NOTICE OF CANCELLATION

INCH−POUND

MIL−F−51079D
NOTICE 2
10 December 1998
SUPERSEDING
NOTICE 1
21 May 1996

MILITARY SPECIFICATION

FILTER MEDIUM, FIRE−RESISTANT, HIGH−EFFICIENCY

MIL−F−51079D, dated 14 March 1985, with Interim Amendment 1, dated 17 February 1988, is hereby canceled. Future acquisitions should refer to Appendix FC−I of American Society of Mechanical Engineers (ASME) AG−1 − Code on Nuclear Air and Gas Treatment.

(Application for copies of ASME publications should be addressed to the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017.)

Custodian:

Army − EA
Navy − YD1

Preparing activity:

Army − EA

(Project 4240−0676)

Review Activities:

Army − CR4
Navy − AS, MC, SH
DLA − GS

AMSC N/A FSC 4240

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

NOTICE OF INACTIVATION FOR NEW DESIGN

INCH-POUND

MIL-F-51079D
NOTICE 1
21 May 1996

MILITARY SPECIFICATION

FILTER MEDIUM, FIRE-RESISTANT, HIGH-EFFICIENCY

This notice should be filed in front of MIL-F-51079D dated 14 March 1985.

MIL-F-51079D is inactive for new design and is no longer used except for replacement purposes.

The Qualified Products List (QPL) associated with this inactive for new design specification will be maintained until acquisition of the product is no longer required, whereupon the specification and QPL will be canceled.

Custodian:

Army - EA
Navy - YD1

Preparing activity:

Army - EA

(Project 4240-0642)

Review Activities:

Army - ME
Navy - AS, MC, SH
DLA - GS

AMSC N/A

FSC 4240

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-F-51079D
14 March 1985
SUPERSEDING
MIL-F-51079C
16 February 1984
(See section 6)

MILITARY SPECIFICATION

FILTER MEDIUM, FIRE-RESISTANT, HIGH-EFFICIENCY

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

1. SCOPE

This specification covers one grade of high-efficiency, fire-resistant, filter medium.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks 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

L-P-378	-	Plastic Sheet and Strip, Thin Gauge, Polyolefin.
UU-P-268	-	Paper, Kraft, Wrapping.
MMM-A-250	-	Adhesive, Water-Resistant (For Closure of Fiberboard Boxes).
PPP-F-320	-	Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.
PPP-P-291	-	Paperboard, Wrapping and Cushioning.
PPP-T-76	-	Tape, Packaging Paper, (For Carton Sealing).

: 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, Munitions and Chemical Command, ATTN: AMSMC-TDC-S (A), Aberdeen Proving Ground, MD 21010-5423 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

STANDARDS

FEDERAL

FED-STD-191 - Textile Test Methods.

MILITARY

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

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

DRAWINGS

US ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND

CHEMICAL RESEARCH AND DEVELOPMENT CENTER

136-42-102-5B - Penetrometer, Filter Testing DOP Q127 Assembly.
125-8-1 - Indicator, Water Repellency Q101.

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

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

2.2 Other publications. The following documents 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.

ASTM STANDARDS

D 3951 - Standard Practice for Commercial Packaging.

(Application for copies should be addressed to ASTM, 1916 Race Street, Philadelphia, PA 19103.)

TAPPI STANDARDS

T411 - Thickness (Caliper) of Paper and Paperboard.
T413 - Ash in Paper.
T402 - Standard Conditioning and Testing Atmospheres for Paper, Board, Pulp Handsheets, and Related Products.
T494 - Tensile Breaking Properties of Paper and Paperboard (Using Constant Rate of Elongation Apparatus).

(Application for copies of TAPPI (Technical Association of the Pulp and Paper Industry) Standards should be addressed to the Technical Secretary, TAPPI, 1 Dunwoody Park, Atlanta, GA 30341.)

3. REQUIREMENTS

3.1 Form and size.

3.1.1 Form. The filter medium shall be furnished in rolls. The medium shall be tightly and evenly wound on non-returnable fiber or paperboard cores with a minimum inside diameter of 3-1/16 ± 1/8 inches and a medium wall thickness of 3/8 inch. Unless otherwise specified in the contract or purchase order the rolls shall not exceed 25 inches in diameter (see 6.2).

3.1.2 Size. The width of the roll shall be specified at the time of procurement (see 6.2). The tolerance on the specified width shall be plus 1/4 inch and minus 0. The linear feet of medium on the roll shall be clearly marked on the outside of the roll. The length shall not include the first wrap around the core or the outermost wrap of the roll.

3.1.3 Splices. The location of splices within the rolls shall be marked with paper tabs of contrasting color extending from each end of the roll. The number of splices permitted per roll shall not exceed the whole number obtained by dividing the length of the roll in feet by 1000.

3.1.4 Qualification. Filter media furnished under this specification shall be qualified for listing on the applicable Qualifed Products List at the time set for the opening of bids (see 4.2 and 6.5).

3.2 Physical and chemical.

3.2.1 Airflow resistance. The pressure drop across the medium shall not exceed 40 millimeters of water with ambient temperature airflow through the medium at a minimum velocity of 320 centimeters per minute, when tested in accordance with 4.2.4.1.

3.2.2 DOP smoke penetration. The penetration of the medium by DOP (dioctylphthalate) smoke of 0.3 micrometer average particle size shall not exceed .03 percent, as determined by comparing downstream with upstream smoke concentration with the air and smoke mixture having the flow rate specified in 3.2.1 when tested in accordance with 4.2.4.1.

3.2.3 Tensile strength.

3.2.3.1 Tensile strength and elongation. The average tensile breaking strength of the medium shall be not less than 2.5 pounds per inch width in the machine direction, not less than 2.0 pounds per inch width in the cross direction, and the average elongation in both directions shall be not less than 0.5 percent at rupture when tested in accordance with 4.2.4.2(a).

3.2.3.2 Tensile strength after heated air. The average tensile strength of the medium shall be not less than 0.6 pounds per inch width in the cross direction after exposure to heated air at 700° + 50°F in a forced draft oven for 5 minutes when tested in accordance with 4.2.4.2(b).

3.2.3.3 Wet tensile strenth. The average wet tensile breaking strength of the medium after being soaked for 15 minutes in water at room ambient temperature shall be not less than 1.0 pound per inch of width in the cross direction when tested in accordance with 4.2.4.2(c).

3.2.3.4 Tensile strength after gamma irradiation. The average tensile strength of the filter medium shall be not less than 1.0 pound per inch of width in either the machine direction or cross direction after the medium is exposed to gamma irradiation for an integrated dose of 6.0×10^7 to 6.5×10^7 rads at a dosage rate not to exceed 2.5 megarads per hour when tested in accordance with 4.2.4.2(d).

3.2.4 Water repellency.

3.2.4.1 Prior to irradiation. The average water repellency of the filter medium shall be not less than 20 inches of water with no single value being less than 18 when tested as specified in 4.2.4.3(a).

3.2.4.2 After gamma irradiation. The average water repellency of the filter medium shall be not less than 6 inches of water with no single value being less than 5 after the medium is exposed to an integrated dose of 6.0×10^7 to 6.5×10^7 rads at a dosage rate not to exceed 2.5 megarads per hour when tested in accordance with 4.2.4.3(b).

3.2.5 Mildew resistance. The medium shall be mildew resistant and shall show no growth of fungus when tested in accordance with 4.2.4.4. In lieu of testing the contractor may, with the approval of the contracting officer, certify in writing that the medium will not support the growth of fungi (see 6.2). A mildew inhibitor, if used, shall be approved by the Government.

3.2.6 Thickness. Medium shall have a minimum thickness of 0.015 inch; medium shall have a maximum thickness of 0.040 inch when measured in accordance with 4.2.4.5.

3.2.7 Combustible material. The combustible material in the filter medium shall not exceed 7 percent by weight when tested in accordance with 4.2.4.6.

3.2.8 Flexing characteristics.

3.2.8.1 Flexing. The medium shall show no tears, breaks, cracks or fiber separation after it is drawn back and forth, five times, around a 3/16 inch diameter mandrel and moving through an arc of at least 180° when tested as specified in 4.2.4.7(a).

3.2.8.2 DOP smoke penetration. The penetration of the medium by DOP smoke of 0.3 micrometers average particle size when determined as stated in 3.2.2 and specified in 4.2.4.1 shall not exceed 0.03 percent after the medium is drawn back and forth as required in 3.2.8.1, when tested as specified in 4.2.4.7(b).

3.2.9 Resistance to environmental exposure. The filter medium shall comply with the requirements specified in 3.2.9.3 when subjected to the environmental conditions, cyclic exposures, and testing specified in 3.2.9.1, 3.2.9.2, and 3.2.9.3.

3.2.9.1 Environmental conditions. The filter medium shall be subjected, in accordance with 4.2.4.8 to three 3-week cycles of environmental conditions each consisting of 1 week arctic (-65°F), 1 week desert (160°F and 10 percent RH), and 1 week tropical (113°F and 88 percent RH). The time between condition changes shall not exceed 15 minutes. The sequence of environmental changes for each cycle and the number and sequence of cycles shall be as specified in 3.2.9.2.

3.2.9.2 Cyclic exposure. The filter medium shall be subjected to 3 cycles (a total duration of 9 consecutive weeks) varied as follows:

Cycle 1 - tropical, arctic, desert

Cycle 2 - arctic, desert, tropical

Cycle 3 - desert, tropical, arctic

3.2.9.3 Testing after exposure cycle 3. After conditioning (4.2.3), the filter medium shall meet the requirements for airflow resistance of 3.2.1, DOP penetration of 3.2.2, tensile strength of 3.2.3.1, wet tensile strength of 3.2.3.3, water repellency of 3.2.4.1 and flexing characteristics of 3.2.8.

3.3 Workmanship. The medium shall be free from contamination (foreign matter) thick or thin spots, wrinkles and damage such as tears, cracks, holes, abrasions and punctures.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.

4.1.1 Contractor's responsibility. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified

in the contract or purchase order, the contractor 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.

4.1.2 Government's responsibility. Unless otherwise specified, the Government will be responsible for the performance of the tests in 4.2. Samples will be forwarded to the laboratory designated by the contracting officer (6.5).

4.1.3 Objective evidence. The contractor shall provide objective evidence acceptable to the contracting officer that the requirements of section 3.1 and 5 for which specific inspection has not been provided in this specification have been satisfied.

4.2 Qualification.

4.2.1 Sample. Except as noted below, a qualification sample of 10 linear yards, full width, shall be manufactured using the same methods, materials, equipment and processes as will be used during regular production (6.2).

NOTE. A qualification sample is not required for media which were previously qualified and appear in the applicable medium Qualified Products List, or have been tested and approved for inclusion in the list prior to the bid opening date.

4.2.1.1 Material change. Any change in materials or source of manufacture after qualification shall require a new qualification sample.

4.2.1.2 Reverification of qualification. At least once every 5 years, each manufacturer of the Qualified Products List shall submit samples in accordance with 4.2.1 for requalification.

4.2.2 Inspection.

4.2.2.1 For examination. Each qualification sample shall be examined in accordance with the classification of defects and MIL-STD-105.

4.2.2.2 For test. The qualification sample shall be tested for all the requirements of this specification.

4.2.3 Conditioning.

4.2.3.1 Preparation for test. Each sample shall be preconditioned and conditioned in accordance with TAPPI Standard T402 prior to the performance of physical tests after cycle 3.

4.2.4 Test procedures.

4.2.4.1 Airflow resistance and DOP smoke penetration. Three test specimens shall be tested for airflow resistance and DOP smoke penetration at a flow rate of 32 liters per minute using the Q127 DOP Filter Testing Penetrometer (Drawing 136-42-102-5B). The exposed test area of the specimens is 100 square centimeters.

4.2.4.2 Tensile strength.

(a) Tensile strength and elongation. Ten test specimens, five taken in each direction, shall be tested for tensile strength and elongation in accordance with TAPPI Standard T494 except that the test specimens shall be 1 by 6 inches (shear cut) and the jaw separation shall be 4 inches. Use a motorized tensile testing machine which has a constant rate of elongation (see 6.7) and uses a flat jaw clamping device at a loading rate of 0.5 inch per minute or at a loading rate which will complete the test in 10 $\pm$ 2 seconds, which ever is greater. See 6.3 for shear cutting the strips.

(b) Tensile strength after heated air. Four test specimens (6 by 6 inches) shall be subjected to heated air using a suitable commercial forced draft oven, capable of allowing full circulation of air to each test specimen. The test specimen shall be placed in the oven for five minutes after the temperature has reached 700°F. After the exposure, the specimen shall be removed from the oven and conditioned in accordance with 4.2.3. One test strip, 6 inches in cross direction and 1 inch wide, shall be shear cut (see 6.3) from each test specimen and tested for tensile strength in accordance with 4.2.4.2(a).

(c) Wet tensile strength. Three test specimens 1 by 6 inches taken in the cross direction shall be submerged in water at a depth of 10 inches for 15 minutes and then tested for tensile strength as specified in 4.2.4.2(a).

(d) Tensile strength after gamma irradiation. Six test specimens, 7 by 3 inches, three with the 7 inch side in the machine direction and three with the 7 inch side in the cross direction shall be exposed to irradiation in a ventilated chamber as specified in 3.2.3.4. After exposure and conditioning eight test strips 7 by 1 inch shall be shear cut; four with the 7 inch side in each direction. The tensile strength of each strip shall be determined in accordance with 4.2.4.2(a).

4.2.4.3 Water repellency.

(a) Prior to gamma irradiation. Three test specimens (2-3/4 by 5-1/2-inch rectangles) shall be conditioned (4.2.3) and tested for water repellency using the Q101 Water Repellency Indicator (125-8-1). The two surfaces of each test specimen shall be identified as top and bottom. The specimen shall then be cut into two equal squares. The top surface of one square and the bottom surface of the other square shall be tested. The lesser of the two results shall be considered the water repellency of the specimen.

(b) After gamma irradiation. Three test specimens 7 by 3 inches, shall be exposed to irradiation in a ventilated chamber as specified in 3.2.4.2. After exposure each test specimen shall be cut to form three test specimens 2-3/4 by 5-1/2 inch rectangles and tested in accordance with 4.2.4.3(a).

4.2.4.4 Mildew resistance. When specified in the contract, mildew resistance tests of the medium shall be conducted in accordance with method 5750 of Fed Test Method No. 191 (see 6.2).

4.2.4.5 Thickness. The thickness of the medium shall be determined in accordance with TAPPI Standard T411.

4.2.4.6 Combustible material. The dried weight of the sample shall be recorded. The ash weight of the sample shall be determined as specified in TAPPI Standard T413.

$$\text{Percent combustible material} = \frac{\text{Sample Wt. - Ash Wt.}}{\text{Sample Wt.}} \times 100$$

4.2.4.7 Flexing characteristics.

(a) Examination. Eight test specimens, cut 12 inches long in the machine direction and 6 inches wide shall be bent perpendicular to the machine direction over a 3/16 inch wide mandrel and drawn back and forth so that 10 inches of medium are drawn five times through an arc of 180°. Four specimens with the screen/wire side against the mandrel and four specimens with the felt side against the mandrel shall be flexed. Examine the flexed 10 inch section for compliance with 3.2.8.1.

(b) Test. After examination as specified in 4.2.4.7(a), the center of each test specimen shall be tested for DOP penetration in accordance with the procedure of 4.2.4.1 for compliance with 3.2.8.2.

4.2.4.8 Resistance to environmental exposure. Three (3) filter medium samples, 12 inches x 12 inches shall be exposed in environmental chambers to the conditions specified in 3.2.9. After cycle 3 has been completed, remove three samples from the chambers, condition them as in 4.2.3.1, cut and test specimens for airflow resistance and DOP penetration of 4.2.4.1, tensile strength and elongation of 4.2.4.2(a), wet tensile strength of 4.2.4.2(c), water repellency of 4.2.4.3(a), and flexing characteristics of 4.2.4.7.

4.2.4.9 Removal from the Qualified Products List. If at any time, the Government elects, as set forth in 4.1.1, to test any medium, procured under this specification, against any of the requirements of this specification, and the medium fails to meet the requirements as determined by Chemical Research and Development Center, the manufacturer shall be notified and removed from the applicable Qualified Products List.

4.2.5 Acceptance/rejection criteria. If any sample fails when tested as specified in 4.2.4, the qualification sample or regular production lot represented shall be rejected.

4.3 Regular production inspection.

4.3.1 Lotting. A lot shall consist of the rolls of filter medium offered for acceptance at one time, which have been produced by one manufacturer from the same materials and under essentially the same manufacturing conditions.

4.3.2 Sampling.

4.3.2.1 For examination. Sampling shall be conducted in accordance with MIL-STD-105.

4.3.2.2 For test. A ten yard, full width piece shall be taken from each roll randomly taken from the lot in accordance with level S-4 of MIL-STD-105.

4.3.3 Inspection procedure.

4.3.3.1 Examination. Five linear yards, full width taken from each packaged sample roll as specified in 4.3.2.1 shall be examined in accordance with the classification of defects and with MIL-STD-105.

4.3.3.2 Classification of defects.

(a) Filter medium, fire-resistant, high-efficiency.

Categories		Defects
Critical:		None defined
Major:	AQL	2.5 percent defective
101		Abrasion marks greater than 1/4 inch diameter
102		Cuts, holes, tears, punctures, exceeding 1/16 inch
103		Thick or thin spots greater than 1/4 inch diameter
104		Burn holes, charring or scorching
105		Width + 1/4 inch - 0 incorrect
106		Diameter incorrect (3.1.1)
107		Excessive number of splices (3.1.3)
Minor:	AQL	4.0 percent defective
201		Wrinkles or creases
202		Rolls or fiber aggregates greater than 3/16 inch and more than 10/square foot
203		Contamination (foreign matter) exceeding an area 1/4 inch by 1/4 inch
204		Transparencies greater than 1/4 inch diameter and exceeding 10 per square foot

(b) Preparation for delivery.

Categories	Defects
Critical:	None defined
Major:	AQL 4.0 percent defective
101	Lenth marking missing (3.1.2)
102	Packaging material incorrect (5.1.1)
103	Marking incorrect (5.3)

4.3.3.3 Tests. Each sample piece taken as specified in 4.3.2.2 shall be conditioned in accordance with 4.2.3 and tested for the requirements of 3.2.1, 3.2.2, 3.2.3.1, 3.2.3.3, 3.2.4.1, 3.2.6, 3.2.7, 3.2.8 and 3.3 in accordance with 4.2.4.

5. PACKAGING

5.1 Unit packing. Unit packing shall be level C or commercial shipment (see 6.2).

5.1.1 Level C. Individual rolls of filter medium shall be wrapped with material conforming to UU-P-268, grade B, 40-pound basic weight kraft paper and secured with pressure sensitive tape conforming to PPP-T-76. Each roll shall then be triple wrapped with material conforming to PPP-P-291, type III, style 2 and secured with tape specified above. Four circular pads, fabricated of material conforming to PPP-F-320, type CF, class weather-resistant, grade W5c, variety SW, shall be laminated together with adhesive conforming to MMM-A-250 and secured to each end of the wrapped rolls with tape specified above. The diameter of the circular pads shall be the same as the wrapped diameter of the rolls. Each roll shall then be enclosed in a polyethylene wrap or sleeve conforming to L-P-378., .006 inch thick minimum. The wrap shall be sealed in a manner not to allow the entry of free water.

5.1.2 Commercial. Packaging shall be in accordance with ASTM D 3951.

5.2 Marking. In addition to any special marking required by the contract or order, marking shall be in accordance with MIL-STD-129 for level C and in accordance with ASTM D 3951 for commercial packaging.

6. NOTES

6.1 Intended use. This specification covers high-efficiency, fire-resistant material intended to be used as the filter medium of particulate filters.

6.2 Ordering data. Acquisition documents should specify the following:

(a) Title, number, and date of this specification,
(b) Width of the rolls,
(c) Diameter of rolls if other than specified in 3.1.1,
(d) Mildew requirement for test or certification (see 3.2.5), and
(e) Packaging requirements (see 5.1, 6.4 and 6.5).

6.3 Shear cutter. A satisfactory cutter for preparation of test strips for tensile strength and elongation determinations is: TM-1 Quick Adjustable Strip Cutter, Catalog No. 22-2-1; Testing Machines Incorporated; 398 Bayview, Amityville, Long Island, NY 11706.

6.4 Packaging requirement. The level C packaging requirement is intended for Army procurements and the commercial packaging requirement is intended for Navy procurements.

6.5 Qualification. With respect to products requiring qualifications, awards will be made only for such products as have, prior to the bid opening date, been tested and approved for inclusion in the applicable Qualified Products List, whether or not such products have actually been so listed by that date. The attention of the contractors is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders on the products covered by this specification. Information pertaining to qualification may be obtained from Commander, Chemical Research and Development Center, US Army Armament, Munitions and Chemical Command, ATTN: SMCCR-PPP, Aberdeen Proving Ground, MD 21010-5423. Samples shall not be shipped until the above addressee has furnished written shipping instructions to the manufacturer.

6.6 Tensile tester. A motorized tensile testing machine such as the Instrom Universal Testing Machine has been found to be satisfactory.

6.7 International interest. Certain provisions of this specification are the subject of international standardization agreement QSTAG 214 and 218. When amendment, revision, or cancellation of this specification is proposed which will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliatory action through international standardization channels including departmental standardization offices, if required.

6.8 Supersession. This specification supersedes and incorporates changes from Interim Amendment-1, dated 16 February 1984.

Custodians:

Army - EA
Navy - YD

Review activities:

Army - ME
DSA - GS

User activities:

Navy - AS, MC, SH

Preparing activity:

Army - EA

Project No. 4240-0524

U.S. GOVERNMENT PRINTING OFFICE: 1989 - 505-038/22161

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
MIL-F-51079D	FILTER MEDIUM, FIRE-RESISTANT, HIGH-EFFICIENCY

3a. NAME OF SUBMITTING ORGANIZATION

b. ADDRESS *(Street, City, State, ZIP Code)*

4. TYPE OF ORGANIZATION *(Mark one)*

- ☐ VENDOR
- ☐ USER
- ☐ MANUFACTURER
- ☐ OTHER *(Specify)*: _____

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation.

6. REMARKS

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

DD FORM 82 MAR 1426

EDITION OF 1 OCT 76 IS OBSOLETE