

NOT MEASUREMENT SENSITIVE

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SUPERSEDING  
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## DETAIL SPECIFICATION

### LAPEL BUTTONS, GENERAL SPECIFICATION FOR

Inactive for new design after 20 January 1999.

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 of lapel buttons used by the Department of Defense and various Federal agencies.(see 6.1).

1.2 Classification. Lapel buttons covered by this specification will be as specified herein and on the applicable specification sheets (see 2.1, 3.1, and 6.2).

#### 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3 and 4 of this specification, whether or not they are listed.

##### 2.2 Government documents.

2.2.1 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).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in preparing this document should be addressed to: Director, The Institute of Heraldry, US Army, 9325 Gunston Road, Room S112, Fort Belvoir, VA 22060-5579, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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### SPECIFICATIONS

#### FEDERAL

QQ-N-290 Nickel Plating (Electrodeposited)

### STANDARDS

#### FEDERAL

FED-STD-595 – Colors Used in Government Procurement

### SPECIFICATION SHEETS

(See Supplement 1 for list of specification sheets.)

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

**2.2.2 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.

#### DRAWING

##### THE INSTITUTE OF HERALDRY

B-13-12 Attaching Devices Heraldic, Prong and Clutch Type

#### STANDARD CHIP SETS

THE INSTITUTE OF HERALDRY, U.S. ARMY STANDARD HARD ENAMEL  
COLOR CHIP SET

THE INSTITUTE OF HERALDRY, US ARMY STANDARD METAL FINISH CHIP  
SET

(The standard color chip(s) for color or finish may be obtained from the procuring activity for Government procurements.)

(Figure 1 is a miniature copy of an Institute of Heraldry drawing and is for information only. Copies of specifications, standards, drawings, and specification sheets required by the contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

**2.3 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

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otherwise specified, the issues of documents not listed in the DoDISS are issues of the documents cited in the solicitation (see 6.2)

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

### AMERICAN SOCIETY FOR TESTING AND MATERIALS

ASTM-B-487 - Metal and Oxide Coating Thickness by Microscopical  
Examination of a Cross Section, Measurement of  
ASTM-D-2240 - Rubber Property - Durometer Hardness

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

### AMERICAN SOCIETY FOR QUALITY CONTROL

ANSI/ASQC Z1.4, 1993 - Sampling Procedures and Tables for Inspection by  
Attributes

(Application for copies of ANSI/ASQC Z1.4 should be addressed to the American Society for Quality Control, 611 East Wisconsin Avenue, Milwaukee, Wisconsin 53202.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications or specification sheets), 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 Specification sheets. The individual item requirements shall be as specified herein and in accordance with the applicable specification sheet. In the event of any conflict between the requirements of this specification and the specification sheet, the latter shall govern. The design of the label buttons pictured on the specification sheets are for illustrative purposes only.

3.2 First article. When specified in the contract or purchase order (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.3 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements and promotes economical advantageous life cycle costs.

3.4 Materials. Materials shall be as specified herein. Recovered material shall be used to the maximum extent possible.

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3.4.1 Copper base-alloys. Copper base alloys shall be roll polished free from pits, scale (including red oxide), dents, nicks, cracks, scratches, segregations, and foreign inclusions that can not be removed in later processing. When tested as specified in 4.5.1, the chemical compositions of the copper content of the copper base alloy shall be as specified in Table I.

TABLE I. Copper content of copper base alloys.

ALLOY	% COPPER
Yellow Brass	64.0-68.5
Red Brass	84.0-86.0
Gilding Metal	94.0-96.0
Free Cutting Brass	60.0-63.0
Bronze	89.0-91.0
Nickel Silver	63.0-65.5 <u>1/</u>
Low Brass	78.5-81.5

1/ When nickel silver is used as a base material, the nickel content shall be not less than 18%.

3.4.2 Silver for plating. Silver for plating shall be not less than 99.0% pure silver. on the applicable specification sheet over any commercial copper base alloy.

3.4.3 Gold for plating. Gold for plating shall be 24 karat.

3.4.4 Nickel for plating. Nickel for plating shall be the nickel plating normally used in commercial practice.

3.4.5 Solder.

3.4.5.1 Soft solder. Soft solder shall be a lead-tin alloy having a melting point of not less than 375 degrees Fahrenheit (190.58 degrees Celsius).

3.4.5.2 Hard solder. Hard solder shall be silver colored hard solder having a melting point of not less than 1075 degrees Fahrenheit (561.7 degrees Celsius).

3.4.6 Lacquer. Lacquer shall be a pale, clear, synthetic lacquer. The use of pigmented lacquer shall not be permitted.

3.4.7 Enamel. All enamel shall be lead free.

3.4.7.1 Hard enamel. Hard enamel shall be a glass, vitreous type enamel fused with metallic oxides to produce the required color, shade, and opacity or translucence.

3.4.7.2 Soft enamel. Soft enamel shall be a soft baking enamel pigmented to produce the required color and shade.

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3.4.7.3 Epoxy resin (stoning epoxy). Epoxy resin shall be a stoning epoxy pigmented to produce the required color, opacity or translucence, and shade, have a shore D hardness of 85, and incorporate an ultraviolet inhibitor. When epoxy resin is used in lieu of hard enamel, the material requirement shall be gilding metal or red brass.

3.4.8 Rivets. Rivets used for attaching a superimposed device to the base of lapel buttons shall be made from any type brass and shall be hard soldered to the back of the device. Rivets shall be securely peened or swaged to ensure a tight and close fit between the component parts. At the option of the manufacturer, either solid or hollow rivets may be used.

3.4.9 Jewels. When jewels are required, the jewels shall be the type, size, and quality specified on the applicable specification sheet.

3.5 Design. The embossed design of the lapel buttons shall be an exact replica of the design on the Government furnished hub from which the contractor's working die shall be extracted (see 3.11). The contractor's working dies shall be tooled and polished to remove any dents, nicks, scratches, or other imperfections.

### 3.6 Construction.

3.6.1 Stamping, trimming, and piercing. Each lapel button shall be struck in such a manner so as to ensure a well defined die struck edge. The lapel buttons shall be trimmed and, when applicable, pierced to the die struck edge. All edges shall be clean, smooth, and free from burrs, drag, step, and rough edges. The stamping, trimming, and piercing operations shall not damage or distort the design or alter the shape of the lapel button.

### 3.6.2 Soldering

3.6.2.1 Hard soldering and electronic fusion. Unless otherwise specified on the applicable specification sheet, all soldering shall be accomplished using hard solder specified in 3.4.5.2 or by electronic fusion. Joints shall be clean, smooth, strong, and free from burned or reduced areas. There shall be no excess solder and all excess flux shall be removed. When hard solder is used, the soldered part or prong shall not separate at the joint when tested as specified in 4.5.3.1. When fused joints are used, the prong shall not separate at the joint when tested as specified in 4.5.4.

3.6.2.2 Soft soldering. When soft solder is specified for joining a superimposed device to the lapel button base, soft solder specified in 3.4.5.1 shall be used. Complete contact shall be made between the soldered parts. When tested as specified in 4.5.3.2, the soldered device shall not separate at the joint.

3.7 Attaching device. Attaching devices shall be as specified on the applicable specification sheet.

3.7.1 Prong with pick and wing-type clutch. Prongs with pick shall be made from nickel silver specified in 3.4.1. Unless otherwise specified on the applicable specification sheet, the prongs as shown on TIOH drawing B-13-12 (Figure 1) shall be 5/16 inch  $\pm$  1/64 inch long. The prongs shall be hard soldered or electronically fused in the location specified in



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the applicable specification sheet. Wing-type clutches as shown on TIOH drawing B-13-12 (Figure 1) shall be made from any type brass. When tested as specified in 4.5.7 it shall not be possible to remove the clutch from the prong without first depressing the release mechanism.

3.7.2 Prong with pick and flat ball-type clutch. Prongs with pick shall be made from nickel silver specified in 3.4.1. Unless otherwise specified on the applicable specification sheet, the prongs as shown on TIOH drawing B-13-12 (Figure 1) shall be 5/16 inch  $\pm$  1/64 inch long. The prongs shall be hard soldered or electronically fused in the location specified in the applicable specification sheet. Flat ball-type clutches as shown on TIOH drawing B-13-12 (Figure 1) shall be made from any type brass. Nickel plated flat ball clutches shall be used on lapel buttons having a silver plated finish, and red brass flat ball clutches shall be used on brass or gold plated lapel buttons. When tested as specified in 4.5.8 it shall not be possible to remove the clutch by hand without pulling up on the ball

3.7.3 Lug with jump ring (charm). The lug shall be an integral part of the lapel button. The jump ring shall be formed from .033 inch diameter gold plated brass wire and the outside diameter of the-ring shall be 1/4 + 1/64 inch in diameter.

3.8 Backs of lapel buttons. Unless otherwise specified on the applicable specification sheet, the backs of all lapel buttons shall be flat.

3.9 Finish. Unless otherwise specified, lapel buttons shall be finished as specified on the applicable specification sheet. Where plating or oxidizing is specified, the entire item (front, back, and edges) shall be plated or oxidized as applicable. In addition to the finish specified on the specification sheets, all silver, rose gold plated and unplated red brass, gilding metal, or bronze lapel buttons shall be completely coated with lacquer specified in 3.4.6. Gold plated lapel buttons may be lacquered at the option of the manufacturer.

3.9.1 Plating. All plating shall be by electroplating methods. Plating shall be non-porous and continuous over the entire plated surface. There shall be no cut-through, shaded, peeled, or blistered plating. The plating shall be smooth, fine grained, adherent and free from pits, nodules, porosity, indications of burning, excessive edge build up, and other detrimental defects. The plating of attaching devices is not required.

3.9.1.1 Gold plating. Gold plating shall be accomplished using gold specified in 3.4.3. The use of nickel as an undercoating shall not be permitted. When tested as specified in 4.5.2, no visible chemical reaction such as evolution of gases shall appear.

3.9.1.2 Silver plating. Silver plating shall be accomplished using silver specified in 3.4.2. After finishing, the silver plating shall be a minimum of 0.0003 inch thick. Testing shall be standard commercial. Items made of brass shall be silver thickness tested on the obverse side. In case of a dispute, testing shall be conducted in accordance with ASTM-B-487.

3.9.1.3 Nickel plating. Nickel plating shall be accomplished using nickel specified in 3.4.4 and shall be not less than 0.0003 inch thick. Testing shall be standard commercial. In case of a dispute, testing shall be in accordance with ASTM-B-487.

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3.9.1.4 Nickel underplating. Nickel underplating shall be accomplished using nickel specified in 3.4.4 and shall be not less than 0.00025 inch thick. Testing shall be standard commercial. In case of a dispute, testing shall be in accordance with ASTM-B-487.

3.9.2 Enameling. Unless otherwise specified on the applicable specification sheet, all enameling shall be accomplished using hard enamel specified in 3.4.7.1 or epoxy specified in 3.4.7.3. Enamel or epoxy shall be applied so as to be uniform in color, free from bubbles, foreign inclusions, cracking, crazing, or other defects which might affect appearance. There shall be no overrunning of enamel or epoxy.

3.9.2.1 Colors. Enamel or epoxy colors shall match the shades of The Institute of Heraldry hard enamel color chips specified on the applicable specification sheet (see 2.2.2).

3.9.2.2 Hard enameling. Hard enamel specified in 3.4.7.1 shall be charged, fired, and stoned level with the dikes. No design elements shall be removed during the stoning process. There shall be no noticeable burn spots as a result of the firing. The hard enamel shall then be polished to produce a glass like finish. The finish shall be adherent and free from bubbles, pits, foreign inclusions, cracking, crazing, burned edged, or darkened enamel. There shall be no overrunning of enamel.

3.9.2.3 Epoxy resin. Epoxy resin specified in 3.4.7.3 shall be applied so as to be uniform in color, free from bubbles, foreign inclusion, or other defects which affect appearance. The epoxy shall be stoned level with the dikes. No design elements shall be removed during the stoning process. The epoxy shall then be polished to produce a glass like finish. There shall be no overrunning of epoxy. When tested as specified in 4.5.5, the epoxy shall have a shore D hardness of not less than 85.

3.9.2.4 Soft enameling. Soft enamel shall be as specified in 3.4.7.2 and shall match the shades of the Institute of Heraldry hard enamel color chips specified on the applicable specification sheet (see 2.2.2). When tested as specified in 4.5.6, no color shall be transferred to the cotton, and the enameled surface shall remain unaffected except for a slight loss of luster.

3.9.3. Cutting down. When necessary to remove nicks, scratches, pin holes, or other blemishes, the lapel button shall not be cut down to the extent that any details of the design are obliterated or reduced.

3.9.4 Lacquering. All lapel buttons, except gold and nickel plated lapel buttons, shall be lacquered using lacquer specified in 3.4.6. The dry lacquer film shall be continuous, level, adherent, and free from lint, dust, or other foreign matter. When tested as specified in 4.5.9, the tissue paper shall not adhere to the clear lacquered surface. Gold plated lapel buttons may be lacquered at the option of the manufacturer.

3.10 Marking for identification. The contractor shall stamp his trademark or other identifying mark and letters "G.I." (for Government procurement only) legibly and inconspicuously on the back of each lapel button.

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3.11 Government loaned property. Hubs will be loaned by the Government and shall be used only for making the contractor's working dies necessary for one contract or order (see 3.5 and 6.4).

3.12 Unit packing. Unit packing shall be in accordance with 5.1 unless otherwise specified on the applicable specification sheet.

3.13 Workmanship. Lapel buttons shall be clean, well made, and shall meet the acceptable quality levels established by this specification.

### 4. VERIFICATION

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

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

4.2 Inspection conditions. Unless otherwise specified, all inspection shall be performed in accordance with the test conditions specified in 4.4 and 4.5.

4.3 First article inspection. Inspection and testing of the first article (see 3.2) shall be made of a completely finished lapel button for all provisions of this specification applicable to the end product examination and tests.

4.4 Conformance inspection. Inspection of components and materials shall be in accordance with the subsidiary specifications and drawings. Sampling for inspection shall be performed in accordance with ANSI/ASQC Z1.4.

4.4.1 Testing of material components. Inspection shall be performed on components of materials listed in Table II for the test characteristics shown therein. Material listed in Table II may be accepted on a contractor's certificate of compliance for requirements specified in applicable paragraphs of this specification. The government reserves the right to test samples of the gold and silver (without additional charge) to verify the contractor's certification.



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TABLE II. Testing of material components.

COMPONENT	CHARACTERISTIC	RQM'T ¶	TEST METHOD	RESULTS REPORTED AS
Copper base alloy	material identification	3.4.1	4.5.1	nearest 0.1%
Enamel (hard)	material identification	3.4.7.1	standard commercial	pass/fail
Enamel (soft)	material identification	3.4.7.2	standard commercial	pass/fail
Epoxy resin	material identification	3.4.7.3	standard commercial	pass/fail
Gold for plating	material identification/karat	3.4.3	standard commercial	nearest 0.1%
Lacquer	material identification	3.4.6	standard commercial	pass/fail
Nickel for plating	material identification	3.4.4	standard commercial	nearest 0.1%
Nickel for plating	not used as undercoating	3.9.1.1	standard commercial	pass/fail
Silver for plating	chemical composition	3.4.2	standard commercial	nearest 0.1%
Solder, hard	material identification	3.4.5.2	standard commercial	pass/fail
Solder, soft	material identification	3.4.5.1	standard commercial	pass/fail

**4.4.2 In-process inspection.** In-process inspection shall be made at any point or during any phase of the manufacturing process to determine whether operations or assemblies are accomplished as specified. The Government reserves the right to exclude from consideration for acceptance any material for which in-process inspection has indicated nonconformance. In-process inspection shall be conducted to see that accomplishment of the following is in accordance with the specification requirements:

REQUIREMENT, OPERATION, OR ASSEMBLY	CHARACTERISTICS	REQUIREMENT PARAGRAPH
Soldering	use of soft solder	3.4.5.1
	use of hard solder	3.4.5.2
Nickel plating	used as an underplating	3.9.1.4

**4.4.3. End item inspection.**

**4.4.3.1 Visual examination of end item.** Visual examination of lapel buttons for defects in finish, design, material, construction, workmanship, and marking shall be made using Table III. Examination shall be made at a distance of approximately 16 to 22 inches with illumination equal to average daylight and arranged so as to avoid as much reflected light as possible. Defects designated by an asterisk (\*) shall be classified as major when seriously affecting appearance or serviceability and minor when affecting appearance or serviceability but not seriously. The product unit for the examinations shall be one completely fabricated lapel button. Any dimension which is not within the specified tolerance shall be classified as a defect.

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TABLE III. Defects.

EXAMINE	DEFECT	CLASSIFICATION		
		MAJOR	(*)	MINOR
Color and finish	Poor match to the TIOH Standard Metal Finish Chip .....	X		
	Not required finish .....	X		
	Discoloration such a spot, stain, or speck .		*	X
	Not clean .....			
	Any solder spatter clearly noticeable .....		*	
	The oxidized finish, when required, has not been sufficiently relieved or has been excessively relieved .....		*	
	Not highlighted to the same extent as the TIOH Metal Finish Chips .....		*	
	Background or recessed areas not finished as specified .....	X		
	Surface contains pits, scale, nick, scratch, crack, machine mark, pin hole, segregation, rupture, foreign matter, or other blemish .....		*	
	Buff, drag, blushed or cloudy finish .....		*	
Hard enamel or epoxy	Not enameled (when required) .....	X		
	Incorrect color or shade .....	X		
	Cracked, chipped, or crazed .....		*	
	Not stoned smooth, i.e., is coarse, uneven or has drag marks .....		*	
	Not level with dikes, i.e., contains high or low spots .....		*	
	Hole or blister .....		*	
	Laps, overruns, or skips .....		*	
	Not clean, e.g., blemish such as spot, stain, spatter, or embedded foreign matter .....		*	
Soft enamel	Not enameled or area of no enamel .....	X		
	Area of thin enamel .....			X
	Foreign matter imbedded .....		*	
	Discoloration clearly noticeable .....	X		
	Coating non continuous and level, i.e., runs, drips, or drops .....		*	
Design	Construction or design details obscured, altered, or not conforming to government hub .....	X		
	Not dapped (when required) .....	X		

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EXAMINE	DEFECT	CLASSIFICATION		
		MAJOR	(*)	MINOR
	Any significant detail not clear, missing, or obliterated .....	X		
	Any warp, twist or distortion, irregular surface contour or outline .....		*	
	Any detail struck over resulting in a double impression .....	X		
	Any operation not in accordance with the specified requirements .....		*	
	Any significant detail not clear, marred, missing, obliterated, or reduced .....	X		
	Any area not pierced (when required) .....	X		
Plating	Not plated (when required) .....	X		
	Not type specified .....	X		
	Plating not smooth, continuous, or adherent .....	X		
	Any plated area cut through, porous, pitted, crystallized, flaking, peeling, or blistered .....	X		
	Foreign matter imbedded .....		*	
Workmanship and construction	Surface or edge not clean, not smooth or free of burrs, roughness, drag, step, or tool marks .....		*	
	Metal marks on exposed surface such as nick, dent, dig, gouge, or scratch .....		*	
	Die-struck edge, rim, or outline is not defined (when applicable) .....	X		
	Pierced edge not clean and smooth, i.e., any burr, drag, cutter, or file mark .....		*	
	Design or shape is damaged, distorted, or altered by piercing operation .....	X		
	Any component missing, bent, twisted, broken, or malformed .....		*	
	Solder does not completely unite parts, i.e., any perceptible opening between component parts .....		*	
	Area burned or reduced in soldering .....		*	
	Soldered joint not clean or smooth .....		*	
	Excess solder or excess flux not removed .....		*	
	Operations are poorly accomplished .....		*	
	Letters distorted .....		*	
	Back not flat or smooth when required .....			X

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EXAMINE	DEFECT	CLASSIFICATION		
		MAJOR	(*)	MINOR
Attaching device	Defective, i.e., any part damaged or malformed which affects use or which may be expected to affect use .....	X		
	Deformed, i.e., any part misshapen, damaged, bent, but not affecting use .....			X
	Not type specified .....	X		
	Not positioned as specified .....	X		
	Not attached in specified manner, i.e., not soldered or fused as required .....	X		
	Clutch fastener will not engage or is loose fit on prong .....	X		
	Clutch pierced through by prong .....		*	
	Any component omitted, misplaced, operation omitted or not properly performed .....		*	
Identification marking	Missing, incorrect, illegible, misspelled, not accomplished as specified, or not placed as required .....		*	
Lacquer	Not lacquered when required .....	X		
	Areas of no lacquer .....		*	
	Lacquer forms noticeable runs or sharp coarse particles .....		*	
	Foreign matter embedded in finish, i.e., lint, dust, etc., clearly noticeable .....		*	
	Hazy, rainbow effect, cloudy, or powdering		*	
	Not smooth, continuous, or adherent, i.e., i.e., flaking, blistering, peeling, rippling or has run, sag, or drops .....		*	
	Not set to touch, i.e., tacky when pressure is applied to coating .....	X		
Quality of unplated metal	Surface pitted, porous, crystalline, spotted or open grained, or otherwise impaired ..	X		

4.4.3.2 **End item testing.** Testing of the end item shall be performed in accordance with Table IV for the characteristics shown therein. The sample unit for end item testing shall be one completely fabricated lapel button. The results shall be reported as pass/fail for the examination. Individual tests are detailed in 4.5.

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TABLE IV. Testing of the end item.

CHARACTERISTIC	RQM'T ¶	TEST METHOD	RESULTS REPORTED AS
Test for copper content	3.4.1	standard commercial (see 4.5.1)	pass/fail
Tests for plating			
Nickel plating	3.9.1.3	standard commercial	pass/fail
Nickel underplating	3.9.1.4	standard commercial	pass/fail
Silver plating	3.9.1.2	standard commercial	pass/fail
Gold plating	3.9.1.1	4.5.2	pass/fail
Test for lacquer:	3.4.6	4.5.9	pass/fail
Tests for joints:			
Hard soldered joints	3.6.2.1	4.5.3.1	pass/fail
Soft soldered joints	3.6.2.2	4.5.3.2	pass/fail
Electronically fused joints	3.6.2.1	4.5.4	pass/fail
Tests for attaching devices:			
Prong with pick and wing clutch	3.7.1	4.5.7	pass/fail
Prong with pick and flat ball clutch	3.7.2	4.5.8	pass/fail
Tests for enamels:			
Epoxy resin	3.9.2.3	4.5.5	pass/fail
Soft enameling	3.9.2.4	4.5.6	pass/fail

## 4.5 Tests.

4.5.1 Copper content test for copper base alloy. Copper content shall be determined by standard commercial testing. Results shall be evaluated to determine compliance with the requirements specified in 3.4.1.

4.5.2 Acid test for gold plating. If the test lapel button has been lacquered, the lacquer shall be completely removed prior to testing with an organic solvent. The test acid shall be applied as follows: Place a drop of acid of not less than 1/16 inch in diameter on three (3) different spots on the plated surface allowing the drops to remain for not less than one (1) minute during which time the surface of the item shall be inspected to determine compliance with the requirements in 3.9.1.1. No visible chemical reactions shall occur. Acid drops are to be placed on flat surfaces on the obverse or reverse face when possible. A minimum of two spots must withstand the acid test. The test acid shall be applied at room temperature (60 to 80 degrees Fahrenheit/15.6 to 26.7 degrees Celsius) and shall



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consist of a solution containing 50% by volume of chemically pure nitric acid (specific gravity 1.42) and an equal volume of distilled water.

#### 4.5.3 Test for soldered joints.

4.5.3.1 Hard solder. Hard soldered items shall be placed in an oven maintained at 1075 degrees Fahrenheit  $\pm$  5 degrees Fahrenheit (561.7 degrees Celsius  $\pm$  2.78 degrees Celsius) for 15 minutes. While at this temperature the item shall be lifted by the attaching device and shall be inspected to determine compliance with the requirements specified in 3.6.2.1.

4.5.3.2 Soft solder. Soft soldered items shall be placed in an oven maintained at 365 degree Fahrenheit  $\pm$  5 degrees Fahrenheit (184.98 degrees Celsius  $\pm$  2.78 degrees Celsius) for 15 minutes. While at this temperature the item shall be lifted by the superimposed design and shall be inspected to determine compliance with the requirements specified in 3.6.2.2.

4.5.4 Test for electronically fused joints. Item to be tested shall be anchored on a horizontal surface. Each prong shall be grasped at least 1/3 its length above the fused joint and bent through an angle of 90 degrees (45 degrees to each side of the vertical) until the prong breaks. The fused joint shall then be examined to determine compliance with 3.6.2.1. A bending tool in the form of a 45 degree template may be used for this test provided the prong is gripped at least 1/3 its length above the fused joint.

4.5.5 Test for shore hardness of epoxy resin. Shore hardness shall be determined in accordance with ASTM-D-2240. Results shall be evaluated to determine compliance with the requirements of 3.9.2.3.

4.5.6 Acetone test for soft enamel. The enameled surface shall be wiped five times with a piece of cotton saturated with acetone. The cotton and enamel shall then be examined to determine compliance with 3.9.2.4.

4.5.7 Test for prong and clutch. The clutches shall be removed and replaced ten times from the prong using the clutch release mechanism. An attempt shall then be made to remove the clutch by hand without first depressing the release mechanism. An inspection shall be made at this time of the prong with clutch to determine compliance with the requirements specified in 3.7.1.

4.5.8 Test for prong with pick and flat ball clutch. The clutches shall be removed and replaced from the prong by manually pulling up on the ball of the clutch ten times. An attempt shall then be made to remove the clutch by hand without first grasping the ball. An inspection shall be made at this time of the prong with pick and flat ball clutch to determine compliance with the requirements specified in 3.7.2.

4.5.9 Test for lacquer. At room temperature (60 to 80 degrees Fahrenheit/15.6 to 26.7 degrees Celsius), press a piece of tissue paper against the lacquered surface for 15 seconds, using any pressure capable of being exerted between thumb and two fingers, after which the pressure shall be released and the item inspected to determine compliance with 3.9.4.

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## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

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

6.1 Intended use. Lapel buttons covered by this specification are intended to be worn by government personnel to provide tangible evidence of public recognition of personal acts of heroism performed or valuable services rendered..

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of the specification.
- b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1).
- c. Packaging and marking requirements (see 3.12 and 5.1).
- d. The title, number, and date of the applicable specification sheet (see 1.2 and 2.2.1.)
- e. When a first article is not required (see 3.2).
- f. Type of attaching device required (see 3.7).

6.3 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item should be a preproduction sample, a first production sample or a standard production item from the contractor's current inventory as specified in 4.3. The first article should consist of one completed item. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or tests, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

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6.4 Government-loaned property. The contracting officer should arrange to loan the property listed in 3.5.

6.5 Subject term (key word) listing.

Stamping	Nickel	Acetone
Trimming	Copper	Nitric Acid
Piercing	Silver	Lead
Attaching device	Nickel Silver	Manganese

6.6 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 - IH  
Air Force - 45  
Navy - NU

Preparing activity:

Army - IH

Review activities:

Air Force - 32, 82, 99  
Navy - MC  
Navy - Coast Guard  
DLA - CT

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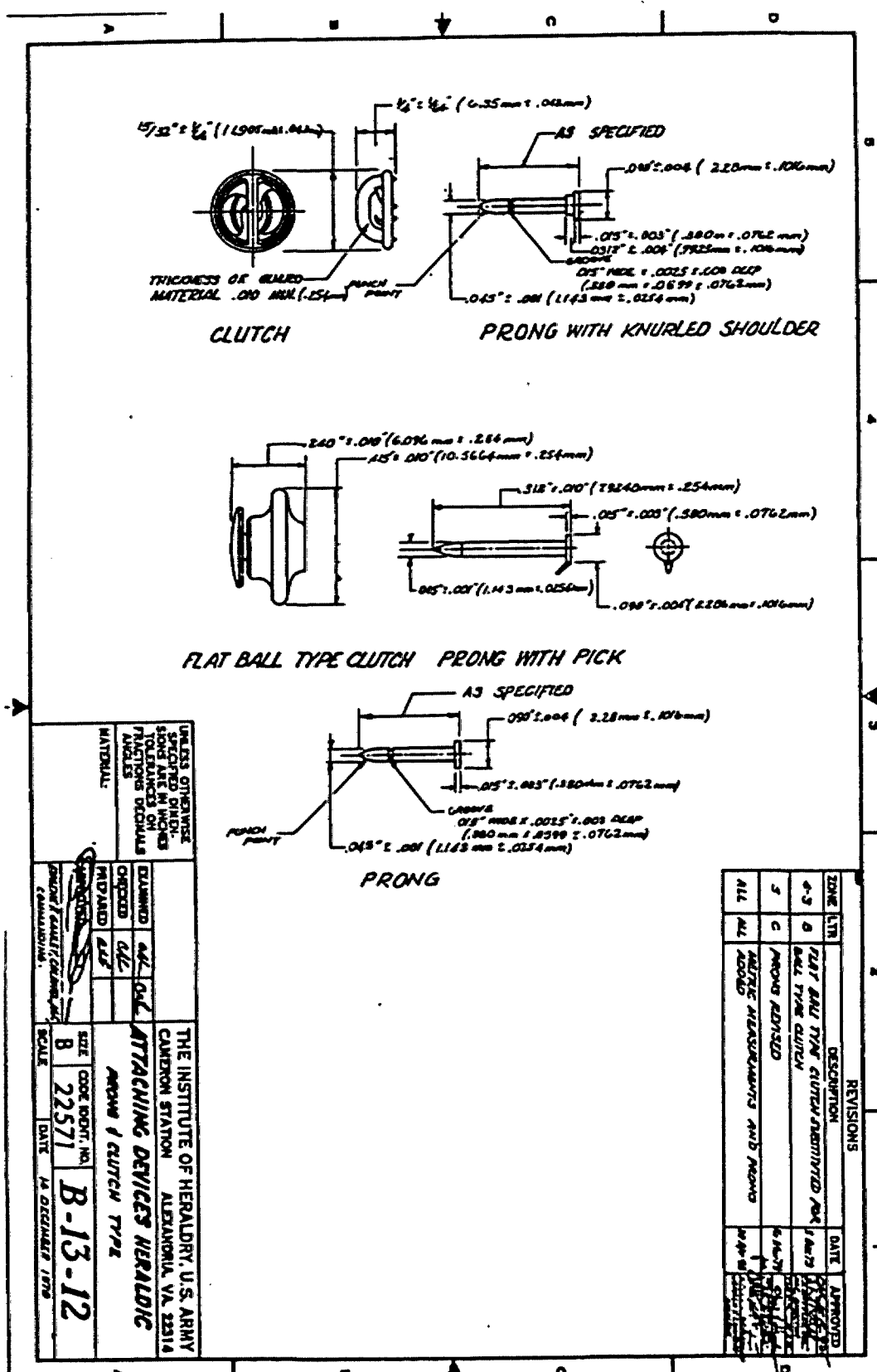


FIGURE 1. Attaching devices heraldic, prong and clutch type.

# 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-DTL-11484G

2. DOCUMENT DATE (YYMMDD)  
990304

3. DOCUMENT TITLE  
LAPEL BUTTONS, 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

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)  
(1) Commercial  
(2) AUTOVON  
(If applicable)

7. DATE SUBMITTED  
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

The Institute of Heraldry, U.S. Army

b. TELEPHONE (Include Area Code)  
(1) Commercial  
(703) 806-4982

(2) AUTOVON  
DSN 656-4982

c. ADDRESS (Include Zip Code)  
Technical and Production Division  
9325 Gunston Road, Bldg. 1466, Rm. S-112  
Fort Belvoir, VA 22060-5579

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 (703) 756-2340 AUTOVON 289-2340