

MIL-P-80249A
 22 March 1982
 SUPERSEDING
 MIL-P-80249
 28 December 1973

MILITARY SPECIFICATION

PLATING UNITS, SELECTIVE (BRUSH), PORTABLE

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

1. SCOPE

1.1 Scope. This specification covers selective plating equipment for use in electro-deposition of metals and alloys in plating, anodizing and electro-milling processes.

1.2 Classification. The plating units shall be of the following sizes. The size required shall be as specified (see 6.2.1):

D.C. POWER OUTPUT		
Size	Amperage	Voltage
1	0-15	0-20
2	0-25	0-25
3	0-30	0-25
4	0-30	0-30
5	0-50	0-50
6	0-60	0-35
7	0-100	0-40
8	0-150	0-40
9	0-300	0-20
10	0-500	0-18

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Industrial Plant Equipment Center, Memphis, Tennessee, 38114, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

MIL-P-80249A

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Standards. Unless otherwise specified, the following standards of the issue in effect on the date of invitation for bids or request for proposal form a part of this specification to the extent specified herein.

FEDERAL

FED-STD-H28 - Screw-Thread Standards for Federal Services

MILITARY

MIL-STD-1188 - Industrial Packaging of Supplies and Equipment

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

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

U. S. DEPARTMENT OF LABOR

OSHA 2206 - General Industry, OSHA Safety and Health Standards
(29 CFR 1910)

Title 29 Code of Federal
Regulations, Chapter XVII,
Part 1910, and Amendments

Occupational Safety and
Health Administration
Standards

(Applications for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

2.2 Other publications. The following non-Government documents of the issue in effect on the date of invitation for bids or request for proposal form a part of this specification to the extent specified herein.

* AMERICAN SOCIETY FOR TESTING AND MATERIALS

ASTM-380 - Metric Practice

MIL-P-80249A

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

NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION (NEMA) STANDARDS

ICS-1 Industrial Control Systems

(Applications for copies should be addressed to the National Electrical Manufacturers' Association, 2101 L Street, NW, Washington, DC 20037.)

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

3. REQUIREMENTS

3.1 First article. When specified (see 6.2.1), the contractor shall furnish one plating unit of each size specified in the contract or order for first article inspection and approval (see 4.3 and 6.3).

* 3.2 Design. The plating units and equipment provided in accordance with this specification shall be of the manufacturer's standards commercial product, shall be new and include any additional features necessary to comply with the requirements specified herein. Additional features which are not specified herein that are a part of the manufacturer's standard product shall be included in the equipment furnished. A standard commercial product is a product which has been sold on the commercial market through advertisements, manufacturer's catalogs or brochures and represents the manufacturer's latest production models. Basically, the plating units shall consist of a power pack with controls, meters, flexible cables and safety cut-out devices, with accessories such as plating tools and anodes, as specified in the contract or purchase order. Design of the plating unit shall provide for direct current (DC) to be conducted by a flexible cable from the power pack to the anode. A second flexible cable shall connect the workpiece to the power pack to make the workpiece the cathode. The power pack shall be compact, portable or mobile, and capable of being bench mounted with all controls and meters integrally mounted. Each power pack shall be provided with sufficient handles or handholds for easy handling.

* 3.2.1 Safety and health requirements. The plating unit shall be provided with safety features and devices for the protection of personnel, equipment and the work being processed. Required operations which may create personnel hazards or result in damage to equipment or work shall be noted on a caution plate and attached to the front of the power pack. Each power pack shall be provided with an automatic instantaneous safety

MIL-P-80249A

AC/DC cut-out switch. Each plating unit shall comply with the standards promulgated under OSHA 2206 as applicable to the plating equipment itself. Exceptions and additional requirements for safety and health shall be as specified (see 6.2.1 and 6.4).

3.2.2 Material. All material used in fabrication of the plating unit and related equipment shall be of the quality necessary to produce a plating unit to meet the requirements described herein. Materials that are exposed to plating, etching and cleaning solutions shall be resistant to the solutions normally used with this type equipment.

* 3.2.3 Reclaim materials. The plating unit may contain reclaimed materials provided such materials will not jeopardize the unit's intended use and performance. The reclaimed materials shall have been reprocessed remanufactured or recycled in a manner which will restore them to the same chemical composition and physical properties as new materials that normally would be selected to fabricate the units.

* 3.2.4 Measurement systems. Unless otherwise specified, either the U. S. Customary System of Units (US) or the International System of Units (SI) may be used in the design and construction of the plating units. When only one system of measurements is acceptable, the particular system required shall be as specified (see 6.2.1). In this specification, all measurements, dimensions, sizes and capacities are given in the U. S. Customary System of Units (US). These measurements may be converted to the International System of Units (SI) through the use of the conversion factors and methods specified in ASTM-380.

3.2.5 Interchangeability. All parts shall be manufactured to such standards as will permit replacement or adjustment without modification of parts or plating unit.

3.2.6 Accessibility. All parts subject to wear, breakage or distortion and all parts which require periodic lubrication or maintenance shall be accessible for adjustment, replacement or lubrication as applicable.

3.3 Construction. The plating unit shall be constructed so that when installed and connected to the required supply sources, it can be used for any purpose described herein. All parts and accessory equipment shall be functionally suitable for the purpose intended.

3.3.1 Welding, brazing or soldering. Welding, brazing or soldering shall be employed only where these operations are required in the original design. These operations shall not be employed as repair measures for defective parts.

MIL-P-80249A

3.3.2 Fastening devices. All screws, pins, bolts and similar fastening devices shall be installed with means for preventing loss of tightness. Such parts subject to removal or adjustment shall not be swaged, peened, staked or otherwise permanently deformed. Buzzers or other vibrating devices shall not be mounted on meter mounts.

3.3.3 Surfaces. All surfaces of molded parts, stampings and welded parts shall clean and free from dirt, fins, sprues, scale, flux and other harmful or extraneous materials. External surfaces shall be smooth and all edges shall be either rounded or beveled unless sharpness is required to perform a necessary function.

3.3.4 Painting. The plating unit shall be primed and painted with an acid and alkaline resistant paint in accordance with the manufacturer's standard commercial practice.

* 3.3.5 Threads. All threaded parts shall conform to FED-STD-H28.

3.3.6 Plates. All words on instruction and indicating plates shall be in the English language. Characters shall be engraved, etched, embossed or stamped in boldface on a contrasting background.

* 3.4 Electrical requirements. The plating units shall be furnished complete with all electrical system pre-wired for operation upon connecting to source of power. Each unit shall operated from a single source primary power supply, and conform to NEMA Standard ICS-1. All controls operating on AC voltage shall operate on nominal 115 volts.

3.4.1 Input power. Unless otherwise specified (see 6.2.1), the size 1 unit shall operate on a nominal 115V, 60 Hz, single phase power input, and size 2 and larger units shall operate on 230V, 60 Hz, single phase, power input.

3.4.2 Suppression of radio interference. When required, radio interference suppression shall be as specified (see 6.2.1).

3.5 Performance. Each plating unit shall be rated at 100% continuous duty, capable of being operated continuously at the maximum voltage and ampere output specified for the size unit. When required, the ripple in the output voltage shall be controlled to the percentage specified (see 6.2.1). The ripple shall be controlled through the output voltage range and shall not exceed the percentage specified.

3.6 Components.

MIL-P-80249A

3.6.1 Power pack. The power pack shall include a transformer-rectifier of the air cooled silicon diode or saturable core reactor design, an on-off switch, a forward-reverse current switch, an automatic instantaneous DC-AC cut-out switch, electrical leads and on-off lights. Size 2 and larger units shall also be provided with amp-hour meter. The overall dimensions and weight of the power pack shall not exceed the dimensions and weight specified in Table I for each size unit. The amperage out-put shall be not less than specified for each size unit.

Table I
Power Pack Dimensions and Weight

Size	Outside Dimensions (inches)	Weight (lbs)
1	12 x 12 x 18	50
2	12 x 14 x 18	100
3	18 x 20 x 24	125
4	18 x 20 x 24	125
5	20 x 20 x 24	125
6	20 x 20 x 24	135
* 7	21 x 24 x 30	260
* 8	21 x 24 x 35	325
* 9	21 x 24 x 35	340
* 10	24 x 26 x 54	500

* 3.6.2 Power input terminals and leads. The size 1 unit shall be provided with one or more sets of outlet terminals and leads. The size 2, 3, 4, 5 and 6 units shall be provided with not less than 2 sets of outlet terminals and 2 sets of leads. One set of leads for size 5 and 6 units shall be rated at 25 ± 5 amperes and one set rated at maximum output. The size 7 and larger units shall be provided with not less than 3 sets of outlet terminals and 3 sets of leads, with one set rated for 25 ± 5 amperes, one set rated for either 50 or 60 amperes and one set rated for maximum output. The leads rated for 100 and larger amperes shall be provided with twist lock type connections for connecting to the work tools. All leads shall be provided with the necessary terminal connections and clamps.

MIL-P-80249A

TABLE II
Type A, Air-Cooled Anodes

Dimensions in Inches

Style, Cylindrical			Style, Flat			Style, Concave		Style, Convex	
Exposed Length	Diameter	Length	Width	Thickness	Width	Inside Dia.	Width	Outside Dia.	
2	3/128	2	1/8	1/64	1	1	1-1/4	1	
2	3/64	2	1/4	1/32	1	1-1/2	1-1/4	1-1/2	
2	3/32	1-1/2	1	3/4	1	2	1-1/4	2	
2-1/4	3/16	2-1/4	1-1/2	3/4	1	2-1/2	2	3	
3	3/16	2-1/2	2-1/2	1	1-1/4	1	2	4	
2-1/4	1/4	3	1	3/4	1-1/4	1-1/2	2	5	
3	1/4	3	2	3/4	1-1/4	2			
3	5/16	3-1/2	1	2	2	2-1/2			
3	3/8	3-1/2	2-1/2	1	2	3			
3	1/2	3-1/2	2-1/2	1-3/8	2	3-1/2			
3	3/4	3-1/2	3-1/2	1	2	4			
1	1	4	3	1-3/4	2	5			
2	1-1/8	4-1/2	3	1-3/4					
2	2-1/8	4-1/2	4-1/2	1					
2	3-1/4	5	1	3/4					
3-1/2	3/8								
3-1/2	3/4								

MIL-P-80249A

TABLE III
Type B, Solution-Fed Anodes

Dimensions in Inches

Style, Cylindrical		Style, Flat		Style, Concave		Style, Convex		
Length	Diameter	Length	Width	Thickness	Width	Inside Diameter	Width	Outside Dia.
2-1/8	3-1/8	1-1/2	1	3/4	1	1	1-1/4	1
3	3-3/4	2-1/4	1-1/2	3/4	1	1-1/2	1-1/4	1-1/2
3-3/4	1-1/8	2-1/2	2-1/2	1	1-1/4	1	1-1/4	2
3-3/4	1-1/2	3	2	3/4	1-1/4	2	2	3
3-3/4	1-5/8	3-1/16	3-1/2	1	1-1/2	1-1/4	2	4
3-3/4	2	3-1/2	2-1/2	1	1	2	2	5
3-3/4	2-1/8	3-1/2	2-1/2	1-3/8	1	2-1/2	2-1/2	3-3/4
3-3/4	2-1/2	3-1/2	3-1/2	1-1/2	2	2-1/2	2-1/2	4
3-3/4	3	4	3	1-3/4	2	3	3	
		4	3	2	2	3-1/2		
		4-1/2	4-1/2	1	2	4		
		6	4	2				

MIL-P-80249A

Unless otherwise specified, all output leads shall be 8 feet \pm 1/2 foot in length. When required, longer leads shall be provided with the length being as specified (see 6.2.1). The input power cable shall be of the 3 or 4 conductor type at least 6 feet in length with a NEMA standard plug.

3.6.3 Meters. The voltmeter and ammeter shall have scale range for reading the full voltage and ampere output of the unit. The voltmeter scale shall be graduated in increments of not greater than one volt, with the spacing of numbered marks not greater than five volts. The voltmeter shall be accurate within \pm 1 volt. The ammeter scale shall be graduated in increments of not greater than one ampere, with the spacing of numbered marks not greater than five amperes. The ammeter shall be accurate within \pm 2 percent of the current being measured. Size 2 and larger units shall be provided with a dual range ammeter.

* 3.6.4 Ampere hour meter. The ampere hour meter shall be of the reset, digital type. The meter for sizes 2, 3, 4, 5 and 6 shall be readable to 0.001 ampere hour, and sizes 7 and larger units shall be readable to not greater than 0.01 ampere hour. The meters shall have an accuracy of \pm 1% of the reading. The meters shall be resettable to zero, and shall be capable of totalizing at least 8 hours of plating at maximum ampere output. When specified (see 6.2.1), the meter shall provide for selecting a predetermined amount of ampere hours and shall activate an audible or visible signal when the preset output is reached. When specified (see 6.2.1), the size 1 unit shall be provided with an ampere hour meter readable to 0.001 ampere hour.

* 3.6.5 Reverse current switch. The reverse current switch shall be located on the front of the plating unit cabinet, and easily accessible to the operator. Unless otherwise specified, the switch may be either of the push button electrically operated type, manually operated knob type, or manually operated rocker type.

3.6.6 Plating tools. When required, plating tools shall be furnished. The type, air cooled or solution flow through, and the number of each required shall be as specified (see 6.2.1). The anode and plating tool connection shall be threaded and provided with a gasket or "O" ring to prevent solution from entering the tool holder socket. All air cooled tool holders shall be provided with aluminum or stainless steel radiation fins between the handle and anode or be constructed in such a manner as to insure the operator no discomfort due to heat. The plating tool handle shall be constructed of a heat-resistant material. The solution-fed plating tool shall be designed for the solution to flow through the tool anode or through the anode to the work area.

MIL-P-80249A

3.6.7 Anodes. When required, anodes shall be provided and may be selected from types and sizes listed in Tables II and III. The type, air cooled or solution-fed; style, round, flat, etc.; anode working surface dimension, and the number of each required shall be as specified (see 6.2.1). Anodes smaller in diameter than 3/16" or less than 3/16" in thickness shall be 90% platinum - 10% iridium material or platinum plated titanium material. All other anodes shall be high purity graphite material. The graphite material shall be of a purity that will prevent contamination of the plating solutions, shall be resistant to heat and chemical actions of the solutions, and of a density to resist breakage.

3.6.8 Process instruction manual. A process instructional manual shall be provided with each plating unit. The manual shall provide general detail information for preparing the surfaces of metals to be plated, plating characteristics such as amp-hrs, voltage range, thickness control, plating rate, current density, anode to cathode speed, recommended ventilation requirements, safe storage, handling and storage life of solutions, types of solutions and intended use, etc. This manual is in addition to the technical information normally required for installation, operation and maintenance of the equipment.

3.6.9 Workbench. When specified (see 6.2.1), a workbench shall be provided. The workbench shall consist of a working area, sink, air and water piping, electrical service, storage cabinets and drawers. The bench shall not be less than 8 feet wide, 30 inches deep and 36 inches high. The working area shall be covered with chemical resistant synthetic stone or chemically resistant molded plastic resin. The sink shall be chemical resistant synthetic stone or chemically resistant molded plastic resin and shall not be less than 21 by 15 by 6 1/2 inches, with water faucet valves. A foot-controlled mixing faucet valve shall be provided for hot, cold or warm water, and the bench shall have built-in plumbing, an air line and at least two 115 volt, AC electrical double outlets.

3.6.10 Turning head. When specified (see 6.2.1), a turning head shall be provided. The turning head shall be powered by not less than a 1/4 HP, 120 volt, 60 Hz motor and shall be provided with six-inch, three-jaw, inside and outside self-adjusting chuck, a forward-reverse switch and a stepless speed control from 0 to not less than 400 RPM.

3.6.11 Solution pump. When specified (see 6.2.1), a solution pump shall be provided. The pump shall be of the peristaltic type, electric motor driven, with means to adjust the flow rate, and shall include all necessary solution hoses, couplings and power cable. The flow rate in gpm shall be as specified.

MIL-P-80249A

3.6.12 Mobile cart. When specified (see 6.2.1), a mobile cart shall be provided. The cart shall be of steel construction and of adequate size to convey the plating unit with storage space for plating tools, solutions, means for storing electrical cables, etc. The cart shall be mounted on four casters, at least three inch size, with two swiveled and two fixed, or all swiveled.

3.6.13 Rotary power tools. When specified (see 6.2.1), rotary power tools shall be provided. The tool shall be nominal 120 volts, 60 Hz, AC, with a forward-reverse switch and stepless speed control with a range from 0 to 900 RPM. When specified (see 5.2.1), the tools shall be provided with flow-through capability.

3.6.14 Solutions. When required, plating, preparatory, stripping and coating solutions shall be provided. The type, such as cadmium (acid or alkaline), the minimum metal content in ounces/qt or grams/liter, the intended use and the quantity required, shall be as specified (see 6.2.1 and 6.5).

3.6.15 Portable ammeter. When required, a portable ammeter shall be provided and shall be either 0-1 amp range or 0-5 amp range as specified (see 6.2.1). The meter shall be provided with an automatic circuit breaker and designed for connecting in series with the plating unit output leads to give fine amperage control when using large plating units with small tools.

3.6.16 Optional equipment. When required, the following optional accessories, material and equipment shall be furnished in the quantity and characteristics as specified (see 6.2.1).

- (1) Covering for anodes; such as cotton or dacron batting, dacron felt, polypropylene wool, or orlon cloth; and surgical tubing: 100% cotton, 2/3 dacron, 1/3 cotton, or dacron as specified.
- (2) Gloves; thin polyethylene, disposable (normally 50 per box).
- (3) Trays; hard rubber or plastic.
- (4) Tape for masking; tape, width, color; normally furnished in 36, 60, 72 and 110 yd rolls.
- (5) Power leads; specify ampere rating and length.

MIL-P-80249A

- (6) Plating tool racks or stylus holder: each rack shall hold at least 10 tools of the largest size used with the unit. Rack shall be constructed of plastic material.
- (7) O rings or gasket seals; between anode and tool.
- (8) Graphite block material; of the same grade and purity required for the anodes.
- (9) Portable ampere-hour meter.
- (10) Micro-processor thickness control unit.

3.7 Nameplate. A corrosion-resistant metal nameplate shall be securely attached to each plating unit. The nameplate shall contain the information listed below. If the plating unit is a special model, the model designation shall include the model of the basic standard unit and a suffix keyed to the manufacturer's permanent records.

Nomenclature

Manufacturer's name

Manufacturer's serial number

Manufacturer's model number

Electrical input characteristics

Electrical output, voltage and amperage range

Date of manufacture

Contract or order number

National stock number or plant equipment code

U S

3.8 Technical data. Technical data shall be furnished as specified (see 6.2.2).

3.9 Workmanship. Workmanship of the plating unit and accessories shall be commensurate with the requirements specified herein and shall be of a quality prevailing among manufacturers normally producing equipment of the type covered by this specification.

MIL-P-80249A

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 when such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

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 first article approval is required under 3.1, first article inspection shall be performed. Unless otherwise specified (see 6.2.1), first article inspection shall comprise the examination in 4.5 and all tests in 4.6. Failure of the item to pass any examination or test shall be cause for disapproval of the first article.

4.4 Quality conformance inspection. Each item shall be subjected to quality conformance inspection prior to being offered for acceptance. Unless otherwise specified (see 6.2.1), quality conformance inspection shall consist of the examination in 4.5, the tests in 4.6.1 and 4.6.2 and the inspection 4.7. Failure of the item to pass any examination, test or inspection shall be cause for rejection.

4.5 Examination. The plating unit and equipment shall be examined for design, dimensions, construction, materials, components, electrical and safety compliance and workmanship to determine compliance with the requirements of this specification.

4.6 Tests.

4.6.1 Circuit test. Each circuit of the electrical system shall be tested for dielectric strength, continuity, insulation-resistance and faulty grounding in accordance with the requirements of NEMA Standards.

4.6.2 Operational test. The plating unit shall be prepared for operation, and operated in accordance with the manufacturer's handbook

MIL-P-80249A

of instruction. All controls, meters, switches, and signal lights shall be functionally tested to verify correct operation. The output voltage meter and ampere meter accuracy shall be tested through the control range specified for the size unit being tested. All test meters or instruments used in operational and performance testing shall be of known accuracy.

* 4.6.3 Suppression of radio interference test. Plating units having radio interference suppression shall be tested for compliance with 3.4.2.

4.6.4 Performance test. The plating unit shall be connected to a suitable heat sink and operated continuously at its maximum rated voltage and ampere output for at least four hours. Any evidence of overheating or malfunctioning of the unit or components shall be cause for rejection. Plating units that require ripple control shall be tested with an oscilloscope through the voltage output range, and the ripple shall not exceed the percentages specified.

* 4.7 Packaging inspection. Packaging shall be inspected to determine compliance with the requirements of Section 5.

5. PACKAGING

5.1 Preservation, packing and marking. Unless otherwise specified (see 6.2.1), preservation, packing and marking shall conform to the requirements of MIL-STD-1188.

6. NOTES

6.1 Intended use. Plating units covered by this specification are intended for use in such processes as electro-depositing of plateable metal in touch-up plating processes, in repair of components that cannot be disassembled for repair, and resurfacing and sizing worn surfaces.

6.2 Ordering data.

6.2.1 Procurement requirements. Procurements documents should specify the following:

- a. Title, number and date of this specification.
- b. Size required (see 1.2).
- c. First Article approval, if required (see 3.1).

MIL-P-80249A

- d. Specify exceptions, safety and health requirements (see 3.2.1 and 6.4).
- e. Measurement system, if different (see 3.2.4).
- f. Specify input power characteristics, if different (see 3.4.1).
- g. Suppression or radio interference, if required (see 3.4.2).
- h. Ripple control, if required, specify percentage required (see 3.5), (Normal ripple factor for single-phase units is 48% and approximately 18% for three-phase units. This factor may be reduced to as low as 5% when required).
- i. Power input lead lengths, if different (see 3.6.2).
- j. Predetermined ampere and signal on amp-hour meter, if required (see 3.6.4).
- k. Ampere hour meter for unit size 1, if required (see 3.6.4).
- l. Push button electrically operated reverse current switch, if required (see 3.6.5).
- m. Plating tools, if required (see 3.6.7).
- n. Anodes and characteristics, if required (see 3.6.7).
- o. Workbench, if required (see 3.6.9).
- p. Turning head, if required (see 3.6.10).
- q. Solution pump, if required (see 3.6.11).
- r. Mobile cart, if required (see 3.6.12).
- s. Rotary power tools, if required (see 3.6.13).
- t. Solution flow-through power tools, if required (see 3.6.13).
- u. Solutions, if required (see 3.6.15).
- v. Portable ammeter, if required (see 3.6.16).
- w. Optional equipment, if required (see 3.6.16).
- x. First Article inspection, if different (see 4.3).
- y. Quality conformance inspection, if different (see 4.4).
- z. Preparation for delivery, if different (see 5.1).

6.2.2 Contract data requirements. Required technical data, such as operators manuals, parts lists, wiring diagrams and other instructions for operation and maintenance as identified on a numbered DP Form 1664 should be specified on a DD Form 1423 incorporated into the contract.

MIL-P-80249A

6.3 First article. When a first article is required, it shall be tested and approved under the appropriate provisions of 7-104.55 of the Defense Acquisition Regulation. The first article should be a preproduction sample, or a standard production item from the contractor's current inventory. The contracting officer should include specific instructions in all procurement instructions regarding arrangements for examination, test and approval of the first article.

6.4 Safety and health requirements. Paragraph 3.2.3 requires compliance only with those OSHA requirements that concern the plating unit itself. It does not require compliance with those OSHA requirements that concern "the unit in its operating environment" such as noise levels, radiation levels, electro-magnetic emissions, noxious vapors, air contaminants in the environment. (Does not limit the hazard level of individual units in the environment). The procuring agency is advised to analyze the existing hazards levels in the proposed operating environment, and specify additional unit requirements that will integrate the new plating unit into its future operating environment. The above, and any other additional safety and health requirements should be specified in detail under 6.2.1.d.

6.5 Changes from previous issue. The margins of this specification are marked with asterisks to indicate where changes, additions, modifications, corrections or deletions from the previous issue were made. This was done as a convenience only, and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements in this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

6.6 Solutions. A number of solutions will cause hydrogen embrittlement in steels and especially in ultra high strength steels from 200,000 to 305,000 PSI. Also, some solutions contain cyanides which are dangerous to personnel in manual plating processes. These factors should be considered when purchasing solutions for use with the plating equipment specified herein.

Custodians:

Army - AL
Navy - SH
Air Force - 99

Preparing Activity:

DLA - IP

Project Number:

3426-0032

Reviewing Activities:

Army - AL
Navy - AS, OS, MS
Air Force - 99
DLA - GS

User Activities:

Navy - OS

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION (Mark one)
b. ADDRESS (Street, City, State, ZIP Code)	<input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER (Specify): _____
5. PROBLEM AREAS	
a. Paragraph Number and Wording:	
b. Recommended Wording:	
c. Reason/Rationale for Recommendation:	
6. REMARKS	
7a. NAME OF SUBMITTER (Last, First, MI) - Optional	b. WORK TELEPHONE NUMBER (Include Area Code) - Optional
c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional	8. DATE OF SUBMISSION (YYMMDD)

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)