INCH-POUND

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MILITARY SPECIFICATION

MARKING MATERIALS AND MARKERS, ADHESIVE, ELASTOMERIC, PIGMENTED; GENERAL SPECIFICATION FOR

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 general requirements for adhesive-backed, pigmented, elastomeric marking materials (see 6.1) in roll and sheet form. Requirements for individual markers, (i.e., letters, numerals, legends, symbols, and hazardous material symbols) are covered by the specification sheets listed in 6.4.

1.2 Classification. The marking materials shall be of the following types and classes, as specified (see 6.2).

Type I	-	Pressure sensitive adhesive type (see 6.1.1)
Type II	-	Positionable pressure sensitive adhesive type (see 6.1.2) (Applicable primarily to markers 16 inches or larger in size)

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5019 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 7690

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

Type III	-	Heat activated adhesive type (see 6.1.3)
Class 1	-	High adhesion (permanent) (see 6.1)
Class 2	-	Low adhesion (temporary) available in types I and II only (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

FEDERAL

H-B-621	-	Brush, Stencil
QQ-A-250/5	-	Aluminum Alloy Alclad 2024, Plate and Sheet
QQ-A-250/8	-	Aluminum Alloy 5052, Plate and Sheet
QQ-A-250/11	-	Aluminum Alloy 6061, Plate and Sheet
QQ-S-766	-	Steel Plates, Sheets, and Strip - Corrosion Resisting
TT-T-291	-	Thinner, Paint, Mineral Spirits, Regular and Odorless
UU-S-625	-	Stencilboard
PPP-B-566	-	Box, Folding, Paperboard
PPP-B-601	-	Boxes, Wood, Cleated Plywood
PPP-B-636	-	Boxes, Shipping, Fiberboard
PPP-B-665	-	Boxes, Paperboard, Metal Edged and Components
PPP-B-676	-	Boxes, Setup
PPP-C-843	-	Cushioning Material, Cellulosic
PPP-T-45	-	Tape, Gummed, Paper, Reinforced and Plain, For Sealing and Securing

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MIL-P-7962	-	Primer Coating, Cellulose Nitrate Modified Alkyd Type, Corrosion Inhibiting, Fast Drying (for Spray Application Over Pretreatment Coating)
MIL-C-8514	-	Coating Compound, Metal Pretreatment, Resin-Acid
MIL-A-8625	-	Anodic Coatings, for Aluminum and Aluminum Alloys
MIL-L-10547	-	Liner, Case, and Sheet, Overwrap; Water Vaporproof or Waterproof, Flexible

MIL-L-19537 - Lacquer, Acrylic-Nitrocellulose Gloss (For Aircraft Use)

STANDARDS

FEDERAL

FED-STD-141 - Paint, Varnish, Lacquer and Related Materials; Methods of Inspection, Sampling and Testing
FED-STD-595 - Colors Used in Government Procurement

MILITARY

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

(Unless otherwise indicated, copies of federal and military specifications, standards and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, 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

U.S. ARMY TANK - AUTOMOTIVE COMMAND

11677932 - Marker, Identification or Instruction

(Copies of drawings are available from the U.S. Army Natick, Research, Development and Engineering Center, ATTN: STRNC-UX, Natick, MA 01760-5017.)

U.S. DEPARTMENT OF COMMERCE

Standard Alphabet for Highway Signs

(Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.)

2.2 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 the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 523	-	Specular Gloss
D 568	-	Rate of Burning and/or Extent and Time of Burning of Flexible Plastics in a Vertical Position
D 822	-	Light and Water-Exposure Apparatus (Carbon-Arc Type) for Testing Paint, Varnish, Lacquer and Related Products
D 846	-	Ten-Degree Xylene
D 1014	-	Conducting Exterior Exposure Tests of Paints on Steel
D 1730	-	Preparation of Aluminum and Aluminum Alloy Surfaces for Painting
D 2244	-	Method for Determining Color Differences of Opaque Materials
D 2370	-	Elongation and Tensile Strength of Free Films of Paint, Varnish, Lacquer, and Related Products, with a Tensile Testing Apparatus
D 2805	-	Hiding Power of Paints
D 2860	-	Adhesion of Pressure-Sensitive Tape to Fiberboard at 90° Angle and Constant Stress
D 3951	-	Standard Practice for Commercial Packaging
G 21	-	Determining Resistance of Synthetic Polymeric Materials to Fungi

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

NATIONAL FIRE PROTECTION ASSOCIATION

Fire Protection Guide on Hazardous Materials (contains NFPA, 325A, 325M, 49, 491M, and 704M)

(Application for copies should be addressed to National Fire Protection Association, Batterymarch Park, Quincy, MA 02169.)

(Non-Government standards and other publications are normally available from the organizations that prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 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 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 Materials. It is encouraged that recycled material be used when practical as long as it meets the requirements of the specification. The marking materials shall consist of pigmented type elastomeric sheeting material with an adhesive applied on one side. The adhesive backing shall be protected by a removable liner. When specified (see 6.2), the material shall be covered on the face side with a low tack, translucent transfer sheet (see 6.1.4). Marking material in roll and sheet form (see 3.5.1) shall be not more than one year old as measured from date of manufacture to date of delivery to the Government. Marking materials and markers shall have the following minimum amounts of the material manufacturer's warranted shelf life remaining at the time of delivery to the Government (see 4.4.2.4 and 6.6):

Rolls and Sheets:	12 months	All types and classes
Markers:	12 months	Type I and II, class 1
	10 months	Type I and II, class 2 Type III, class 1

3.2.1 Liner. The liner shall be of such a material (e.g., paper) as to permit easy removal without requiring water or other solvents for fast, distortion-free application of the marking materials. During removal, the liner shall not break and shall not remove the adhesive from the marking material when tested as specified in 4.4.2.5.

3.2.2 Translucent transfer sheet. When required (see 3.2 and 6.2), the transfer sheet to be applied to the face side of marking material, to facilitate application or for other purposes, shall be translucent paper or film, coated on one side with low-tack, pressure-sensitive adhesive. When the marking material is attached in its final position, the transfer sheet shall be removable in one or a few large pieces, and without visible residue of adhesive left on the marker face or on the application surface.

3.3 Color. The face colors of the marking materials shall be either inherent in the pigmented, elastomeric materials, or coated on their surface. The colors shall be as specified (see 6.2) and conform to FED-STD-595 when tested as specified in 4.4.2.5.

3.3.1 Gloss (class 1 only). When tested as specified in 4.4.2.5, the gloss of glossy, pigmented, elastomeric, class 1 marking materials shall be 40 minimum, and the gloss of lusterless, class 1 marking materials shall be 6 maximum.

3.4 Adhesive.

3.4.1 Type I. The adhesive backing shall be pressure sensitive and shall require no heat, solvent, or other preparation for adhesion to smooth, clean surfaces.

3.4.2 Type II. The adhesive backing shall be positionable, pressure sensitive, and shall require no heat, solvent, or other preparation for adhesion to smooth, clean surfaces. The marking material shall be positionable at standard conditions and at 100°F without damage to the marking materials when tested as specified in 4.4.2.5.

3.4.3 Type III. The adhesive backing shall be tack-free at standard conditions and shall be activated by applying heat in excess of 175°F to the material. The adhesive shall be positionable at standard conditions when tested as specified in 4.4.2.5.

3.5 Form.

3.5.1 Rolls and sheets. The marking materials shall be supplied in sheet or roll form, in sizes as specified (see 6.2). Rolls shall be evenly and tightly wound with the liner side in, on a core of sufficient rigidity to prevent distortion of the roll. Rolls shall contain not more than an average of two splices and no roll shall contain more than four splices per 50 yards of length.

3.5.2 Markers. Markers shall be supplied in the form of letters, numerals, letter and numeral kits, legends, symbols or hazardous material symbols, as covered in the applicable detailed specification sheet, or as otherwise specified by the procuring activity (see 6.2 and 6.4).

3.5.2.1 M113 marking materials. When specified (see 6.2) the marking materials for the M113/A1/A2 Armored, Full Tracked, Personnel Carrier Vehicle Family, shall conform to the requirements and testing of the type I, class 1, and the additional requirement cited in Army Tank and Automotive Command Drawing 11677932.

3.6 Thickness. After removal of liner and any transfer sheets or other tapes, marking materials shall have maximum thicknesses as follows (see 4.4.2.5):

Class 1, not screen processed	-	0.0055 inch
Class 1, screen processed	-	0.0075 inch
Class 2, not screen processed	-	0.006 inch
Class 2, screen processed	-	0.008 inch

3.7 Performance.

3.7.1 Breaking strength. The marking materials shall have a minimum breaking strength of 5.0 pounds per inch of width when tested as specified in 4.4.2.5.

3.7.2 Elongation. The marking materials shall have an elongation of 25 percent minimum initially, and 15 percent minimum after the one year storage period when tested as specified in 4.4.2.5. In either case, however, the elongation shall exceed 15 percent at 5 pounds force.

3.7.3 Shrinkage. When tested as specified in 4.4.2.5, the shrinkage in length or width shall be 1/16 inch maximum for class 1 marking material and 1/8 inch maximum for class 2 material.

3.7.4 Free film flammability. The marking materials shall not be completely burned in 15 seconds when tested as specified in 4.4.2.5.

3.7.5 Flexibility.

3.7.5.1 Room temperature. The marking materials shall not show a break, crack, or delamination after 20 folds at room temperature when tested as specified in 4.4.2.5.

3.7.5.2 Low temperature. The marking materials shall not crack when tested as specified in 4.4.2.5.

3.7.6 Adhesion.

3.7.6.1 Class 1, at room temperature. Twenty-four hours after application, class 1 marking material shall have an average adhesion over bare and painted metal surfaces of not less than 50 ounces per inch of width for types I and III, and not less than 35 ounces per inch of width for type II, when tested as specified in 4.4.2.5.

3.7.6.1.1 Class 1, type II only, at 34°F. Class 1, type II marking material, applied to clean, dry, bare, and painted metal surfaces at 34°F shall have sufficient initial adhesion to produce tearing of the marking material when removal is attempted, when tested as specified in 4.4.2.5.

3.7.6.2 Class 2, types I and II. Twenty-four hours after application, marking materials shall have an average adhesion over bare and painted metal surfaces of not less than 15 nor more than 65 ounces per inch of width, when tested as specified in 4.4.2.5.

3.7.7 Screenability. The marking material shall show no bleeding, streaking, removal of screening ink, or other sign of unsuitability for silk screening, when tested as specified in 4.4.2.5.

3.7.8 Printability, class 2. The printed characters shall be sharp and legible and there shall be no transfer of ink to the fingers when tested as specified in 4.4.2.5. The printed characters shall be clearly legible after exposure to accelerated weathering as specified in 4.4.2.5.

3.7.9 Water resistance. After immersion in water for 8 hours as specified in 4.4.2.5, marking materials shall exhibit no visible defects, such as blistering, peeling, or color change, five minutes after removal from the water. Twenty-four hours after removal from the water, the immersed portion shall not be distinguishable in appearance from the nonimmersed portion.

3.7.10 Fuel resistance (class 1 only). When tested for fuel resistance as specified in 4.4.2.5, the immersed portion of the marking material shall not be distinguishable in appearance from the nonimmersed portion, when examined 24 hours after removal from the test fluid.

3.7.11 Corrosion resistance. The marking material shall cause no etching, corrosion, or other detrimental effect on aluminum alloy or stainless steel nor shall it evidence any acidic reaction, when tested as specified in 4.4.2.5.

3.7.12 Weather resistance.

3.7.12.1 Class 1. Class 1 marking materials, when applied on bare and coated surfaces and tested as specified in 4.4.2.5, shall withstand outdoor exposure in the Miami, Florida area for 12 months, without exhibiting any deterioration or failure such as peeling, fading, cracking, blistering, diffusion or bleeding of color, loss of adhesion, or checking. After weathering 4 months, the adhesion shall be such that the marking material cannot be removed without destroying it.

3.7.12.2 Class 2. Class 2 marking materials shall show no peeling, blistering, separation from test panels, or marked color change when exposed to accelerated weathering as specified in 4.4.2.5. The materials shall be removable from the test panels in one piece, and there shall be no nonremovable residue on, or damage to, the painted surface.

3.7.13 Hiding power (class 1 only). When tested as specified in 4.4.2.5, the minimum contrast ratio of the marking materials shall conform to table I for the colors specified and for their lusterless equivalents. For other colors, the contrast ratio shall be the same as the nearest matching color listed in table I.

TABLE I. Minimum contrast ratio - FED-STD-595

Color name	Color No.	Contrast ratio (min.)
Light blue	15102	0.98
Insignia blue	15044	0.98
Light green	14187	0.98
Olive drab	14087	0.98
Light yellow	13655	0.96
Orange yellow	13538	0.96
Aircraft cream	13594	0.96
International orange	12197	0.96
Red	11136	0.95
Red	11105	0.95
Green	14187	0.98

TABLE I. Minimum contrast ratio - FED-STD-595 (cont'd)

Color name	Color No.	Contrast ratio (min.)
Magenta	17142	0.95
Insignia white	17875	0.97
Aircraft gray	16473	0.98
Engine gray	16081	0.98
Jet black	17038	0.98

3.7.14 Application properties. Marking materials, applied in accordance with 4.4.2.5, shall not separate from the surface at any point, nor show any surface irregularities such as wrinkling or bubbling.

3.7.15 Storage stability. Marking materials shall meet the designated requirements of this specification when tested as specified in 4.4.2.5 after storage for the following number of months after manufacture:

Types I and II, class 1	-	24 months
Type I and II, class 2 and Type III, class 1	-	12 months

3.7.16 Resistance to fungi. The marking materials shall show no evidence of fungus growth when tested as specified in 4.4.2.5.

3.7.17 Instructions. Instructions defining a step-by-step procedure for application of the marking materials and markers shall be furnished in each package of material (roll or quantity of sheets) or in each package of markers (see 5.3), as applicable. The instructions shall include recommended surface preparation and any restrictions as to application procedure and conditions.

3.8 Workmanship. The end item shall conform to the quality of product established by this specification and the occurrence of defects shall not exceed the applicable acceptable quality levels.

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 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 this 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.

4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for ensuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point, or at all points in the manufacturing process necessary to ensure compliance with all dimensional requirements.

4.1.3 Certificates of compliance. When certificates of compliance are submitted, the Government reserves the right to inspect such items to determine the validity of the certification.

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. When a first article is required (see 6.2), it shall be examined for the defects specified in 4.4.2 through 4.4.2.4 and tested as specified in 4.4.2.5.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.4.2 End item inspection.

4.4.2.1 End item visual examination. The marking material shall be examined for the defects listed below. The sample unit shall be 1 yard, one sheet, one letter, one numeral, one kit, one legend or one symbol marker, as applicable. The lot size shall be expressed in units of 1 yard, one sheet, one letter, one kit, one numeral, one legend, or symbol, as applicable. When material is supplied in rolls or 10-unit packages, the number of rolls or

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packages from which the sample units are to be selected shall be in accordance with table II. The sample units shall be apportioned equally among the selected rolls or packages. The defects found shall be counted, regardless of their proximity to each other, except where two or more defects represent a single local condition of the material, in which case only the more serious defect shall be counted. In rolls, a continuous defect shall be counted as one defect for each sample unit or fraction thereof in which it occurs. The inspection level shall be level I and the acceptable quality level (AQL) expressed in terms of defects per hundred units, shall be 6.5.

Examine	Defect
Materials:	
Backing	Not as specified Not coated with adhesive as specified
Liner	Missing Not smooth Does not completely cover adhesive
Transfer sheet (when applicable)	Missing Not smooth Does not completely cover face side Not translucent Not adhered
Appearance	Any blister, pit, or foreign matter Any tear, cut, hole, crack, or crease Edges ragged, nicked, crushed, or uneven Not cut smooth; not cut as specified Notches, punch holes, slits, etc. (as applicable) not as specified Letters and numerals not centrally located in rectangles (as applicable) Letters, numbers, legends, and symbols not as specified Sticky edges; any solid lump Spot, stain or streak - more than 1 inch in its longest dimension 1/

1/ Clearly visible at normal inspection distance (approximately 3 feet).

TABLE II. Sample size

Lot size	Sample size	
	Rolls	Packages
Up to 1300 1/	3	7
1,301 up to and including 3,200	5	10

TABLE II. Sample size (cont'd)

Lot size	Sample size Rolls	Sample size Packages
3,201 up to and including 8,000	7	15
8,001 up to and including 22,000	10	25
22,001 and more	15	35

1/ If lot contains fewer than three rolls or seven packages, each roll or package in the lot shall be examined.

4.2.2.2 Roll put up examination. When put up in rolls, the marking materials shall be examined for the defects listed below. The lot shall be expressed in units of one roll. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 6.5.

Examine	Defect
Assembly of roll	End of roll not secured Not wound evenly and tightly Core missing, loose, distorted or broken Not wound with liner side in
Unwinding of roll (examine both sides)	When unwinding, material sticks together, causing tearing or injury to any surface Average of more than three pieces per 50 yards of material in roll More than five pieces in any 50 yard length of material in the roll.

4.4.2.3 End item dimensional examination. The end item shall be examined for defects in dimensions. The sample unit shall be one sheet, roll, letter, numeral, kit, legend or symbol, as applicable. The lot size shall be expressed in units of 1 yard, one sheet, one letter, one kit, one numeral, one legend or symbol, as applicable. When material is supplied in rolls or 10-unit packages, the number of rolls or packages from which the sample units are to be selected shall be in accordance with table II. The sample units shall be apportioned equally among the selected rolls or packages. Any dimension, except for length of rolls, which is less than that specified shall be classified a defect. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

4.4.2.3.1 Length examination of rolls. During the visual examinations in 4.4.2.1, each roll in the sample shall be examined for length. Any length found to be more or less than that specified by more than 5 yards shall be classified a defect. The lot shall be unacceptable if two or more roll length defects occur or if the average length of the rolls in the sample is less than that specified (see 3.5.1 and 6.2).

4.4.2.4 Age and shelf life certification. Conformance to the age and shelf life requirements for marking materials and markers shall be on the basis of a contractor's certificate of compliance with the requirements in 3.2.

4.4.2.5 End item testing. Each lot of the end item shall be tested for the characteristics shown in table III. The lot size shall be expressed in units of one roll, sheet, kit, or one polyethylene package of letters, numerals, legends or symbols, as applicable, and the sample size (number of sample units) shall be as specified below. The sample unit shall be sufficient material to complete all required testing. In the event that the roll, sheets, kits, letters, numerals, legends or symbols ordered are not of the minimum dimensions required for testing, the manufacturer shall fabricate from the same manufacturing lots and materials, 1 square yard of the material with a minimum width of 8 inches for performing tests. The lot shall be unacceptable if one or more units fail to meet any requirement specified. All test reports shall contain the individual values utilized in expressing the final result.

Lot size	Sample size
800 or less	2
801 up to and including 22,000	3
22,001 or more	5

TABLE III. End item tests

Characteristic	Specification reference: Rqmt.	Specification reference: Test method	Results reported as: Pass or fail	Results reported as: Numerically to nearest
Liner removability	3.2.1	4.6.2	X	
Color	3.3	4.6.1	X	
Gloss (class 1)	3.3.1	4.6.1.1		Unit
Positionability (types II and III)	3.4.2 and 3.4.3	4.6.18	X	
Abrasion	3.5.2.1 1/	Dwg. 11677932	X	
Thickness	3.6	4.6.3		0.0001 inch
Breaking strength	3.7.1	4.6.4		0.1 lb.
Elongation	3.7.2	4.6.5		1 percent

TABLE III. End item tests (cont'd)

Characteristic	Specification reference: Requirement	Specification reference: Test method	Results reported as: Pass or fail	Results reported as: Numerically to nearest
Shrinkage	3.7.3	4.6.6		1/32 inch
Flammability	3.7.4	4.6.7	X	
Flexibility:				
At room temperature	3.7.5.1	4.6.8.1	X	
At minus 20°F	3.7.5.2	4.6.8.2	X	
Adhesion	3.7.6 3.5.2.1 1/	4.6.9 Dwg. 11677932		1 oz.
Screenability	3.7.7	4.6.10	X	
Printability (class 2)	3.7.8	4.6.11	X	
Legibility of printing after weathering (class 2)	3.7.8	4.6.15.2	X	
Water resistance	3.7.9	4.6.12	X	
Fuel resistance (class 1)	3.7.10	4.6.13	X	
Corrosion resistance	3.7.11	4.6.14	X	
Weather resistance 2/:				
Class 1	3.7.12.1 3.5.2.1 1/	4.6.15.1 Dwg. 11677932	X X	
Class 2	3.7.12.2	4.6.15.2	X	
Hiding power (class 1)	3.7.13	4.6.16		0.01 (contrast ratio)

TABLE III. End item tests (cont'd)

Characteristic	Specification reference: Rqmt.	Specification reference: Test method	Results reported as: Pass or fail	Results reported as: Numerically to nearest
Application properties	3.7.14	4.5.3	X	
	3.5.2.1	Dwg.		
	1/	11677932	X	
Storage stability 2/	3.7.15	4.6.17	X	
Fungi resistance	3.7.16	ASTM G 21	X	

1/ Only applicable to procurement for U.S. Army Tank and Automotive Command.

2/ A certificate of compliance shall be submitted and will be acceptable for the stated requirement.

4.4.3 Packaging examination. The fully packaged end items shall be examined for the defects listed below. The lot size shall be expressed in units of shipping containers. The sample unit shall be one shipping container fully packaged. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

Examine	Defect
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application
Materials	Any component missing, damaged, or not as specified
Workmanship	Bulged or distorted container Inadequate application of components, such as: incomplete sealing or closure of flap, improper taping, loose strapping, or inadequate stapling Open noncontinuous heat sealed seams of polyethylene bag. Incorrectly fabricated bag
Contents	Quantity per unit pack is more or less than required or indicated 1/

Weight	Weight of contents exceeds requirement

1/ The sample unit shall be one unit pack. The lot shall be unacceptable if the average quantity is more or less than specified when the contents of one unit pack is counted from each sample shipping container.

4.5 Test conditions and test equipment.

4.5.1 Standard conditions. Unless otherwise specified herein, specimens shall be conditioned and tested at an air temperature of 73°F ± 2°F and a relative humidity of 50 ± 4 percent. Unless otherwise specified herein, the applied marking material shall be allowed to stand 72 hours at standard conditions prior to testing.

4.5.2 Panels.

4.5.2.1 Bare metal. For testing over bare metal, marking materials shall be applied to panels made from aluminum-clad aluminum alloy, conforming to QQ-A-250/5 or to aluminum alloy conforming to QQ-A-250/11, and cleaned in accordance with ASTM D 1730. The panels shall be 0.020 by 3 by 6 inches in size.

4.5.2.2 Coated metal. For testing over coated metal, marking material shall be applied to coated panels made from aluminum-clad aluminum alloy conforming to QQ-A-250/5. The panels shall be 0.020 by 3 by 6 inches in size. The panels to be coated shall be anodized in accordance with type II of MIL-A-8625 and finished as follows: One coat of wash primer conforming to MIL-C-8514, dried 30 minutes, dry film thickness 0.0005 to 0.0007 inch; one coat of primer conforming to MIL-P-7962, 0.0003 to 0.0005 inch thick, dried 30 minutes; and two coats of white acrylic-nitro-cellulose lacquer conforming to the control formula of MIL-L-19537, each 0.0005 to 0.0007 inch thick, applied 30 minutes apart. The panels shall be allowed to air dry for 2 hours and force dried for 1 hour at 180°F ± 5°F. The panels shall be allowed to cool before applying marking material.

4.5.3 Application of marking material for test. All type I and type II marking materials for application for test shall be covered on the face side with low tack, translucent transfer sheet to minimize stretching of elastomeric material during application. The protective liner shall be removed from the adhesive prior to application. All type I materials shall be carefully set in place, starting at one end of each panel and securing contact progressively toward the other end while avoiding wrinkling and entrapment of air under film, and shall be rolled down with two passes of the hand operated, rubber-covered roller described in ASTM D 2860 (except that an alternate roller having a width of 2.5 ± 0.1 inch, a total diameter of 3.25 ± 0.1 inch and a hardness (Shore Scale A) of 70 to 80 may be used) at a roller speed of 12 inches per minute. Type II and type III materials shall be applied with application tools and techniques as recommended by the

contractor in the furnished instructions. Once in place, the translucent transfer sheet shall be removed, the marking materials shall be re-rolled or re-squeeged to ensure good edge adhesion, and then the marking materials shall not be moved.

4.6 Methods of inspection.

4.6.1 Color. The marking material shall be applied to bare metal as specified in 4.5.2.1. The color shall be compared to the specified standard color in accordance with ASTM D 2244. When differences in gloss of the test panel and the standard color occur so as to interfere with the color comparison, a clear, colorless overcoating of compatible lacquer or varnish, or other liquid of suitable matching gloss, may be used on the test sample.

4.6.1.1 Gloss. The marking material shall be applied to bare metal as specified in 4.5.2.1 and tested for gloss in accordance with ASTM D 523.

4.6.2 Liner removability. Two 6 by 20 inch pieces of the marking material shall be used to determine the liner removability. The liner shall be stripped from each specimen by hand and it shall be noted if the liner breaks or tears, if it delaminates the adhesive from the backing, and if the stripping results in distortion of the marking material.

4.6.3 Thickness. One strip of marking material, approximately 1 by 6 inches shall be cut from each sample. The liner shall be removed, the marking material applied to strips of aluminum foil approximately 0.001 inch thick, and firmly rolled down. The average thickness of the aluminum foil shall have been previously measured by micrometer to the nearest 0.0001 inch. Four micrometer readings shall be taken at random locations on the strip. Calculate the average thickness to the nearest 0.0001 inch after allowing for the thickness of the aluminum foil.

4.6.4 Breaking strength. Five strips of marking material, each 1 by 6 inches shall be cut from the sample and conditioned in accordance with 4.5.1. After removing liners and any transfer sheets, test in accordance with ASTM D 2370 except that head travel rate shall be 12 inches per minute and the results shall be reported in pounds per inch of width. Calculate the average breaking strength of the five specimens.

4.6.5 Elongation. Specimens prepared and tested as specified in 4.6.4 shall be simultaneously tested for elongation in accordance with ASTM D 2370.

4.6.6 Shrinkage. Two 6-1/2 inch squares of marking material shall be applied to cover the surface of two 6 by 6 inch bare metal panels (see 4.5.2.1). The marking material shall then be trimmed to the dimension of the panel. Type I and II materials shall be trimmed prior to removal of translucent transfer sheet and rerolled or resqueegeed following transfer sheet removal, as specified in 4.5.3. The panels shall be baked at 150°F for 48 hours and allowed to cool, after which the amount of shrinkage of the 6 inch dimensions shall be measured.

4.6.7 Free film flammability. One strip, 1 by 12-1/2 inches, shall be cut from the marking material. The specimen shall be tested in accordance with ASTM D 568.

4.6.8 Flexibility.

4.6.8.1 Room temperature. At standard conditions, a 1 by 2 inch portion of the marking material, with liner removed and the adhesive covered with talc to prevent sticking, shall be folded forward and backward on itself 20 times with pressure of the thumb and forefinger being exerted on the creased section each time the material is folded. After 20 folds, the creased section shall be observed for cracking, breaking, or delamination.

4.6.8.2 Low temperature. Marking materials shall be applied to a bare metal panel as specified in 4.5.2.1, which shall then be mounted film side up on a steel plate 9 by 9 inches by 1 inch thick. The assembly shall be maintained in a conditioning chamber for 5 ± 1/4 hours at (minus 20° ± 2°F). The assembly shall be firmly supported in a horizontal plane and, at the same temperature, the test specimen shall be subjected to the action of a 5 pound steel ball dropped once from a height of 24 inches. The test specimen shall be brought to room temperature and examined for cracking of the face surface.

4.6.9 Adhesion.

4.6.9.1 At room temperature, class 1 (all types), and class 2 (types I and II). Five strips of marking material, each 1 by 8 inches, shall be applied separately over 2 by 4 inch bare and coated aluminum panels (with one end of the strip flush to one end of the panel) so that a 1 by 3 inch area of the panel shall be adhered to the marking material. The free end of the material shall be doubled back at 180°. The applied strips shall be allowed to set for 24 hours prior to testing for adhesion. The bare end of the aluminum panel shall be clamped in the lower jaw of the tensile testing machine and the free end of the material shall be clamped in the upper jaw. Adhesion shall be determined on a dead-weight pendulum or crosshead type testing machine. The film shall be pulled back from the test panel at a constant rate of head travel of 12 ± 0.5 inches per minute. After the first inch is removed, the average tension required to remove the next inch shall be determined. If class 1 material breaks or tears at any point during removal, the test shall be terminated and the material shall be considered satisfactory if the value is equal to or higher than, and unsatisfactory if lower than, the applicable value specified in 3.7.6.

4.6.9.2 Low temperature (class 1, type II only). Strips of premasked marking material 2-1/2 by 8 inches shall be applied to 3 by 10 inch bare and coated test panels, such that 2-1/2 inches by 6 inches of the marking material is adhered to the panel. Test panels and marking materials shall be conditioned for 2 hours at 34°F ± 2°F and the applications and tests shall be made at that temperature. Application shall be accomplished with

firm pressure of a plastic, hand squeegee as recommended by the manufacturer. Test panels shall be dry at time of application. Following application, the translucent transfer sheet shall be removed, the sample resqueegeed, and the unapplied 2 inches of marking material folded back on its adhesive to form a 1 inch long tab. The tab shall be grasped immediately and used to peel the sample back on itself (180°) from the test panel. If the material breaks or tears during removal, it shall be considered to have satisfactory low temperature initial adhesion. Removal of the entire sample without breakage or tearing constitutes failure.

4.6.10 Screenability test. Marking material shall be cut to a size to permit screen process coverage of 1/2 square foot or more. An opaque, flexible, durable vinyl screen printing ink shall be applied in accordance with commercial practice and thoroughly dried. When thoroughly dry, the screened specimen shall be examined for streaking, bleeding, or other sign of incompatibility. A 2 inch by 5 inch strip of the processed material shall be applied to a bare metal test panel and conditioned. The panel shall then be tested in accordance with Method 6301 of FED-STD-141 and examined for damage, such as the removal of ink from marking material. The interval from time of removal of panels from the water to time of application of the tape shall be 60 ± 5 seconds. Stripping of the tape from the panel shall be done immediately after tape application. The screenability shall be reported as unsatisfactory if above appearance defects and loss of adhesion occur.

4.6.11 Printability (class 2 material). Class 2 marking material shall be applied to one bare and one coated panel as specified in 4.5.2. Five capital letters, 3/4 inch high, shall then be stenciled on the material, using stencil-board conforming to any type or grade of UU-S-625. Forty seconds after application of the ink, the lettering shall be tested for set-to-touch by lightly touching with the fingers. The lettering shall then be visually examined from a distance of 6 feet for sharpness and legibility.

4.6.12 Water resistance. The marking material shall be applied to one bare and one coated panel as specified in 4.5.2. Force dry the applied panels at 150°F ± 2°F for two hours. Cool to standard conditions (4.5.1). Immerse half of panel in distilled water for eight hours at 73°F ± 2°F. The materials shall be removed from the water and examined five minutes after removal and 24 hours after removal.

4.6.13 Fuel resistance (class 1 only). Marking material shall be applied to one bare and one coated panel as specified in 4.5.2, and the edges sealed with clear sealer as recommended by the manufacturer. Sealer shall dry thoroughly during the conditioning period. Immerse half of panel in hydrocarbon test fluids, consisting of 85 parts by weight of mineral spirits, conforming to TT-T-291, and 15 parts by weight of xylene conforming to ASTM D 846, for 1 hour. The marking material shall be examined 24 hours after removal from the test fluid.

4.6.14 Corrosion resistance. One bare metal panel each of aluminum alloys conforming to QQ-A-250/8 and QQ-A-250/11, and of stainless steel conforming to class 1 of QQ-S-766 (AISI equivalent No. 304), shall be prepared in accordance with ASTM D 1730 marking material shall be applied to panels as specified in 4.5.2.1 and the panels heated to 150°F ± 2°F for 168 hours. The material shall then be tested for the presence of acid, using moistened blue litmus paper applied to the body and edges of the film. The material shall be removed from the panels and the metal shall be examined for evidence of corrosion.

4.6.15 Weather resistance.

4.6.15.1 Class 1. Class 1 marking material shall be applied to two bare and two coated panels as specified in 4.5.2, and shall be mounted and exposed in a 45° facing south position in accordance with ASTM D 1014 for 12 months in the Miami, Florida area. After 4 months of exposure, one panel of each type shall be tested for quality of removability of the marking material in accordance with requirement of 3.7.12.1.

4.6.15.2 Class 2 material. The specimens shall be those used for the printability test in 4.6.11. The specimens shall be exposed to accelerated weathering according to ASTM D 822 for 96 hours. The specimens shall then be examined and tested according to the requirements of 3.7.8 and 3.7.12.2. The examination for sharpness and legibility of the printed letters shall be made from a distance of 6 feet.

4.6.16 Hiding power. Hiding power of marking material shall be determined in accordance with ASTM D 2805, except that the material shall be applied to the black and white Carrara glass as specified in 4.5.3.

4.6.17 Storage stability. Marking material to be tested shall be stored at a temperature of 70°F to 90°F for the following number of months after manufacture:

Type I and II, class 1	- 24 months
Type I and II, class 2, and type III, class 1	- 12 months

The material shall then be tested for conformance to the requirements listed in table III, except for weathering resistance and storage stability.

4.6.18 Positionability test (types II and III). The length of the test specimen shall be 8 inches. The width shall be the full width of the tape up to 3 inches wide. Material over 3 inches wide shall be cut to 3 inches. One specimen shall be conditioned and tested at standard conditions (types II and III), and one specimen shall be conditioned for 1 hour and tested at 100° ± 2°F (type II only). A 4 by 8 inch aluminum test panel shall be conditioned with the specimens and the test shall be performed as follows: Crease one end of the specimen sharply back against its face to form a tab 1/2 inch long. Completely remove the liner from the specimen. Hold the tabbed end

of the specimen and, with the test panel held securely, position the specimen gently on the test panel with the long dimension of the specimen and panel parallel. Do not press specimen against panel. After 10 seconds, hold the tab, slide specimen slowly along the long dimension of the test panel; if the specimen does not slide, lift the specimen off the panel. After the test, the specimen shall be examined for any evidence of damage (e.g., distortion of tearing) to the specimen and for any removal of adhesive from the specimen. Any damage or removal of adhesive constitutes failure.

5. PACKAGING

5.1 Preservation. Preservation shall be level A or Commercial, as specified (see 6.2).

5.1.1. Level A.

5.1.1.1 Unit packing.

5.1.1.1.1 Sheets. A quantity of sheets, of one description only, shall be unit packed in a snug-fitting paperboard or fiberboard box conforming to variety 1, style III, type G, class I of PP-B-566; type I, variety 1, class A, style 4 of PPP-B-676; style A of PPP-B-665; or style RSC, type CF (variety SW), class domestic, applicable grade of PPP-B-636. Each box shall be securely closed with 2 inch minimum width gummed paper tape conforming to type III, grade B of PPP-T-45, or by means of pressure-sensitive tape.

5.1.1.1.2 Rolls.

5.1.1.1.2.1 Roll width 1 inch or less. One roll shall be unit packed in a snug-fitting paperboard or fiberboard box conforming to classification optional of PPP-B-676, PPP-B-665, or PPP-B-636. The roll shall be held in suspension within the box by means of a centering device. When specified (see 6.2), a quantity of unit packs of rolls of one description only shall be packed in a snug-fitting intermediate fiberboard box conforming to style RSC, type CF (variety SW), class domestic, applicable grade of PPP-B-636. Each unit pack and intermediate pack, when applicable, shall be securely closed with tape as specified in 5.1.1.1.1.

5.1.1.1.2.2 Roll widths over 1 inch. One roll shall be unit packed in a snug-fitting fiberboard box conforming to style RSC, type CF (variety SW), class domestic, applicable grade of PPP-B-636. The roll shall be held in suspension within the box by means of a centering device. The centering device shall be protected from the edges of the roll by the application of cushioning material conforming to classification optional of PPP-C-843. The roll shall be immobilized against movement by application of the specified cushioning material; or diecut or scored built-up pads made of the same material as the box. Each box shall be securely closed with tape as specified in 5.1.1.1.1.

5.1.1.1.3 Markers.

5.1.1.1.3.1 Letters and numerals (unmounted and mounted). Ten letters or numerals, of one description only, shall be unit packed in a close-fitting clear polyethylene film bag. The bag shall be fabricated from polyethylene film having a thickness of 0.0015 inch (± 20 percent tolerance). The polyethylene bag shall be formed with heat sealed seams that are straight, continuous, and parallel to each other and the formed edges of the bag. Prior to or during the heat sealing closure operation, excess air within the bag shall be expelled.

5.1.1.1.3.2 Letters and numerals (kits). Letters and numerals, of one size only, and in the kit quantities specified in the applicable specification sheet, shall be unit packed in a 36 compartmented, commercial grade fiberboard box with cover. The cover shall be securely closed with tape as specified in 5.1.1.1.1.

5.1.1.1.4 Legends. One legend shall be unit packed in a polyethylene bag as specified in 5.1.1.1.3.1.

5.1.1.1.5 Symbols. One symbol shall be unit packed in a polyethylene bag as specified in 5.1.1.1.3.1.

5.1.2 Commercial. Marking materials and markers shall be preserved in accordance with ASTM D 3951.

5.2 Packing. Packing shall be level A, B, or Commercial, as specified (see 6.2).

5.2.1 Level A packing. A quantity of marking materials or markers, of one description only, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC or RSC-L (as applicable), grade V2s of PPP-B-636; or overseas type, style A or I, grade A or B, type 2 load of PPP-B-601. The inside of each PPP-B-636 container packed with unboxed unit packs shall be fitted with a box liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-B-636. Each PPP-B-636 shipping container shall be closed in accordance with method III, waterproofed in accordance with method V, and reinforced as specified in the appendix of PPP-B-636. Each wood container shall be closed and reinforced in accordance with the appendix of PPP-B-601; and waterproofed with a sealed case liner conforming to type I or II, grade C of MIL-L-10547. Shipping containers packed with waterproof unit packs need not be waterproofed. The weight of the contents of each fiberboard container shall not exceed 65 pounds and for each wood container shall not exceed 150 pounds.

5.2.2 Level B packing. A quantity of marking materials or markers, of one description only, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC or RSC-L

(as applicable), type CF (variety SW) or SF, class domestic, grade 275 of PPP-B-636. The inside of each container packed with unboxed packages shall be fitted with a box liner conforming to type CF, class domestic, variety DW, grade 275 of PPP-B-636. Each shipping container shall be closed in accordance with method II as specified in the appendix of PPP-B-636. The weight of contents of each shipping container shall not exceed 65 pounds.

5.2.2.1 Weather-resistant shipping containers. When specified (see 6.2), shipping containers shall be a grade V3c, V3s, or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with method III as specified in the appendix of PPP-B-636.

5.2.3 Commercial packing. Marking materials and markers, preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Marking. In addition to any special marking required by the contract or purchase order, unit packs, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129 or as applicable. Each unit pack of marking material and of markers shall contain application instructions as specified in 3.7.17, printed on the unit pack exterior or on paper sheet inserts.

5.3.1 Special marking.

5.3.1.1 Polyethylene bagged unit pack. Polyethylene bagged unit packs shall have the required identification information legibly printed or stamped in black directly on the bag across the center face, or on a white paper label inserted within the bag so as to permit ready identification.

5.3.1.2 Shelf-life marking (see 6.5). Each unit pack and shipping container shall include type II shelf-life item data of MIL-STD-129 except that Date of Delivery shall be given in lieu of Date of Manufacture. The Inspection/Test Date shall be 24 months after the Date of Delivery of the marking material or marker, as applicable.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Class 1 marking material is used in the manufacture of markers that are permanent in nature. The markers are then to be applied, by means of their adhesive layer, on exterior and interior surfaces of automotive vehicles, aerospace and ground support equipment, on interior surfaces of aircraft, and in other applications as required or permitted. Class 2 marking material is intended for use in preparation of temporary identification and instruction markers in shipment and storage of supplies and equipment as provided in MIL-STD-129. An important characteristic of

class 2 material; e.g., in marking of vehicles during shipment and storage, is that it is readily removable even after extended weathering. These materials are not intended to be used on surfaces which become heated above 150°F. For exterior markers of the United States Air Force aircraft, the applicable material is covered by MIL-P-38477.

6.1.1 Type I. The pressure sensitive adhesive of type I material is of the aggressive tack type. Accordingly, under some circumstances, type I material markers are subject to premature contact and attendant difficulties. These difficulties may be countered or avoided by various devices, such as appropriate scoring of the liner, technique of placement, wet method of application (dilute detergent), and other methods that may be furnished by contractors to assist proper positioning of markers of all sizes.

6.1.2 Type II. The type II material has been included in this specification for use primarily in large, difficult-to-apply markers when desired. Its pressure sensitive adhesive is of a type which confers a degree of positionability of the marker during application and prior to final attachment, and is desired by some users under certain conditions, particularly for markers like stars, crosses, letters, 16 inches or larger in size. Users should take note of the fact that the adhesion of type II material is significantly less than that of type I, and that use of this type will involve a trade off of adhesion for positionability. It is expected that selection of the desired type will be governed by the user's experience and consideration of various factors; e.g., size and shape or configuration of marker, temperature during application, lesser adhesion of type II, difference in cost, and skill of applicator.

6.1.3 Type III. The type III material is intended for mounting on metal or wood bases by a heat-vacuum process; e.g., as in manufacture of signs and markers.

6.1.4 Translucent transfer sheets. In addition to their use in transferring legends and prespaced letters, translucent transfer sheets are incorporated in some markers to make use of other capabilities such as stiffening the markers for handling, masking markers from subsequent painting, and protection marker surfaces from dirt and foreign matter, as may be required (see 6.2).

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification and specification sheet (when applicable).
b. Type and class required (see 1.2).
c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
d. When a first article is required (see 3.1, 4.3, and 6.3).

e. If translucent transfer sheet is required (see 3.2.2 and 6.1.4).
f. Color required (see 3.3).
g. Form and size (see 3.5.1 for marking materials in rolls and sheets and 3.5.2 for markers).
h. When procurement of marking materials for the M 113/A1/A2 Armored Personnel Carrier is required (see 3.5.2.1).
i. Levels of preservation and packing (see 5.1 and 5.2).
j. When intermediate packing or rolls (widths 1 inch or less) is desired (see 5.1.1.1.2.1).
k. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209-4. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instruction in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Specification sheets. Specification sheets are applicable to markers made from materials covered by this general specification.

MIL-M-43719/1	Marking Materials and Markers, Adhesive, Elastomeric, Pigmented; Letters and Numerals.
MIL-M-43719/2	Marking Materials and Markers, Adhesive, Elastomeric, Pigmented; Legends.
MIL-M-43719/3	Marking Materials and Markers, Adhesive, Elastomeric, Pigmented; Symbols.
MIL-M-43719/4	Marking Materials and Markers, Adhesive, Elastomeric, Pigmented; Hazardous Material Symbols.

6.5 Shelf life. Shelf-life marking specified in 5.3.1.2 is for use in surveillance during Government storage. The date to be marked is selected by the Government, as given in 5.3.1.2, and is not necessarily identical with the manufacturer's warranted shelf-life expiration date.

6.6 Subject term (key word) listing.

Hazardous materials
Heat activated
Pressure sensitive

Signs
Symbols
Vehicle marking

6.7 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Army - GL
Navy - AS
Air Force - 99

Review activities:

Army - AT, AV, ER, MD
Navy - MC
DLA - GS
Air Force - 84

User activities:

Army - ME, AR
Navy - OS

Preparing activity:

Army - GL

(Project 7690-0092)

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 revisior 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 o requirements on current contracts. Comments submitted on this form do not constitute or imply authorization tc waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER	2. DOCUMENT DATE (YYMMDD)
	MIL-M-43719C	1992 September 30

3. DOCUMENT TITLE

MARKING MATERIALS AND MARKERS, ADHESIVE, ELASTOMERIC, PIGMENTED; GENERAL SPECIFICATION FOR

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

5. REASON FOR RECOMMENDATION

6. SUBMITTER

[redacted]	[redacted]	[redacted]

8. PREPARING ACTIVITY

a. NAME	b. TELEPHONE (Include Area Code) (1) Commercial	(2) AUTOVON/DSN
U.S. Army Natick RD&E Center	508-651-4532	256-4532
c. ADDRESS (Include Zip Code) Commander, U.S. Army Natick RD&E Center ATTN: SATNC-IRT Natick, MA 01760-5019	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone [illegible] AUTOVON 289-2340	

DD Form 1426, OCT 89 NATICK OP2, JUL 91 *Previous editions are obsolete.*