

MIL-P-55149B

14 January 1988

SUPERSEDING

MIL-P-55149A

17 February 1971

**MILITARY SPECIFICATION
POSTS, BINDING, ELECTRICAL (INSULATED AND UNINSULATED),
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 insulated binding posts and uninsulated binding posts with insulated and uninsulated caps.

1.2 Part numbering system. Items procured under this specification shall be identified by the following specification based part number:

M55149/XX - XX - **

_____ Dash number (see 1.2.4)

_____ Insulation code (see 1.2.3)

_____ Non-turn feature (see 1.2.2)

_____ Specification/specification sheet identifier (see 1.2.1)

1.2.1 Specification/specification sheet identifier. The part number specification/specification sheet identifier shall consist of the letter "M", the digits of the specification number "55149", a slash (/), and a two digit numeral which denotes the slash number of the specification sheet covering the item being identified. When the slash number is less than 10, the first digit shall be a zero. Example: M55149/01 is the specification/specification sheet identifier for this specification and for specification sheet MIL-P-55149/1.

1.2.2 Non-turn feature. The non-turn feature code is a single letter code which identifies the method used to prevent the item from turning when installed. The non-turn feature codes are in Table 1.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Laboratory Command, ATTN: SLCET-RS, Fort Monmouth, NJ 07703-5000 or by using the self addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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TABLE I - Nonturn feature.

Symbol	Nonturn feature
D - - - -	Dowel
F - - - -	Flatted boss
K - - - -	Knurled base
N - - - -	Nonturn feature not furnished

1.2.3 Insulation. The insulation code is a single - letter code which identifies the insulation features of binding posts covered by this specification. The insulation codes are listed in Table II

TABLE II - Insulation.

Symbol	Insulation
A - - - -	Insulated
B - - - -	Uninsulated with uninsulated cap
C - - - -	Uninsulated with insulated cap

1.2.4 Dash number. Dash numbers are numbers assigned to binding posts on the applicable specification sheets so every different binding post will have a unique identification number. Dash numbers are usually assigned in sequence (1,2,...) for each different combination of features. A dash number shall be assigned even when there is only one item identified on a specification sheet. When the numbers listed on a specification sheet are less than 10, the first digit in the part number shall be a zero. For example, item number shall be identified with the dash number '01'.

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specification and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

NN-P-71 - Pallet, Material Handling, Wood, Stringer Construction, 2 Way and 4 Way (Partial).
 QQ-B-626 - Brass, Leaded and Nonleaded: Rod, Shapes, Forgings and Flat Product With Finished Edges (Bar and Strip).
 QQ-N-290 - Nickel Plating (Electrodeposited).
 QQ-S-781 - Strapping, Steel, and Seals.
 ZZ-R-765 - Rubber, Silicone.
 PPP-B-566 - Box, Folding, Paperboard.
 PPP-B-601 - Boxes, Wood, Cleated Plywood.
 PPP-B-621 - Box, Wood, Nailed and Lock-corner.
 PPP-B-636 - Box, Shipping, Fiberboard.
 PPP-B-676 - Boxes, Setup.
 PPP-T-60 - Tape, Packaging, Waterproof.
 PPP-T-76 - Tape, Packaging, Paper (For Carton Sealings).

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MIL-P-116 - Preservation, Methods of.
 MIL-T-10727 - Tin Plating, Electrodeposited or Hot-dipped, for Ferrous and Nonferrous Metals.
 MIL-G-45204 - Gold Plating, Electrode Deposited.

STANDARDS

FEDERAL

FED-STD-H28 - Screw Thread Standards for Federal Services
 FED-STD-595 - Colors.

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MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes

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MIL-STD-129 - Marking for Shipment and Storage.
 MIL-STD-147 - Palletized Unit Loads.
 MIL-STD-202 - Test Methods for Electronic and Electrical
 Component Parts.
 MIL-STD-45662 - Calibration Systems Requirements.

2.1.2 Other Government documents. The following other Government document forms a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

Defense Logistics Agency

H4-1 - Commercial and Government Entity (CAGE) Code

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

2.2 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated specification sheets), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede 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 sheets. In the event of any conflict between requirements of this specification and the specification sheet, the latter shall govern.

3.2 Material. The material for each part shall be as specified herein. However, when a definite material is not specified, a material shall be used which will enable the binding posts to meet the performance requirements of this specification. Acceptance or approval of any constituent material shall not be construed as a guaranty of the acceptance of the finished product.

3.2.1 Metal Metal used for the current-carrying portions of binding posts shall be brass conforming to alloy number 360 (half hard) of QQ-B-626

3.2.2 Finish. When specified (see 3.1), metal portions of binding posts shall be plated in such a manner as to meet the performance requirements specified herein (see 3.15). When specified (see 3.1), nickel plate shall be in accordance with QQ-N-290; gold plate shall be in accordance with MIL-G-45204

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3.2.2.1 Finish of solder terminal end. When specified (see 3.1), the solder terminal end shall have a hot-dipped tin coating in addition to the nickel plating. Tin coating shall be type II in accordance with MIL-T-10727.

3.2.3 Compound of rubber insulation caps. When specified (see 3.1), the compound of the insulation caps shall be silicone rubber compound in accordance with class 2, grade 50 or 60 of ZZ-R-765.

3.2.4 Compound of 'O' rings. The compound of the 'O' rings shall be silicone rubber compound in accordance with class 2, grade 50 or 60 of ZZ-R-765.

3.3 Design and construction. Binding posts shall be of the design, construction, and physical dimensions specified (see 3.1). For direct Government purchase, all hardware shall be assembled on the binding post.

3.3.1 Threaded parts. All threaded parts shall be in accordance with FED-STD-H28 and as specified (see 3.1). When threads are required in insulated portions, brass inserts shall be used.

3.3.2 Color of insulated portions. Unless otherwise specified (see 3.1), the color of the insulated portions shall be black No. 17038 or red No. 11136 in accordance with FED-STD-595, as specified (see 3.1).

3.3.3 Caps.

3.3.3.1 Captive screw caps. Captive screw caps shall be free finger turning.

3.3.3.2 Spring caps. Spring caps shall be capable of being actuated by the pressure specified (see 3.1) and shall not bind during movement.

3.4 Cap spring pressure (when specified (see 3.1)). When tested as specified in 4.6.2, the cap spring pressure shall be as specified (see 3.1).

3.5 Dielectric withstanding voltage (when specified (see 3.1)). When tested as specified in 4.6.3, there shall be no evidence of damage, arcing, or breakdown

3.6 Solderability of solder terminal end (when specified (see 3.1)). When tested as specified in 4.6.4, the solder terminal end shall be evaluated as specified for lugs in method 208 of MIL-STD-202.

3.7 Contact resistance (when specified (see 3.1)). When tested as specified in 4.6.5, the potential drop shall be not greater than 0.002 volt

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3.8 Insulation resistance (when specified (see 3.1)). When tested as specified in 4.6.6, the insulation resistance shall be not less than 1,000 megohms.

3.9 Conductor retention (when specified (see 3.1)). When tested as specified in 4.6.7, there shall be no breakage of the binding posts and no visible slipping of the test conductor.

3.10 Panel seal (when specified (see 3.1)). When tested as specified in 4.6.8, there shall be no visible leakage.

3.11 Moisture resistance (unless otherwise specified (see 3.1)). When tested as specified in 4.6.9, there shall be no cracking, chipping, crazing, warping, or stretching of insulated portions.

3.12 Thermal Shock (unless otherwise specified (see 3.1)). When tested as specified in 4.6.10, there shall be no cracking, chipping, crazing, warping, or stretching of insulated portions.

3.13 Vibration (when specified (see 3.1)). When tested as specified in 4.6.11, the continuity shall be maintained, the post shall retain the conductor, and there shall be no damage to the post.

3.14 Shock (specified pulse) (when specified (see 3.1)). When tested as specified in 4.6.12, there shall be no damage, and the contact resistance shall be as specified (see 3.1).

3.15 Salt spray (corrosion). When all binding post types are tested as specified in 4.6.13, there shall be no exposure of base metal or blistering of plated surfaces.

3.16 Torque. When all binding post types are tested as specified in 4.6.14, there shall be no cracking, crazing, chipping, or deforming of insulated portions, no bending, twisting, warping, or cross-threading of metal portions, and screws caps shall remain captive on the posts.

3.17 Life. When all binding post types are tested as specified in 4.6.15, there shall be no loosening of inserts, stripping or disturbing of threads, and no cracking, crazing, or chipping of insulated portions. Cap spring pressure, contact resistance, and conductor retention shall be as specified (see 3.1).

3.18 Cap retention (when specified (see 3.1)). When tested as specified in 4.6.16, the cap shall not become detached from the post and shall not bind during movement. The cap spring pressure and conductor retention shall be as specified (see 3.1).

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3.19 Marking. A label shall be placed inside the unit pack containing the following information, as a minimum:

- (a) Complete military part number.
- (b) Manufacturer's Commercial and Government Entity (CAGE) Code per Cataloging Handbook H4-1.
- (c) Manufacturer's date/lot code.

3.20 Workmanship. Binding posts shall be processed in such a manner as to be uniform in quality, and shall be free from any defects that will affect life, serviceability, appearance, or function.

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

4.1.1 Test equipment and inspection facilities. The manufacturer shall insure that tests and inspection facilities of sufficient accuracy, quality and quantity are established and maintained to permit performance of required inspections. The manufacturer shall establish and maintain a calibration system in accordance with MIL-STD-45662.

4.1.2 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspections set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

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

- (a) **Materials inspection** (see 4.3)
- (b) **Quality conformance inspection** of equipment before packaging (see 4.5).
- (c) **Periodic inspection** (see 4.5.2).
- (d) **Packaging inspection** (see 4.7)

4.3 Materials inspection. Materials inspection shall consist of certification supported by verifying data that the materials listed in table III, used in fabrication of the binding posts, are in accordance with the applicable referenced specifications or requirements prior to such fabrication

TABLE III - Materials inspection.

Material	Requirement paragraph	Applicable specification
Brass	3.2.1	QQ-B-626
Gold Plate	3.2.2	MIL-G-45204
Nickel Plate	3.2.2	QQ-N-290
Tin Plate	3.2.2.1	MIL-T-10727
Silicone Rubber	3.2.3 and 3.2.4	ZZ-R-765

4.4 Inspection conditions. Unless otherwise specified herein, all inspections shall be performed in accordance with the test conditions specified in the 'GENERAL REQUIREMENTS' of MIL-STD-202.

4.5 Quality conformance inspection. Inspection of product for delivery shall consist of group A inspection.

4.5.1 Inspection lot. An inspection lot shall consist of all binding posts of the same type designation, produced under essentially the same conditions, and offered for inspection at one time.

4.5.1.1 Inspection of product for delivery. Inspection of product for delivery shall consist of group A inspection.

4.5.1.2 Group A inspection. Group A inspection shall consist of the examinations and tests specified in table IV, in the order shown.

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4.5.1.2.1 Sampling plan. Statistical sampling and inspection shall be in accordance with MIL-STD-105 for general inspection level II. The acceptable quality level (AQL) shall be as specified in table IV. Major and minor defects shall be as defined in MIL-STD-105.

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

TABLE IV - Group A Inspection.

Examination or test	Requirement paragraph	Method paragraph	AQL	
			percent defective	
			Major	Minor
Visual and mechanical examination	3.1, 3.2 to 3.3.3.2 inclusive and 3.10	4.6.1	1.0	4.0
Cap spring pressure (when specified)	3.4	4.6.2	1.0	---
Dielectric withstanding voltage (when specified)	3.5	4.6.3	1.0	---

4.5.2 Periodic inspection. Periodic inspection shall consist of group B inspection. Except where the results of this inspection show noncompliance with the applicable requirements (see 4.5.2 1.4), delivery of products which have passed group A inspection shall not be delayed pending the results of the periodic inspection. Periodic inspection shall be performed every 12 months.

4.3.2.1 Group B inspection. Group B inspection shall consist of the examinations and tests specified in table V, in the order shown. Group B inspection shall be made on sample units selected from inspection lots which have passed group A inspection. A copy of the periodic inspection test data shall be certified by a responsible company official of the manufacturer and forwarded to the preparing activity for this document (Army-ER) within thirty (30) days of test completion.

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4.5.2.1.1 Sampling plan. Three sample units of a single type designation shall be selected from the first lot, and thereafter, once each month from units produced during that 1-month period. Units of the same style and physical dimensions differing only in insulation color are considered to be of the same type for sampling purposes.

4.5.2.1.2 Failures. If one or more sample units fail to pass group B inspection, the sample shall be considered to have failed.

TABLE V - Group B inspection.

Examination or test	Requirement paragraph	Method paragraph
Solderability of solder terminal end (when specified)	3.6	4.6.4
Contact resistance (when specified)	3.7	4.6.5
Insulation resistance (when specified)	3.8	4.6.6
Conductor retention (when specified)	3.9	4.6.7
Panel seal (when specified)	3.10	4.6.8
Moisture resistance (unless otherwise specified)	3.11	4.6.9
Dielectric withstanding voltage (when specified)	3.5	4.6.3
Contact resistance (when specified)	3.7	4.6.5
Insulation resistance (when specified)	(See 4.6.9)	4.6.6
Thermal shock (unless otherwise specified)	3.12	4.6.10
Vibration (when specified)	3.13	4.6.11
Conductor retention (when specified)	3.9	4.6.7
Shock (specified pulse) (when specified)	3.14	4.6.12
Contact resistance (when specified)	3.7	4.6.5
Salt spray (corrosion)	3.15	4.6.13
Torque	3.16	4.6.14
Life	3.17	4.6.15
Cap spring pressure (when specified)	3.4	4.6.2
Contact resistance (when specified)	3.7	4.6.5
Conductor retention (when specified)	3.9	4.6.7
Cap retention (when specified)	3.18	4.6.16
Cap spring pressure	3.4	4.6.2
Conductor retention	3.9	4.6.7

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4.5.2.1.3 Disposition of sample units. Sample units which have been subjected to group B inspection shall not be delivered on the contract or purchase order.

4.5.2.1.4 Noncompliance. If a sample fails to pass group B inspection, the manufacturer shall notify the preparing activity and the cognizant inspection activity of such failure and take corrective action on the materials or processes, or both, as warranted, and on all units of product which can be corrected and which were manufactured with essentially the same materials and processes, and which are considered subject to the same failure. Acceptance and shipment of the product shall be discontinued until corrective action acceptable to the Government, has been taken. After the corrective action has been taken, group B inspection shall be repeated on additional sample units (all inspections, or the inspection which the original sample failed, at the option of the Government). Group A inspection may be reinstituted; however, final acceptance and shipment shall be withheld until the group B inspection has shown that the corrective action was successful. In the event of failure after reinspection, information concerning the failure shall be furnished to the cognizant activity and the preparing activity.

4.6 Methods of examination and test.

4.6.1 Visual and mechanical examination. Binding posts shall be examined to verify that the design, construction, physical dimensions, and workmanship are in accordance with the applicable requirements; that screw caps are free finger turning, and spring caps do not bind during movement (see 3.1, 3.2 to 3.3.2, inclusive, and 3.19).

4.6.2 Cap spring pressure (when specified (see 3.4)). The cap shall be depressed to its maximum position by applying an axial compressive force in the center of the cap top, using a 5 or 10 pound (as required) L-5 Ametek Inc., Hunter Spring Division scale, or equal. The pressure shall then be gradually released at the rate of 4 pounds per minute. When the cap has returned approximately 0.015 inch from its fully depressed condition, the remaining spring pressure shall be recorded.

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4.6.3 Dielectric withstanding voltage (when specified (see 3.5)). Insulated binding posts shall be tested in accordance with method 301 of MIL-STD-202. The following details and exception shall apply:

- (a) Special preparations or conditions - The binding post shall be mounted on a 0.125 inch thick, bare metal test mount. For posts with flatted bosses, the test-mount hole shall be as specified (see 3.1). Additional special preparations or conditions shall be as specified (see 3.1).
- (b) Magnitude of test voltage - As specified (see 3.1). The harmonic content of the voltage shall not exceed 0.50 percent of the fundamental waveform.
- (c) Duration of application of test voltage - 1 minute \pm 5 seconds.
- (d) Points of application of test voltage - Unless otherwise specified (see 3.1), between the conductor accommodation and the test mount.
- (e) Examination during and after dielectric withstanding voltage test - Posts shall be examined for evidence of damage, arcing, and breakdown.

4.6.4 Solderability of solder terminal end (when specified (see 3.6)). The binding post shall be tested in accordance with method 208 of MIL-STD-202.

4.6.5 Contact resistance (when specified (see 3.7)). A solid AWG size 16 copper conductor shall be inserted in the contact cavity, and a test current of 1 ampere shall be passed through the contact. The contact resistance shall be determined by measuring the potential drop at the extreme terminal end of the post and at the closest exposed portion of the conductor.

4.6.6 Insulation resistance (when specified (see 3.8)). The binding post shall be tested in accordance with method 302 of MIL-STD-202. The following details shall apply:

- (a) Test condition - A.
- (b) Points of measurement - Between mutually insulated portions

4.6.7 Conductor retention (when specified (see 3.9)). The binding post shall be tested in accordance with method I or II, as specified (see 3.1).

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4.6.7.1 Method I. A solid or stranded AWG size 16 conductor shall be inserted in the contact cavity. A 5-pound pull shall then be applied to the conductor in a direction along the conductor and perpendicular to the gripping action and shall be observed for evidence of slippage.

4.6.7.2 Method II. The assembled binding post shall be mounted on a test panel. A test bar, .062 inch diameter drill rod, 3 inches long, closed at one end with a 0.25 inch diameter loop bent so that its center is common to the axis of the bar shall be heat treated to a hardness of 45-50 on the Rockwell 'C' scale. This bar, free of any burrs, shall have a 32 micro-finish (minimum). The test bar shall be inserted between the jaws allowing 0.50 inch projecting from the free end. A spring scale shall be hooked to the loop of the bar, and a pull force shall be applied to the scale along the axis of the bar. The force shall develop a tension of no less than 2.5 pounds and no more than 10 pounds on the spring scale.

4.6.8 Panel seal (when specified (see 3.10)). The binding post shall be mounted by normal means on a panel of a pressure vessel or similar device such that the contact end of the binding post is immersed for 24 hours in tap water to a depth equivalent to 6 feet. The terminal end of the post shall then be examined for leakage through the mounting hole or through the metal to insulation seal.

4.6.9 Moisture resistance (unless otherwise specified (see 3.11)). The binding posts shall be tested in accordance with method 106 of MIL-STD-202. The following details and exception shall apply:

- (a) Mounting - The binding post shall be mounted on a 0.125 inch thick, bare-metal test mount. For posts with flatted bosses, the test-mount hole shall be as specified (see 3.1).
- (b) Initial measurements - Not applicable.
- (c) Final measurements - Following step 6 of the cycle, the binding posts shall be maintained at a

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temperature of 25 ± 2 C and a relative humidity of 90 to 98 percent for a period of 1.5 to 3.5 hours, after which the dielectric withstanding voltage and contact resistance shall be as specified (see 3.5 and 3.7, respectively) and the insulation resistance shall be not less than 100 megohms

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4.6.10 Thermal shock (unless otherwise specified (see 3.12)). The binding posts shall be tested in accordance with method 107 of MIL-STD-202. The following details shall apply:

- (a) **Special mounting** - The binding post shall be mounted on a 0.125 inch thick, bare-metal test mount. For posts with flatted bosses, the test-mount hole shall be as specified (see 3.1).
- (b) **Test condition** - A.
- (c) **Measurements after cycling** - A solid, AWG size 16, copper conductor shall be connected to and disconnected from the post. With the conductor in the mated position, continuity shall be measured. The posts shall then be examined for cracking, chipping, crazing, warping, and stretching of insulated portions.

4.6.11 Vibration (when specified (see 3.13)). The binding posts shall be tested in accordance with method 201 of MIL-STD-202. The following details and exceptions shall apply:

- (a) **Test and measurements prior to vibration** - Not applicable.
- (b) **Method of mounting** - The binding post sample shall be mounted by its normal mounting means on a 0.125 inch thick panel. The panel shall be rigidly mounted to and parallel with the vibration platform in such a manner that a two foot length of AWG 16 conductor can be inserted through the contact cavity by 0.25 inch with the other end of the conductor secured to a stable support 12 inches external to the vibration platform with all slack or tension removed.
- (c) **Tests and measurements during and after vibration** - Continuity shall be measured. The conductor retention shall be as specified (see 3.9). The post shall then be examined for damage.

4.6.12 Shock (specified pulse (see 3.14)). The binding posts shall be tested in accordance with method 213 of MIL-STD-202. The following details shall apply:

- (a) **Mounting** - The binding post shall be mounted on a 0.125 inch thick, bare-metal test mount. For posts with flatted bosses, the test mount hole shall be as specified (see 3.1).
- (b) **Test condition** - I

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- (c) Measurements after shock - The post shall be examined for damage. Contact resistance shall be as specified (see 3.7).

4.6.13 Salt spray (corrosion (see 3.15)). The binding posts shall be tested in accordance with method 101 of MIL-STD-202. The following details shall apply:

- (a) Test condition - B.
- (b) Measurement after exposure - Posts shall be examined for exposure of base metal and blistering of plated surfaces.

4.6.14 Torque (see 3.16). The binding posts shall be tested as specified in 4.6.14.1 or 4.6.14.2, as applicable. The binding post shall be mounted on a 0.125 inch thick, bare-metal test mount. For posts with flatted bosses, the test-mount hole shall be as specified (see 3.1). After the test, the posts shall be examined for cracking, crazing, chipping, and deforming of insulated portions, and for bending, twisting, warping, and cross-threading of metal portions. Screw caps shall be examined for their remaining captive on the posts.

4.6.14.1 Screw-cap binding posts. Screw-cap binding posts shall be subjected to a torque of 12 inch-pounds in the following manner:

- (a) With the cap screwed down, the torque shall be applied to the cap in a clockwise direction.
- (b) With the cap at the upper limit of travel, the torque shall be applied to the cap in a counter-clockwise direction.

4.6.14.2 Spring-cap binding posts. Spring-cap binding posts shall be subjected to a torque of 12 inch-pounds applied to the cap in a clockwise direction.

4.6.15 Life (see 3.17). The binding posts shall be tested as specified in 4.6.15.1 or 4.6.15.2, as applicable. The binding post shall be mounted on a 0.125 inch thick, bare-metal test mount. For post with flatted bosses, the test-mount hole shall be as specified (see 3.1). After the test, the cap spring pressure, contact resistance, and conductor retention shall be as specified (see 3.4, 3.7, and 3.9 respectively). The binding posts shall then be examined for loosening of inserts, stripping and disturbing of threads, and cracking, crazing, and chipping of insulated portions.

4.6.15.1 Screw-cap binding posts. Screw-cap binding posts shall be subjected, 1,000 times to a torque of 3 inch-pounds in the following manner:

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- (a) With the cap at the upper limit of travel, the torque shall be applied to the cap in a counter-clockwise direction.
- (b) With the cap screwed down, the torque shall be applied to the cap in a clockwise direction.

4.6.15.2 Spring-cap binding posts. A solid, AWG size 16 conductor shall be connected to and disconnected from the binding post 1,000 times.

4.6.16 Cap retention (when specified (see 3.18)). The binding posts shall be held in a fixed position by gripping the upper half of the cap. An axial pull of 10 pounds shall then be applied to the terminal end of the post. The cap spring pressure and conductor retention shall be as specified (see 3.4 and 3.9, respectively), and the cap shall be examined for binding during movement.

4.7 Packaging inspection. Packaging inspection requirements specified herein are classified as follows:

- a. First Article Inspection of Packaging.
- b. Quality Conformance Inspection of Packaging.

4.7.1 First Article Inspection of Packaging. Unless otherwise specified in the contract, First Article Inspection of Packaging shall be in accordance with the Unit Pack Design Validation Requirements of MIL-P-116.

4.7.2 Quality Conformance Inspection of Packaging.

4.7.2.1 Materials inspection. All materials to be used in packaging shall be inspected in accordance with the applicable material specification.

4.7.2.2 Preservation inspection. Inspection of preservation and interior markings shall be in accordance with group A and B Quality Conformance Inspection Requirements of MIL-P-116. Lot formation and sampling procedures shall be as specified therein.

4.7.2.3 Packing inspection. Inspection of packing and the marking for shipment and storage shall consist of the examinations specified in Table VI, "PACKING INSPECTION PROVISIONS." Lot formation shall consist of all packs made of the same materials during an identifiable period and submitted at one time for acceptance. Sampling procedures shall be in accordance with MIL-STD-105, using a single sampling plan and Acceptable Quality level of 4.0 percent defective.

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TABLE VI - PACKING INSPECTION PROVISIONS.

NO.	CHARACTERISTIC	INSPECTION
101	Intermediate container not as specified	Visual
102	Improper closure of intermediate container	Visual
103	Shipping containers not in accordance with specification	Visual
104	Excessive cube	Visual
105	Improper blocking and bracing	Visual
106	Closure not in accordance with specification	Visual
107	Weight and size exceed container limitations	Weight & Measure
108	Strapping not in accordance with specification, incorrectly applied, omitted	Visual
109	Marking omitted, incorrect, or illegible	Visual

5. PACKAGING

5.1 Preservation. Preservation shall be level A or C, as specified (see 6.1).

5.1.1 Level A.

5.1.1.1 Cleaning. Binding posts shall be cleaned in accordance with MIL-P-116, process C-1.

5.1.1.2 Drying. Binding posts shall be dried in accordance with MIL-P-116.

5.1.1.3 Preservative application. Preservatives shall not be used.

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5.1.1.4 Unit packaging. Unless otherwise specified (see 6.1), binding posts shall be individually packaged in accordance with MIL-P-116, submethod IC-3 insuring compliance with the general requirements paragraph under methods of preservation (unit protection) and the physical protection requirements paragraph therein.

5.1.1.5 Intermediate packaging. Binding posts, packaged as described in 5.1.1.4, shall be placed in intermediate containers conforming to PPP-B-566 or PPP-B-676. Intermediate containers shall be uniform in size, shape and quantities, shall be of minimum tare and cube and shall contain multiples of five unit packages, not to exceed 50 unit packages. No intermediate packaging is required when the total quantity shipped to a single destination is less than 50 unit packages.

5.1.2 Level C. Binding posts shall be clean, dry and individually packaged in a manner that will afford adequate protection against corrosion, deterioration and physical damage during shipment from supply source to the first receiving activity.

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

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

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

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

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

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5.2.4.1 Level A. Binding posts, packed as specified in 5.2.1, shall be unitized on pallets in conformance with MIL-STD-147, load type I, with a fiberboard cap (storage aid 4) positioned over the load.

5.2.4.2 Level B. Binding posts, packed as specified in 5.2.2, shall be unitized as specified in 5.2.4.1 except that the fiberboard caps shall be class domestic.

5.2.4.3 Level C. Binding posts, packed as specified in 5.2.3, shall be unitized with pallets and caps of the type, size and kind commonly used for the purpose and shall conform to the applicable carrier rules and regulations.

5.3 Marking. In addition to any other special marking required by the contract or order (see 6.1), each unit package, intermediate and exterior container and unitized load shall be marked in accordance with MIL-STD-129. The type designation (see 1.2.1) shall be marked on all interior packages in accordance with the special marking requirements of MIL-STD-129.

5.4 General.

5.4.1 Exterior containers Exterior containers (see 5.2.1, 5.2.2 and 5.2.3) shall be of a minimum tare and cube consistent with the protection required and shall contain equal quantities of identical stock numbered items to the greatest extent practicable.

5.4.2 Army procurements.

5.4.2.1 Level A Unit and Intermediate Packs. Submethod IC-1 shall be used in lieu of IC-3. When the exterior surface of the unit pack is a bag of any type or the unit pack is less than 64 cubic inches, uniform quantities, bearing the same stock number, shall be placed in intermediate containers conforming to PPP-B-636, class weather-resistant, PPP-B-566, or PPP-B-676. Containers conforming to PPP-B-566 or PPP-B-676 shall be overwrapped with waterproof barrier materials. Intermediate containers shall contain multiples of five unit packs not to exceed 100 unit packs and shall be limited to a net load of 40 lbs (18.144 kilograms), or a maximum volume of 1.5 cubic feet (0.0425 cubic meter). No intermediate packs are required when the total quantity shipped to a single destination will result in only one intermediate pack per shipping container.

5.4.2.2 Packing. Packing shall be level A, or B, as specified (see 6.1).

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5.4.2.2.1 Level A. Binding posts, unit or intermediate packed as specified, shall be packed in wood containers conforming to PPP-B-601, overseas type or PPP-B-621, class 2. Closure and strapping shall be in accordance with the applicable container specification except that metal strapping shall conform to QQ-S-781, type I, finish A. The requirements for level B packing shall be used when the total quantity of a stock numbered binding post for single destination does not exceed a packed volume of one cubic foot (0.02832 cubic meter).

5.4.2.2.2 Level B. Binding posts, unit or intermediate packed as specified, shall be packed in fiberboard containers conforming to PPP-B-636, class weather-resistant, style optional, special requirements. The requirements for box closure, waterproofing and reinforcing shall be in accordance with method V of the PPP-B-636 appendix

5.4.2.2.3 Unitized loads. Unless otherwise specified (see 6.1), unitized loads, commensurate with the level of packing specified in the contract or purchase order, shall be used whenever total quantities for shipment to one destination equal 40 cubic feet (1.1328 cubic meters) or more. Quantities less than 40 cubic feet need not be unitized. Unitized loads shall be uniform in size and quantities to the greatest extent practicable.

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

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification
- (b) Title, number, and date of the applicable specification sheet, and the complete part number and quantity to be provided (see 1.2 and 3.1).
- (c) Level A, or B preservation and packing (see section 5).
- (d) When first article rough handling tests are not required.
- (e) When first article packaging inspection reports require Acquisition Activity approval prior to production unit packing

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6.2 Selection information. Equipment designers should refer to MIL-STD-1277, 'Splices, Chips, Terminals, Terminal Boards, Binding Posts; Electrical,' for a selection of standard binding post types preferred for use in new equipment design.

6.3 Key word listing.

Binding Posts
 Binding Posts (insulated)
 Binding Posts (Uninsulated)
 Posts, Binding
 Posts, Electrical

6.4 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Custodians:

Army - ER
 Navy - SH
 Air Force - 85

Preparing activity:

Army - ER

Review activities:

Army - AT, MI
 Navy -
 Air Force - 99
 DLA - GS

(Project 5940-1006)

User activities:

Army - ME
 Navy - AS, MC, OS
 Air Force

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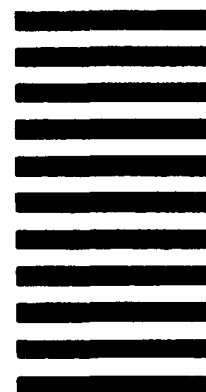
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