

INCH-POUND

MIL-C-71010 (AR)
11 March 1994

MILITARY SPECIFICATION

COVERS, CAMOUFLAGE FOR TILES, ARMOR, FOR THE
M2A2/M3A2 BRADLEY FIGHTING VEHICLE SYSTEMS (BFVS)

This specification is approved for use by the U.S. Army Armament, Munitions and Chemical Command, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers quality assurance provisions and preparation for delivery for Covers, Camouflage for Armor Tiles for the M2A2/M3A2 BFVS. (see 6.1)

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 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 listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

MILITARY

MIL-A-48078 - Ammunition, Standard Quality
Provisions, General Specification for

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document, should be addressed to: Commander, U.S. Army ARDEC, ATTN: SMCAR-BAC-S, Picatinny Arsenal, NJ 07806-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 2350

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

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STANDARDS

MILITARY

MIL-STD-129 - Marking for Shipping and Storage
 MIL-STD-1168 - Ammunition Lot Numbering

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from DODSSP - Customer Service, Standardization Documents Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications.
 The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS (see 6.5)

U.S. ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING
 CENTER (ARDEC)

PRODUCT DRAWINGS

12902739 - Cover, Camouflage, Armor Tile, Right
 Side, Bradley M2A2/M3A2
 12902740 - Cover, Camouflage, Armor Tile, Left
 Side, Bradley M2A2/M3A2
 12902741 - Cover, Camouflage, Armor Tile, Front,
 Bradley M2A2/M3A2
 12902734 - Clip
 12902737 - Clip Assembly
 12902733 - Strap
 12902742 - Cover Installations, Camouflage, Armor
 Tile, Bradley M2A2/M3A2

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PACKAGING DRAWINGS

- P12902739 - Cover, Camouflage, Armor Tile, Right Side, Bradley M2A2/M3A2
- P12902740 - Cover, Camouflage, Armor Tile, Left Side, Bradley M2A2/M3A2
- P12902741 - Cover, Camouflage, Armor Tile, Front, Bradley M2A2/M3A2

(Copies of other Government documents, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 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. (See contract provisions for additional precedence criteria).

3. REQUIREMENTS

3.1 Materials. Materials shall be in accordance with applicable drawings and specifications.

3.2 Parts. The parts shall comply with all requirements specified in the specified drawings (Dwgs) and with all associated drawings and with all requirements specified in applicable specifications.

3.3 Identification and marking. Identification and marking shall be in accordance with Standard MIL-STD-129 and as specified on applicable drawings.

3.4 Workmanship. All parts shall be fabricated in a thorough workmanlike manner. They shall be free of porosity, twist, warpage, heat marks, sinks, voids, cracks, holes, chipped edges, burrs, bubbles, blisters, burn marks, or other defects that would effect their serviceability. All metal parts shall be fabricated in a thorough workmanlike manner. They shall be free of burrs, chips, chipped edges, gouges, cracks, splits, surface defects, dirt, grease, oil, lacquer smears, and other foreign matter. The cleaning methods used shall not be injurious to any part, nor shall the parts be contaminated by the cleaning agent. All assemblies shall be assembled in a thorough workmanlike manner.

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as specified in the contract or purchase order, the contractor may utilize 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 ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of Sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

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

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

4.3 First article inspection.

4.3.1 Submission. The contractor shall submit a first article as designated by the Contracting Officer for evaluation in accordance with Table I. The first article sample shall be of the same design as will be suitable for regular production. It shall be manufactured using the same materials, equipment, process and procedures for regular production. First article samples shall not be specifically selected as custom or marked in a way that cause the product quality to be different than what can be expected from regular production.

4.3.2 Inspection to be performed. See MIL-A-48078 and Table I.

4.3.3 Rejection. Failure of the first article sample to be in accordance with the applicable drawings, requirements and Table I will result in disapproval of the first article sample.

TABLE I. First article inspection
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CLASSIFICATION OF CHARACTERISTICS

| PARAGRAPH | TITLE Covers, Camouflage for Armor Tiles for the BFVS | SHEET 1 OF 1 | CONFORMANCE CRITERIA | REQUIREMENT PARAGRAPH | DRAWING NUMBER | |
|----------------|---|--------------|-------------------------|--------------------------|-----------------------------|----------------------|
| | | | | | See below | NEXT HIGHER ASSEMBLY |
| CLASSIFICATION | EXAMINATION OR TEST | | | | INSPECTION METHOD REFERENCE | |
| | <u>Cover, camouflage, right side</u> (Dwg. 12902739) | 5 | | 3.2 | 4.4.2.1 | |
| | <u>Cover, camouflage, left side</u> (Dwg. 12902740) | 5 | | 3.2 | 4.4.2.2 | |
| | <u>Cover, camouflage, front</u> (Dwg. 12902741) | 5 | | 3.2 | 4.4.2.3 | |
| | <u>Clip</u> (Dwg. 12902734) | 5 | | 3.2 | 4.4.2.4 | |
| | <u>Clip assembly</u> (Dwg. 12902737) | 5 | | 3.2 | 4.4.2.5 | |
| | <u>Strap</u> (Dwg. 12902733) | 5 | | 3.2 | 4.4.2.6 | |
| NOTES: | | | | | | |

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4.4 Quality Conformance Inspection.4.4.1 Lot formation. In accordance with MIL-A-48078.

4.4.1.1 Lot identification. Each lot of camouflage cover kits shall be identified in accordance with MIL-STD-1168.

4.4.2 Examinations and tests.

a. Classification of characteristics. Quality conformance examinations and tests are specified in the following Classification of Characteristics paragraphs. The contractor's quality program or detailed inspection system shall provide assurance of compliance of all characteristics with the applicable drawing and specification requirements utilizing as a minimum the conformance criteria specified. When cited herein, attributes sampling inspection shall be conducted in accordance with Table II below, using the inspection levels stated in the Classification of Characteristics paragraphs.

TABLE II. Attributes sampling inspection

| <u>Lot Size</u> | <u>Inspection Levels</u> | | | | | |
|------------------|--------------------------|-----------|------------|-----------|----------|-----------|
| | <u>I</u> | <u>II</u> | <u>III</u> | <u>IV</u> | <u>V</u> | <u>VI</u> |
| 2 to 8 | * | * | * | * | 5 | 3 |
| 9 to 15 | * | * | * | 13 | 5 | 3 |
| 16 to 25 | * | * | * | 13 | 5 | 3 |
| 26 to 50 | * | * | 32 | 13 | 5 | 3 |
| 51 to 90 | * | * | 32 | 13 | 13 | 5 |
| 91 to 150 | * | 125 | 32 | 13 | 13 | 5 |
| 151 to 280 | * | 125 | 32 | 32 | 20 | 8 |
| 281 to 500 | * | 125 | 32 | 32 | 20 | 8 |
| 501 to 1200 | * | 125 | 80 | 50 | 20 | 13 |
| 1201 to 3200 | 1250 | 125 | 80 | 50 | 32 | 13 |
| 3201 to 10000 | 1250 | 125 | 125 | 50 | 32 | 13 |
| 10001 to 35000 | 1250 | 315 | 125 | 80 | 50 | 13 |
| 35001 to 150000 | 1250 | 315 | 125 | 80 | 50 | 13 |
| 150001 to 500000 | 1250 | 500 | 200 | 125 | 50 | 13 |
| 500001 and over | 1250 | 500 | 200 | 125 | 50 | 13 |

Numbers under inspection levels indicate sample size; asterisks (*) indicate one hundred percent inspection. If sample size exceeds lot size, perform one hundred percent inspection. Accept on zero and reject on one or more for all inspection levels.

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b. Alternative quality conformance provisions. Unless otherwise specified herein or provided for in the contract, alternative quality conformance procedures, methods or equipment, such as statistical process control, tool control, variables sampling or other types of sampling plans, etc., may be used by the contractor when they provide, as a minimum, the level of quality assurance required by the provisions herein. Prior to applying such alternative procedures, methods or equipment, the contractor shall describe them in a written proposal submitted to the Government for evaluation (see 6.7). When required, the contractor shall demonstrate that the effectiveness of each proposed alternative is equal to or better than the specified quality conformance provision(s) herein. In case of dispute as to whether the contractor's proposed alternative(s) provides equivalent assurance, the provisions of this specification shall apply. All approved alternative provisions shall be specifically incorporated into the contractor's quality program or inspection system, as applicable.

QUALITY CONFORMANCE INSPECTION
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| PARAGRAPH | TITLE | SHEET 1 OF 1 | | DRAWING NUMBER |
|-----------------|---|----------------------|-----------------------|--|
| 4.4.2.1 | Cover, Camouflage, Right Side | | | 12902739 |
| | | | | NEXT HIGHER ASSEMBLY M2A2/M3A2 BFVS |
| CLASSIFICATION | EXAMINATION OR TEST | CONFORMANCE CRITERIA | REQUIREMENT PARAGRAPH | INSPECTION METHOD REFERENCE |
| <u>Critical</u> | None defined | | | |
| <u>Major</u> | | | | |
| 101 | Pattern incorrect or incomplete | Level V | 3.2 | Visual |
| 102 | Heat seal of end panels incomplete or inadequate | Level V | 3.2 | Visual/Manual |
| 103 | Stitching of seams incomplete or inadequate | Level V | 3.2 | Visual |
| 104 | Strapping or hardware missing or improperly assembled | Level V | 3.2 | Visual |
| 105 | Hole or tear in fabric | Level V | 3.2 | Visual |
| <u>Minor</u> | | | | |
| 201 | Evidence of poor workmanship | Level VI | 3.4 | Visual |
| NOTES: | | | | |

QUALITY CONFORMANCE INSPECTION
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| PARAGRAPH | TITLE | SHEET 1 OF 1 | | DRAWING NUMBER |
|-----------------|---|----------------------|-----------------------|--|
| 4.4.2.2 | Cover, Camouflage, Left Side | | | 12902740 |
| | | | | NEXT HIGHER ASSEMBLY M2A2/M3A2 BPVS |
| CLASSIFICATION | EXAMINATION OR TEST | CONFORMANCE CRITERIA | REQUIREMENT PARAGRAPH | INSPECTION METHOD REFERENCE |
| <u>Critical</u> | None defined | | | |
| <u>Major</u> | | | | |
| 101 | Pattern incorrect or incomplete | Level V | 3.2 | Visual |
| 102 | Heat seal of end panels incomplete or inadequate | Level V | 3.2 | Visual |
| 103 | Stitching of seams incomplete or inadequate | Level V | 3.2 | Visual |
| 104 | Strapping or hardware missing or improperly assembled | Level V | 3.2 | Visual |
| 105 | Hole or tear in fabric | Level V | 3.2 | Visual |
| <u>Minor</u> | | | | |
| 201 | Evidence of poor workmanship | Level VI | 3.4 | Visual |
| NOTES: | | | | |

AMSMC Form 1570b, 1 Jul 89

Replaces 1570, 1 Feb 85, which may not be used.

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| PARAGRAPH | TITLE | SHEET 1 OF 1 | | DRAWING NUMBER 12902741 |
|-----------------|---|----------------------|-----------------------|--|
| | | | | NEXT HIGHER ASSEMBLY M2A2/M3A2 BFVS |
| CLASSIFICATION | EXAMINATION OR TEST | CONFORMANCE CRITERIA | REQUIREMENT PARAGRAPH | INSPECTION METHOD REFERENCE |
| 4.4.2.3 | Cover, Camouflage, Front | | | |
| <u>Critical</u> | None defined | | | |
| <u>Major</u> | | | | |
| 101 | Pattern incorrect or incomplete | Level V | 3.2 | Visual |
| 102 | Stitching of seams incomplete or inadequate | Level V | 3.2 | Visual/manual |
| 103 | Strapping or hardware missing or improperly assembled | Level V | 3.2 | Visual |
| 104 | Hole or tear in fabric | Level V | 3.2 | Visual |
| <u>Minor</u> | | | | |
| 201 | Evidence of poor workmanship | Level VI | 3.4 | Visual |
| NOTES: | | | | |

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| PARAGRAPH | TITLE | SHEET 1 OF 1 | | DRAWING NUMBER 12902734 |
|-----------------|---|----------------------|-----------------------|----------------------------------|
| CLASSIFICATION | EXAMINATION OR TEST | CONFORMANCE CRITERIA | REQUIREMENT PARAGRAPH | INSPECTION METHOD REFERENCE |
| 4.4.2.4 | Clip | | | NEXT HIGHER ASSEMBLY 12902737 |
| <u>Critical</u> | None defined | | | |
| <u>Major</u> | | | | |
| 101 | Width of slot, minimum | Level V | 3.2 | Gage |
| 102 | Inside radius incorrect | Level V | 3.2 | Gage |
| 103 | Burr or sharp edges | Level V | 3.2 | Visual/manual |
| 104 | Protective coating incomplete or inadequate | Level V | 3.2 | Visual |
| <u>Minor</u> | | | | |
| 201 | Evidence of poor workmanship | Level VI | 3.4 | Visual |
| NOTES: | | | | |

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| PARAGRAPH | TITLE | SHEET 1 OF 1 | DRAWING NUMBER |
|---------------------|---|----------------------|--|
| 4.4.2.5 | Clip Assembly | | 12902734 |
| | | | NEXT HIGHER ASSEMBLY M2A2/M3A2 BFVS |
| CLASSIFICATION | EXAMINATION OR TEST | CONFORMANCE CRITERIA | REQUIREMENT PARAGRAPH |
| | | | INSPECTION METHOD REFERENCE |
| <u>Critical</u> | None defined | | |
| <u>Major</u> 101 | Length of strap between buckle and clip inside, maximum | Level V | 3.2 |
| 102 | Length of strap between buckle and clip, minimum | Level V | 3.2 |
| 103 | Stitching incomplete or inadequate | Level V | 3.2 |
| <u>Minor</u> 201 | Evidence of poor workmanship | Level VI | 3.4 |
| | | | Gage |
| | | | Gage |
| | | | Visual |
| | | | Visual |
| NOTES: | | | |

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| PARAGRAPH | TITLE | SHEET 1 OF 1 | | DRAWING NUMBER |
|---------------------|--|----------------------|-----------------------|--|
| CLASSIFICATION | EXAMINATION OR TEST | CONFORMANCE CRITERIA | REQUIREMENT PARAGRAPH | INSPECTION METHOD REFERENCE |
| 4.4.2.6 | Strap | | | 12902733 NEXT HIGHER ASSEMBLY M2A2/M3A2 BPVS |
| <u>Critical</u> | None defined | | | |
| <u>Major</u> 101 | Heat seal of ends incomplete or inadequate | Level V | 3.2 | Visual |
| 102 | Length | Level V | 3.2 | Gage |
| 103 | Width | Level V | 3.2 | Gage |
| <u>Minor</u> 201 | Evidence of poor workmanship | Level VI | 3.4 | Visual |
| NOTES: | | | | |

AMSMC Form 1570b, 1 Jul 89

Replaces 1570, 1 Feb 85, which may not be used.

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4.5 Inspection equipment. The inspection equipment required to perform the inspections specified herein is identified in the "Inspection Method Reference" column of the Classification of Characteristics listings starting with 4.4.2.1. Contractor inspection equipment designs shall be submitted for Government approval as specified in the contract. Designs which provide variable measurements instead of attributes data are preferred in order to facilitate the use of statistical process control. See MIL-A-48078 and 6.4 herein.

4.6 Methods of inspection.

4.6.1 Materials, components and processes. Compliance with all requirements of section 3 of this specification shall be ascertained by current and continuing examination of inspection and test data to determine that all components (parts, subassemblies and materials) have been inspected and tested and found to comply with their respective drawing, specification or specification requirements, and that all specified manufacturing processes have been followed.

5. PACKAGING

5.1 Preservation and Packaging. Preservation and Packaging shall be performed in accordance with Special Packaging Instructions P12902739, P12902740 and P12902741.

5.2 Marking. Marking shall be in accordance with Special Packaging Instructions P12902739, P12902740 and P12902741.

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 camouflage covers covered by this specification are intended for use on the Bradley Fighting Vehicle system, M2A2/M3A2.

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6.2 Acquisition requirements. Acquisition documents must 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 2.1.2).
- c. Requirements for submission of first article sample.
- d. Applicable stock number.

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract, per the Contract Data Requirements List, DD Form 1423.

| <u>Reference Paragraph</u> | <u>DID Number</u> | <u>DID Title</u> |
|--------------------------------|-------------------|----------------------|
| 6.4.1 | DI-MISC-80043 | Ammunition Data Card |

6.4 Submission of contractor inspection equipment designs for approval. Submit copies of designs as required to: Commander, U.S. Army ARDEC, ATTN: SMCAR-QAT-I, Picatinny Arsenal, NJ 07806-5000. This address will be specified on the Contract Data Requirements List, DD Form 1423 in the contract.

6.5 Drawings. Drawings listed in Section 2 of this specification under the heading U.S. Army Armament, Research, Development and Engineering Center (ARDEC) may also include drawings prepared by, and identified as U.S. Army Armament, Research and Development Command (ARRADCOM), Frankford Arsenal, Rock Island Arsenal or Picatinny Arsenal drawings. Technical data originally prepared by these activities is now under cognizance of ARDEC.

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6.6 Subject term (key word) listing.

Clip assembly
Strap

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

Custodian:
Army-AR

Preparing activity:
Army-AR

(Project 2350-A465)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER

MIL-C-71010(AR)

2. DOCUMENT DATE (YYMMDD)

940311

3. DOCUMENT TITLE **COVERS, CAMOUFLAGE FOR TILES, ARMOR, FOR THE M2A2/M3A2 BRADLEY FIGHTING VEHICLE SYSTEMS (BFVS)**

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets if needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)

7. DATE SUBMITTED (YYMMDD)

(1) Commercial

(2) AUTOVON
(if applicable)

8. PREPARING ACTIVITY

a. NAME

U.S. ARMY ARDEC
STANDARDIZATION OFFICE

b. TELEPHONE (Include Area Code)

(1) Commercial

201-724-6626

(2) AUTOVON

DSN-880-6626

ADDRESS (Include Zip Code)

ATTN: SMCAR-BAC-S
PICATINNY ARSENAL, NJ 07806-5000

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:
Defense Quality and Standardization Office
6203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3468
Telephone (703) 756-2340 AUTOVON 289-2340