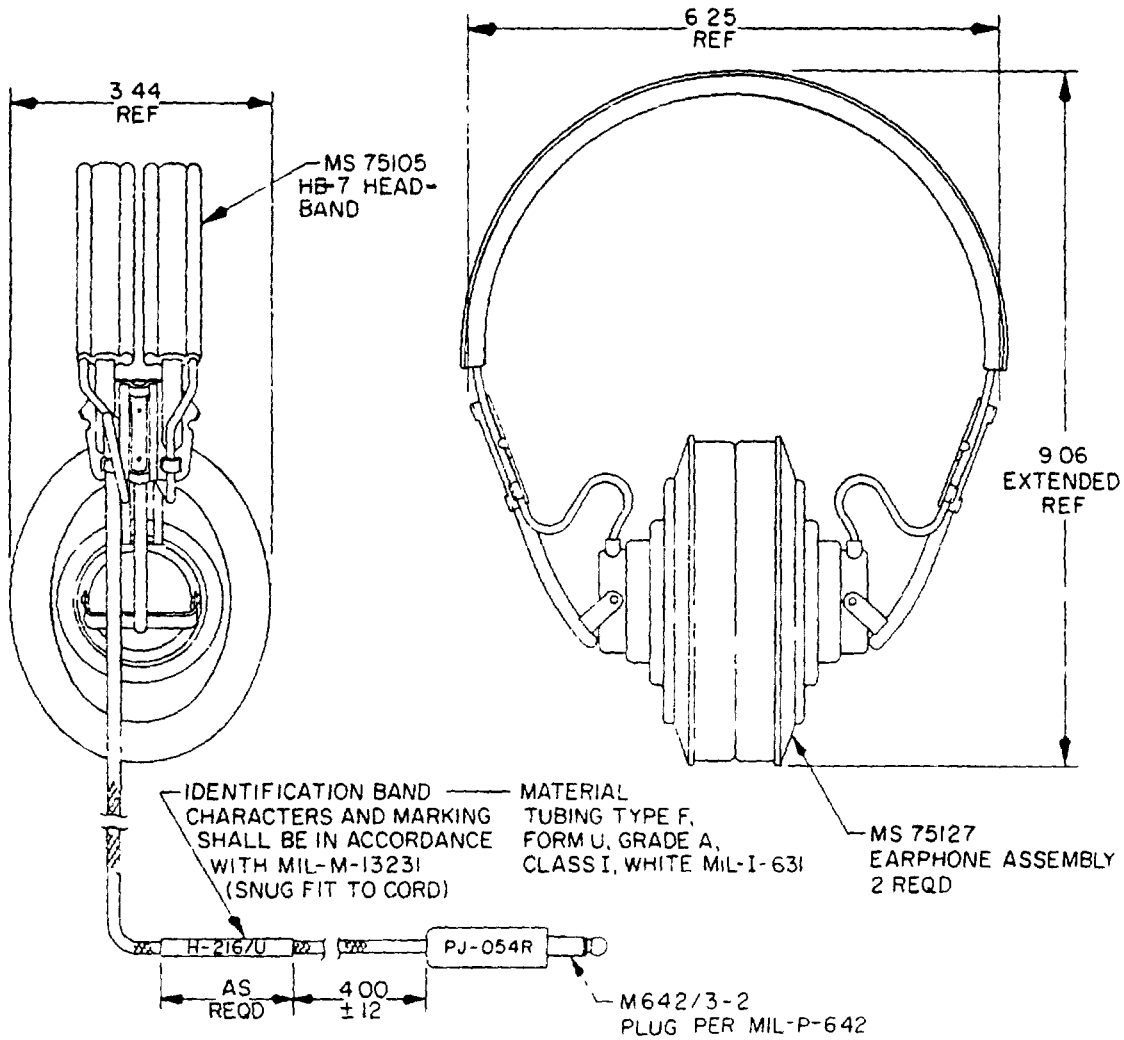

INCHES	MM
12	3 05
3 44	87 38
4 00	101 60
6 25	158 75
9.06	230 12

NOTES
1 Dimensions are in inches
2 Metric equivalents (to the nearest 01 mm) are given for general information only and are based upon 1 inch = 25 4 mm

FIGURE 1 Headset H-216 A U

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3 1 1 Metals. The metals used shall be of proper alloy and hardness necessary to provide the required strength and rigidity with the maximum strength to weight ratio Metals shall be of a corrosion-resistant type or shall be treated in accordance with MIL-F-14072 type II (sheltered).

3 1 2 Insulation Insulation shall be in accordance with MIL-I-631

3 2 Design and construction The headset shall be in accordance with figure 1

3.2 1 Wiring. The earphones shall be wired in series

3.3 Performance characteristics

3 3 1 Acoustic quality When the headset is tested as specified in 4 6 2, there shall be no buzzing, rattling, or other spurious sounds in the acoustic output of the earphone

3 3 2 Slide adjustment When the headset is tested as specified in 4 6 3 the assembly shall have a smooth, snug, push fit on the rod A force of 25 to 75 ounces shall be required to move the rod in the subassembly.

3 3 3 Strain relief When the headset is tested as specified in 4 6 4 there shall be no slippage of the cord or cable assembly out of the plug

3 3 4 Random drop When tested as specified in 4 6 5 the acoustic quality shall be as specified in 3 3 1, and there shall be no loosening or deformation of parts or other damage to the headset.

3 3 5 Salt spray (corrosion). When tested as specified in 4 6 6, the acoustic quality shall be as specified in 3 3.1, and there shall be no loosening or deformation of parts or other damage to the headset

3 4 Marking. Headset shall be marked in accordance with MIL-STD-130, with the military type number and the manufacturer's name or code identification

3 5 Workmanship Headsets shall be processed in such a manner as to be uniform in quality and shall be free from loose or deposited foreign materials and other defects that will affect life, serviceability, or appearance.

4 QUALITY ASSURANCE PROVISIONS

4 1 Responsibility for inspection Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein Except as otherwise specified in the contract or order the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements

4 1 1 Test equipment and inspection facilities Test and measuring equipment and inspection facilities of sufficient accuracy, quality, and quantity to permit performance of the required inspection shall be established and maintained by the supplier The establishment and maintenance of a calibration system to control the accuracy of the measuring and test equipment shall be in accordance with MIL-C-45662

4 2 Classification of inspections The inspections specified herein are classified as follows

(a) Components inspection (see 4 4)
(b) Quality conformance inspection (see 4 5)

4 3 Inspection conditions Unless otherwise specified herein all inspections shall be performed in accordance with the test conditions specified in the GENERAL REQUIREMENTS of MIL-STD-202

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4.4 Components inspection Components inspection shall consist of certification supported by verifying data that the components shown in figure 1, used in the headsets, are in accordance with the applicable referenced specifications and standards

4.5 Quality conformance inspection

4.5.1 Inspection of product for delivery Inspection of product for delivery shall consist of groups A and B inspections Except as specified in 4 5 1 4 4, delivery of products which have passed groups A and B inspections shall not be delayed pending the results of group C inspection.

4 5.1 1 Inspection lot An inspection lot shall consist of all headsets produced under essentially the same conditions and offered for inspection at one time

4 5.1 2 Group A inspection Group A inspection shall consist of the examination and test specified in table I, in the order shown

4 5 1.2 1 Sampling plan. Statistical sampling and inspection shall be in accordance with MIL-STD-105 for general inspection level II The acceptable quality level (AQL) shall be as specified in table I Major and minor defects shall be as defined in MIL-STD-105 (Classification of major and minor defects for visual and mechanical examination is shown in table IV)

4 5.1.2.2 Rejected lots If an inspection lot is rejected, the supplier may rework it to correct the defects, or screen out the defective units, and resubmit for reinspection Resubmitted lots shall be inspected using tightened inspection Such lots shall be separate from new lots, and shall be clearly identified as reinspected lots

TABLE I Group A inspection

Examination and test	Requirement paragraph	Test method paragraph	AQL (percent defective)	
			Major	Minor
Visual and mechanical examination	3 1, 3 2, 3 4, and 3 5	4 6 1	1 0	4 0
Acoustic quality	3 3 1	4 6 2	1 0	None

4.5.1.3 Group B inspection Group B inspection shall consist of the tests specified in table II, and shall be made on sample units which have been subjected to and have passed the group A inspection

4.5.1.3.1 Sampling plan The sampling plan shall be in accordance with MIL-STD-105 for special inspection level S-4 The AQL shall be 4 0 percent defective

4.5.1.3 2 Rejected lots. If an inspection lot is rejected the supplier may rework it to correct the defects, or screen out the defective units and resubmit for reinspection Resubmitted lots shall be inspected using tightened inspection Such lot shall be separate from new lots, and shall be clearly identified as reinspected lots

TABLE II Group B inspection

Test	Requirement paragraph	Test method paragraph
Slide adjustment	3 3 2	4 6 3
Strain relief	3 3 3	4 6 4

4 5 1.3 3 Disposition of sample units Sample units which have passed the group B inspection may be delivered on the contract or purchase order if the lot is accepted and the sample units are still within specified electrical tolerances

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4 5 1 4 Group C inspection Group C inspection shall consist of the tests specified in table III in the order shown Group C inspection shall be made on sample units selected from inspection lots which have passed groups A and B inspections

4 5 1 4 1 Sampling plan Group C inspection shall be performed once each month on six sample units selected without regard to their quality from units produced during that period or each 1,000 units, whichever occurs first The sample shall be divided equally into two groups and subjected to the tests of subgroups 1 and 2 of table III

TABLE III Group C inspection

Test	Requirement paragraph	Method paragraph
Subgroup 1 (3 sample units)		
Random drop - - - - - - - - - - - -	3 3 4	4 6 5
Subgroup 2 (3 sample units)		
Salt spray (corrosion) - - - - - -	3 3 5	4 6 6

4 5 1 4 2 Failures If one or more sample units fail to pass group C inspection, the sample shall be considered to have failed

4 5 1 4.3 Disposition of sample units Sample units which have been subjected to group C inspection shall not be delivered on the contract or purchase order

4 5 1 4.4 Noncompliance If a sample fails to pass group C inspection the supplier shall take corrective action on the materials or processes or both as warranted and on all units of product which can be corrected and which were manufactured under essentially the same conditions with essentially the same materials, processes etc and which are considered subject to the same failure Acceptance of the product shall be discontinued until corrective action acceptable to the Government, has been taken After the corrective action has been taken group C inspection shall be repeated on additional sample units (all inspection or the inspection which the original sample failed, at the option of the Government) Groups A and B inspections may be reinstituted however final acceptance shall be withheld until the group C reinspection has shown that the corrective action was successful In the event of failure after reinspection information concerning the failure and corrective action taken shall be furnished to the cognizant inspection activity and the qualifying activity

4 5.2 Inspection of preparation for delivery Sample packages or packs and the inspection of the preservation, packaging packing, and marking for shipment and storage shall be in accordance with the requirements of section 5

4 6 Method of examination and test

4 6 1 Visual and mechanical examination Headsets shall be examined to verify that the materials, design construction physical dimensions marking and workmanship are in accordance with the applicable requirements (see 3 1, 3 2 3 4 and 3 5) Defects shall be classified as specified in table IV

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TABLE IV Classification of defects for visual and mechanical examination

Defect type	Classification	
	Major	Minor
Dimensions	Dimensions not as specified	
Materials and finish	Materials not as specified. Wrong or incomplete finish Large amount of flaking peeling or chipping of finish	Scratches, cuts, abrasions, etc, causing exposure of base metal, or relatively small amounts of flaking, peeling, or chipping.
Parts	Missing parts Inoperative, improperly assembled or defective parts which could cause the headset to fail in service Wrong parts	Defective parts which would reduce efficiency of use, but not cause failure in service Cracks or chipped surfaces having no effect on the functioning, assembly, maintenance, or life of the headset.
Marking	Marking missing, illegible or incorrect	Marking dirty or smudged, but legible
Foreign objects	Any metallic foreign object, not firmly attached 1/, which could cause acoustical malfunctioning of the headset or a short circuit Any nonmetallic foreign object such as insulation, dirt, or phenolic chips which could cause acoustical malfunctioning of the headset	Any metallic or nonmetallic foreign object which affects appearance but which could not cause acoustical malfunctioning of the headset
Wiring	Wiring not in accordance with 3 2 1 Broken strands - More than 20 percent, except in a seven-strand conductor, more than two broken strands Insulation burned, abraded pinched, or deteriorated between two or more conductors, resulting in a potential short circuit Taut wire - Wire exhibits no slack and subsequent breakage may occur due to stress on terminal or part Insulation frayed to the extent that a potential short circuit exists	Broken strands - 20 percent or less In a seven-strand conductor, one or two broken strands Insulation burned, abraded, pinches or deteriorated, with exposure of bare wire, but short circuit not possible Taut wire - Slight stress on conductor, but no possibility of subsequent breakage

1/ Foreign objects that cannot be dislodged by the moderate application of pressure with a pick or spudger shall be considered to be firmly attached

4 6 2 Acoustic quality (see 3 3 1) A voltage of 1 1 ±0 1 volts rms shall be applied continuously to the terminals of the earphone The frequency shall be varied continuously from 100 to 7,000 Hz and back to 100 Hz The acoustic output shall be checked for buzzing rattling and other spurious sounds

4 6.3 Slide adjustment (see 3 3 2) The headset shall be clamped in a secure position and in such a manner to allow the rods of the receiver holder to move freely The rods shall be placed in the compressed position, and the force required to move the rod to the extended position shall be measured The force required to return the rod to the compressed position shall be measured A spring scale with a hook or any other suitable method that is agreeable with the contracting officer may be used to measure the force

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4 6 4 Strain relief (see 3 3 3) The cord conductors shall be detached from the plug The jacket of the cord or cable assembly shall be suitably marked adjacent to the end of the plug or clamp and its position relative to the end of the plug noted The plug shall be securely held or clamped, and a force shall be applied to the cord in a direction tending to withdraw the cord from the plug The force shall be increased gradually to 12 pounds and held at that value for at least 10 seconds. A change in position of the jacket marking relative to the end of the plug shall be considered as evidence of slippage of the cord or cable assembly out of the plug

4 6.5 Random drop (see 3 3 4) The entire headset shall be dropped a distance of at least 6 feet onto a concrete floor At the discretion of the supplier the floor may be covered with one layer of floor tile. The headset shall be dropped one time in each of three planes for a total of three times. The acoustic quality shall be measured as specified in 4 6 2

4 6 6 Salt spray (corrosion) (see 3.3 5) Headsets shall be tested in accordance with method 101 of MIL-STD-202 The following details and exceptions shall apply

(a) Applicable salt solution - 5 percent
(b) Test-condition letter - B
(c) Additional conditioning - Headsets shall be dried for 48 hours at room ambient temperature and conditions
(d) Measurement after drying period - As specified in 4 6 2

5 PREPARATION FOR DELIVERY

5 1 Preservation-packaging Preservation-packaging shall be level A or C, as specified (see 6 1)

5 1 1 Level A

5 1 1 1 Cleaning Headsets shall be cleaned in accordance with MIL-P-116, process C-1

5 1 1 2 Drying Headsets shall be dried in accordance with MIL-P-116

5 1 1 3 Preservative application None required

5 1 1 4 Unit packaging Unless otherwise specified (see 6 1), headsets shall be individually packaged in accordance with MIL-P-116, submethod IA-8 insuring compliance with the general requirements paragraph under methods of preservation (unit protection) and the physical protection requirements paragraph therein Each unit package shall be placed in a supplementary container conforming to PPP-B-636, class weather resistant

5 1 1 5 Intermediate packaging Not required

5 1 2 Level C. Cleaned and dried headsets shall be individually packaged in a manner that will afford adequate protection against corrosion deterioration and physical damage during shipment from supply source to the first receiving activity.

5 2 Packing Packing shall be level A B or C, as specified (see 6.1) Unit containers conforming to 5.1 1 4 may be used as shipping containers provided only one unit package is being shipped to a destination and the requirements for the applicable level of packing specified herein are met

5 2 1 Level A The packaged headsets shall be packed in fiberboard containers conforming to PPP-B-636, class weather resistant, style optional special requirements In lieu of the closure and waterproofing requirements in the appendix of PPP-B-636 closure and waterproofing shall be accomplished by sealing all seams, corners and manufacturer's joint with tape 2 inches minimum width conforming to PPP-T-60 class 1 or PPP-T-76 Banding (reinforcement requirements) shall be applied in accordance with the appendix to PPP-B-636 using nonmetallic or tape banding only

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5 2 2 Level B. The packaged headsets shall be packed in fiberboard containers conforming to PPP-B-636, class domestic style optional, special requirements Closures shall be in accordance with the appendix thereto

5 2.3 Level C The packaged headsets shall be packed in shipping containers in a manner that will afford adequate protection against damage during direct shipment from the supply source to the first receiving activity These packs shall conform to the applicable carrier rules and regulations

5 2 4 Unitized loads Unitized loads, commensurate with the level of packing specified in the contract or order, shall be used whenever total quantities for shipment to one destination equal 40 cubic feet or more. Quantities less than 40 cubic feet need not be unitized. Unitized loads shall be uniform in size and quantities to the greatest extent practicable

5 2 4 1 Level A Headsets, packed as specified in 5 2 1 shall be placed on pallets in conformance with MIL-STD-147, load type I, with a fiberboard cap (storage aid 4) positioned over the load

5.2 4 2 Level B Headsets, packed as specified in 5 2 2 shall be palletized as specified in 5 2.4 1 except that the fiberboard caps shall be class domestic

5.2 4 3 Level C. Headsets, packed as specified in 5.2 3, shall be unitized with pallets and caps of the type, size and kind commonly used for the purpose and shall conform to the applicable carrier rules and regulations

5.3 Marking. In addition to any special marking required by the contract or order, each unit package supplementary and exterior container and unitized load shall be marked in accordance with MIL-STD-129

5 4 General

5.4 1 Exterior containers Exterior containers (see 5 2 1, 5 2 2, and 5 2 3) shall be of a minimum tare and cube consistent with the protection required and shall contain equal quantities of identical stock numbered items to the greatest extent practicable

5 4 2 Navy procurements For Navy procurements the use of polystyrene loose fill material (such as strips, strands and beads) is prohibited for packaging and packing applications

5 4 3 Army procurements (See 5 2 1, 5 2 2 and 5 2 4 2) For level A packing when quantities per destination are less than a unitized load the fiberboard containers shall not be banded but shall be placed in a close fitting box conforming to PPP-B-601 overseas type, PPP-B-621, class 2, style 4 or PPP-B-585, class 3, style 2 or 3 Closure and strapping shall be in accordance with the applicable container specification except that metal strapping shall conform to QQ-S-781, type I, class B For level B packing, fiberboard boxes shall be weather resistant as specified in level A and the containers shall be banded Weather resistant fiberboard caps shall be used for level B unitized loads

6 NOTES

6 1 Ordering data Procurement documents should specify the following

(a) Title, number, and date of this specification
(b) Military part number (see 6 3)
(c) Levels of preservation packaging packing and the applicable marking (see section 5)

6.2 Replacement. This headset replaces the H-3 ARR-3 headset per SC-C-10150. Earphone cushion MS7512 8 replaces type II cushion of MIL-R-7153

6.3 Data list A data list for headset assembly H-216 A U as shown in figure 1, is contained in table V.

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TABLE V. Data list for headset assembly H-216 A U.

MS, or military part number	Item name or description
MS 75105	HB-7 headband assembly
MS 75106	Subassembly guide plate and barrel
MS 75107	Guide plate
MS 75108	Guide barrel
MS 75109	Friction spring
MS 75110	V-clip
MS 75111	U-clip
MS 75112	Rivet
MS 75113	Cupwasher
MS 75114	Subassembly of receiver holder
MS 75116	Yoke
MS 75117	Bale rod
MS 75118	Yoke stud
MS 75119	Roll pin
MS 75120	Band
MS 75121	Headband cover
MS 75122	CO-162 cable
MS 75123	Cord CO169
MS 75124	Ring terminal
MS 75125	TM-51 terminals
MS 75127	Earphone assembly
MS 75128	Cushion, earphone
MS 75129	Earphone retainer
MS 75130	Cup, earphone
M642/3-2	Plug per MIL-P-642

Custodians
Army - EL
Navy - EC
Air Force - 80

Review activities
Army -
Navy -
Air Force - 11, 13
DSA - ES

User activities
Army -
Navy - MC, AS, SH
Air Force - 11

Preparing activity
Army - EL

Agent
DSA - ES

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SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No 22-R255

INSTRUCTIONS This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost Comments and the return of this form will be appreciated Fold on lines on reverse side staple in corner, and send to preparing activity Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements

SPECIFICATION MIL-H-55353 HEADSET, ELECTRICAL, H-216 A/U

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1 HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A GIVE PARAGRAPH NUMBER AND WORDING

B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2 COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3 IS THE SPECIFICATION RESTRICTIVE?

☐ YES ☐ NO *(If "yes", in what way?)*

4 REMARKS *(Attach any pertinent data which may be of use in improving this specification If there are additional papers attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity - Optional)*

DATE

DD FORM 1 JAN 66 1426

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