

MIL-W-80243B
31 December 1987
SUPERSEDING
MIL-W-80243A
30 January 1978

MILITARY SPECIFICATION

WELDING MACHINES ARC, (DC, TRANSFORMER-RECTIFIER, CONSTANT CURRENT, PROGRAMMED)

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

1. SCOPE

1.1 Scope. This specification covers welding machine, arc, DC, rectifier, constant current, programmed with equipment and accessories specified herein.

1.2 Classification. The welding machine and control shall be of the following sizes and types. The sizes and types to be furnished shall be as specified (see 6.2.1).

Size 1 - 300 ampere

Size 2 - 500 ampere

- Type I - Controls for manual welding without pulsation or up and down slope
- Type II - Controls with up and down slope and without pulsation
- Type III - Controls with pulsation and without up and down slope
- Type IV - Controls with pulsation and up and down slope

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, ATTN: DIPEC-SSM, Memphis, Tennessee 38114-5051, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 3431

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

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

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

SPECIFICATIONS

MILITARY

MIL-W-45562 - Welding and Soldering Equipment, Supplies and Accessories, Packaging of.

STANDARDS

FEDERAL

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

FED-STD-376 - Preferred Metric Units for General Use by the Federal Government.

MILITARY

MIL-STD-12 - Abbreviations for Use on Drawings, Specifications, Standards and in Technical Documents.

2.1.2 Other Government documents and publications. 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.

U. S. DEPARTMENT OF LABOR

29 CFR 1910 - Occupational Safety and Health Standards (OSHA).

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402-0001.)

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

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, DoD-adopted

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documents shall be those listed in the issue of the DoDISS specified in the solicitation. Unless otherwise specified, the issue of documents not listed in the DoDISS shall be the issue of the non-Government documents which are current on the date of the solicitation.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/NEMA EW 1 - Electric Arc-Welding Apparatus.

(Application for copies should be addressed to the American National Standards Institute, ATTN: Sales Dept., 1430 Broadway, New York, NY 10018-3363.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3951 - Standard Practice for Commercial Packaging.

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

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

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets, or MS standards), 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 First article. When specified in the contract or purchase order (see 6.2.1), a sample shall be subjected to first article inspection (see 4.4 and 6.3).

3.2 Design. The welding machine shall be designed and rated to conform with the requirements of NEMA EW-1. The design of the welding machine shall be such that it will operate from a 230/460-volt, 60-hertz (Hz), 3-phase power supply. The welding machine shall compensate for line voltage fluctuation of +10 percent, and maintain a welding current within +2 percent of dial setting. The center of gravity of the entire machine shall be as low as consistent with economical sound design. The welding machine shall be as compact and lightweight as practical consistent with strength and reliability as required. The machine shall be initially wired for the voltage specified (see 6.2.1).

3.2.1 Measurement systems. Unless otherwise specified (see 6.2.1), either the U.S. Customary System of Units (US) or the International System of Units (SI) shall be used in the design and construction of the machine. In this specification, all measurements, dimensions, sizes, and capacities are given in US units. These measurements may be converted to SI units through the use of the conversion factors and methods specified in FED-STD-376.

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3.2.2 Reclaimed materials. The machine may contain reclaimed materials provided such materials will not jeopardize its intended use, performance, or design life. The materials shall have been reclaimed in a manner which will restore them to the same chemical composition and physical properties as the materials originally selected for use on the machine.

3.2.3 Energy efficiency. The welding machine and its components that directly consume energy in normal operation shall be designed and constructed for energy efficiency as governed by the developments available within the industry.

3.2.4 Safety and health requirements. Covers, guards, or other safety devices shall be provided for the point of operation and all other parts of the welding machine that present safety hazards. The safety devices shall not interfere with the operation of the welding machine. The safety devices shall prevent unintentional contact with the guarded part, and shall be removable to facilitate inspection, maintenance, and repair of the parts. All welding machine parts, components, mechanisms, and assemblies furnished on the machine, whether or not specifically required herein, shall comply with all of the requirements of OSHA 29 CFR 1910.

3.2.5 Mercury restriction. The welding machine shall not contain mercury or mercury compounds nor be exposed to free mercury during manufacture.

3.2.6 Asbestos restriction. Asbestos and materials containing asbestos shall not be used on or in the welding machine.

3.2.7 Lubrication. Means shall be provided to ensure adequate lubrication for all moving parts. Recirculating lubrication systems shall include a filter which is cleanable or replaceable. Each lubricant reservoir shall have at least a 24-hour capacity and means for determining fluid level. Means shall be provided to indicate a low oil condition. All oil holes, grease fittings, and filler caps shall be accessible.

3.2.8 Interchangeability. To provide for replacement of worn parts, all parts shall be manufactured to definite dimensions and tolerances that will permit installation of replacement parts without modification of the part or machine.

3.2.9 Portability. The welding machines shall be portable, and shall be based mounted. Running gear, if required (see 6.2.1), shall be as specified by the procuring activity. The welding machines shall be provided with a lifting device attached directly to the framework of the machine. The device shall be conveniently located for handling by crane or hoist, and shall be capable of supporting 2-1/2 times the weight of the machine. The center of gravity of the entire unit shall be as low as is consistent with economical design. The machine shall also be designed to be lifted by forklift truck.

3.2.10 Open circuit voltage. The open circuit voltage shall be in accordance with NEMA EW 1. If open circuit voltage exceeds 80 volts, proof of less than 10 percent ripple is required.

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3.2.11 Temperature rise. The maximum allowable temperature rise of various insulated parts of the machine for the given class of insulation system used shall be in accordance with NEMA EW 1.

3.3 Construction. The welding machine shall be constructed of parts which are new, without defects, and free of repairs. The structure shall withstand all forces encountered during operation of the welding machine to its maximum rating and capacity without permanent distortion.

3.3.1 Castings and forgings. All castings and forgings shall be free of defects, scale, and mismatching. No processes such as welding, peening, plugging, or filling with solder or paste shall be used for reclaiming any defective part.

3.3.2 Fastening devices. All screws, pins, bolts, and other fasteners shall be installed to prevent loosening. Fastening devices subject to removal or adjustment shall not be permanently installed.

3.3.3 Surfaces. All surfaces shall be clean and free of harmful or extraneous materials. All edges shall be either rounded or beveled unless sharpness is required to perform a necessary function. Except as otherwise specified herein, the condition and finish of all surfaces shall be in accordance with the manufacturer's commercial practice.

3.3.4 Welding, brazing, or soldering. Welding, brazing, or soldering shall be employed only where specified in the original design. None of these operations shall be employed as a repair measure for any defective part.

3.3.5 Painting. Unless otherwise specified (see 6.2.1), the welding machine shall be painted in accordance with the manufacturer's commercial practice.

3.3.6 Threads. All threaded parts, either US or SI, used on the machine and its related attachments and accessories shall conform to FED-STD-H28 and the applicable "Detailed Standard" section referenced therein.

3.4 Components. The welding machine shall consist of, but not be limited to, the following components: enclosure, transformer, rectifier, controls, and ventilation system.

3.4.1 Enclosure. The sheet metal enclosure shall be dripproof, so designed and constructed that liquid or solid particles falling on the enclosure from above, at angles up to 15 degrees from the vertical, shall not interfere with the satisfactory operation of the equipment. Inlet and outlet electrical connections shall be clearly and permanently marked. The output welding terminals shall be of the stud and hex nut type. Studs shall be not less than 1/2 inch diameter. Receptacles of equivalent capacity shall be acceptable provided that a pair of matching plugs suitable for attachment to the welding leads are included. The welding power terminals shall be recessed or otherwise protected against accidental contact by personnel. All intake or exhaust opening shall be screened, or shall be small enough to prevent entrance of trash or rodents.

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3.4.2 Transformer. The transformer shall be of the laminated core or shell type. The secondary circuit shall be thoroughly insulated from the primary. Insulation of primary and secondary transformer coils shall be class B, F, or H material in accordance with the definition in NEMA EW 1. The temperature rise of the windings shall not exceed the temperature limits for the applicable class of insulation system used as specified in NEMA EW 1. The transformer(s) shall be rigidly mounted within the enclosure. All terminals shall be permanently marked.

3.4.2.1 Overtemperature protection. Transformer coil windings shall be protected by a suitable thermal device or devices. The device shall de-energize the machine to prevent transformer damage due to high temperature. The device shall be such to protect the welding machine from overloads of the electrical circuitry. A combination overtemperature and overload device may be used in lieu of separate controls for overtemperature and overload.

3.4.3 Rectifier. Rectification shall be accomplished by means of silicon diodes of suitable size and design for the intended service. The rectifier shall be of the full-wave type. The assembly shall be of a type which has had satisfactory history of field service on general arc welding equipment. Temperature rise of the silicon diodes shall not exceed 100 degree C above a 40 degree C ambient when operated at rated output and duty cycle.

3.4.4 Controls. The control panel shall be located on the front of the machine enclosure, and shall provide location for all switches, controls and outlets. The control panel shall be recessed, and all electrical terminals except welding terminals shall be contained within the enclosure. The welding current shall be adjusted by one-turn potentiometer. All controls shall be free from binding, and controls shall be of such materials and design that a fixed setting will remain after extended exposure to adverse atmospheric conditions. A voltmeter and ammeter shall be furnished. All controls shall be designed for operation with gloved hands. The control panel shall be able to function properly with continuous high frequency without a deviation of welding current. The welding machine shall be capable of accepting a dead short with up to 300 feet of cable length and up to 20 volts at any current level up to 500 amperes.

3.4.4.1 Type I controls. The type I control shall be a basic control with at least the following switches and timing devices:

- Power on/off switch
- Prepurge gas-flow timer (0-15 seconds)
- Post gas flow timer (0-60 seconds)
- Weld current control
- Arc-spot timer (0-5 seconds) with an on/off switch

3.4.4.2 Type II controls. Type II controls shall have all the provisions of type I controls with the following additional controls:

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Initial and final current adjustment controls
 Weld, start and stop controls
 Up and down slope rate control
 Down slope start
 Weld timer (0-100 seconds)
 Weld timer on/off control

3.4.4.3 Type III controls. Type III controls shall have all the provisions of type I and type II controls with the additional controls for pulsation.

Low and high pulse (0 to 1)
 Pulsation switch (on/off)
 Low pulsation current adjustable 10-100 percent high pulse welding current
 The percentage dial shall remain the same regardless of the high pulse current variation

3.4.4.4 Type IV controls. Type IV controls shall include all provisions specified for type I, II, and III controls with the following additional controls.

Slope control (on/off)

3.4.4.5 Stabilization control. A means shall be provided to prevent erratic changes in output in welding current under all load conditions. The welding machine shall function as a true constant current welding power supply.

3.4.4.6 Overload protection control. The welding machine shall contain a device to de-energize the machine in the event of sustained overload or power failure. The overload reset or re-energizing of the welding machine shall be manual, semi-automatic, or automatic.

3.4.4.7 Remote control. When specified (see 6.2.1), a remote foot control with rheostat, hand-control pendant, or a switch-on-torch control shall be furnished. The foot control shall be compatible to all four types of controls specified in 3.4.4.1, 3.4.4.2, 3.4.4.3, and 3.4.4.4. The hand pendant shall be operable with all controls systems. The remote control shall be operable with all control systems. The remote control shall be furnished with not less than 20 feet of electrical cable, complete with terminal plugs for connecting into welding machine. The remote control shall be linear so that a linear change of motion on dial setting will produce a linear change in welding current.

3.4.5 High frequency unit. The welding machine shall contain a high frequency unit with switches, to select high frequency energy for starting or to make the high frequency provision inoperative entirely. The high frequency unit shall be adjustable for intensity. The unit shall be designed to block high frequency feedback to the welding machine input power lines. The high frequency unit shall have the capacity to establish a welding arc at 20 feet from the switch with a 1/8-inch gap between the workpiece and the electrode when operated in an inert gas

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atmosphere. When specified (see 6.2.1), the high frequency unit shall have a capacity to establish a welding arc at a distance of 100 feet.

3.4.6 Ventilation system. Adequate ventilation and cooling of all components to meet the duty cycle specified herein shall be provided by forced air. All openings shall be so located and designed that water cannot be drawn into the machine by the intake air. The cooling fan(s) shall have totally enclosed motor(s) with permanently lubricated bearings. The fan assembly shall be securely fastened to a rigid mount in such a manner to withstand vibration encountered in this type of equipment. Fan blades shall be of material and design to prevent fatigue failure.

3.4.7 Gas shielding water cooling system. A gas shielding system shall be provided to control the flow of the shielding gas through the welding machine and base assembly. The welding machine shall be fitted with inlet and outlet gas and water connections with threads conforming to FED-STD-H28. A preflow and post flow timer shall be provided to control the time flow of gas and water through the welding machine.

3.4.8 Solid-state components. Solid-state design shall be used throughout for electronic components.

3.4.9 Control circuit voltage. Auxiliary control circuits shall be isolated from the input electric power supply by separate windings on the main transformer.

3.5 Performance. The welding machine shall perform to applicable requirements of NEMA EW 1. When operated by a skilled welder, the welding machine shall be a satisfactory power source for the following welding operations:

DC metal arc welding with straight and reverse polarity
DC gas tungsten arc welding

3.6 Marking on plates. All words on plates shall be in the English language. Characters shall be engraved, etched, embossed, or stamped in boldface on a contrasting background. All plates shall be corrosion-resistant.

3.6.1 Lubrication plate. Unless otherwise specified (see 6.2.1), a lubrication plate shall be permanently and securely attached to each machine. The plate shall contain the following information:

Points of lubricant application
Servicing interval
Type of lubricant
Viscosity

3.6.2 Nameplate. Unless otherwise specified (see 6.2.1), a nameplate shall be securely attached to each machine and contain the information listed below. If the machine is a special model, the model designation shall include the model of

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the basic standard machine and a suffix identified in the manufacturer's permanent records. The captions listed may be shortened or abbreviated, per MIL-STD-12, provided the entry for each caption is clear as to its identity.

Nomenclature

Manufacturer's name

Manufacturer's model designation

Manufacturer's serial number

Power input (volts, total amps, phase, frequency)

Contract Number or Order Number

National Stock Number or Plant Equipment Code

Date of manufacture

3.7 Technical data. When technical data is required, it shall be furnished in accordance with the requirements of DD Form 1423. All technical data furnished shall be written in the English language.

3.8 Warranty. Warranty requirements shall be as specified in the contract by the procuring activity. The warranty period shall commence upon completion of the installation and final acceptance test of the machine.

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 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 inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements (see 6.7).

4.1.1 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 inspection 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.

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

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- a. First article inspection (see 4.4).
- b. Quality conformance inspection (see 4.5).

4.3 Inspection conditions. Unless otherwise specified (see 6.2.1), all inspections, tests, and examinations shall be performed in an indoor facility with ambient temperature of 50 degree F to 100 degree F 10 percent to 95 percent relative humidity.

4.4 First article inspection. When a first article inspection is required, it shall be applied to the first article submitted in accordance with 3.1. Unless otherwise specified (see 6.2.1), first article inspection shall consist of the examination in 4.6 and all tests in 4.7. Failure of the item to pass the first article examination or any test shall be cause for rejection.

4.5 Quality conformance inspection. Quality conformance inspection shall be applied to each item prior to being offered for acceptance under the contract. Unless otherwise specified (see 6.2.1), quality conformance inspection shall consist of the examination in 4.6, the tests in 4.7, and the inspection in 4.8. Failure of the item to pass the examination, the test, or the inspection shall be cause for rejection.

4.6 Examination. The machine shall be examined to determine compliance with all requirements of this specification including compliance with all applicable standards cited in section 2.

4.7 Tests.

4.7.1 Operational test. The welding machine shall be operated at no load for not less than 30 minutes. Proper operation of all controls, motors, adjusting mechanisms, and accessories shall be verified during the trail period.

4.7.2 Performance tests. The welding tests shall be performed by a qualified welder. There shall be no difficulty in establishing and maintaining an arc during the performance tests. Welding shall be performed not less than 20 feet from the machine. Welding shall be performed with DC straight and reverse polarity current.

At the option of the procuring agency, each machine shall be subjected to tests in accordance with specific requirements designated by the activity in lieu of or in addition to the following tests (see 6.2.1).

4.7.3 High potential test. The welding machine shall be subjected to a high potential test as described in Testing Standard of NEMA EW 1. When first article inspection is required, this test shall be performed after the rough handling test in 4.7.4.

4.7.4 Rough handling test. When specified (see 6.2.1), the welding machine shall be subjected to the following rough handling test. A chain or cable shall be attached to the lifting device of the welding machine. The welding machine

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shall be raised and then dropped to fall freely at a distance between 6 inches minimum and 10 inches maximum upon a solid-concrete slab. The welding machine shall withstand the shock without damage of any kind. This drop shall be repeated so that impact is made on each of three lower edges of the machine. There shall be no damage to the welding machine as a result of this test, other than minor denting of the lower edges. This test shall be performed prior to all tests in 4.7.3, through 4.7.8.2.

4.7.5 High frequency test. The high frequency circuit of the welding machine shall be tested for conformance with the requirements of 3.4.5.

4.7.6 Open circuit voltage test. The welding machine shall be connected to primary voltage as specified in 3.2, and the open circuit voltage shall be tested for conformance with the requirements of 3.2.10.

4.7.7 Temperature rise test. With machine at room temperature, the maximum temperature of the primary and secondary windings of the transformer shall be recorded. The welding machine shall be operated at rated load and rated duty cycle until stable temperatures are obtained. Temperatures of the windings shall be recorded at 10 minute intervals until stable temperatures are obtained on three successive readings. The load tests are to be run with resistance loading. Temperature rise shall be in accordance with requirements of 3.2.11.

4.7.8 Welding performance test. The welding tests shall be performed by a qualified welder. There shall be no difficulty in establishing and maintaining an arc during the performance tests. Welding shall be performed not less than 20 feet from the machine. Welding shall be performed with DC straight and reverse polarity current.

4.7.8.1 Gas tungsten arc process test. Tests shall be performed using either argon or helium shielding gas. There shall be no spitting or loss of tungsten from the electrode tip. There shall be no change in welding current when changing arc length from a short arc up to a half-inch welding arc. Welds shall be made using electrode diameters, electrode alloys and tip geometries appropriate for the current and polarity used. High frequency shall be used to initiate the arc. Two completely penetrating and sound welds shall be made on 1/32 inch thick steel without a backup. No burn-through shall develop throughout the welds. Each weld shall be at least 6 inches long. The welds shall be made using all controls of the welding machine.

4.7.8.2 Shielding metal arc process test. Sound welds shall be made with welding electrodes of AWS classification E-308-16 and E7018 using reverse polarity, and E6012 using straight polarity. Appropriate current settings shall be selected or sizes and electrodes that will use the minimum and maximum current of the machine. Each weld shall be at least 6 inches long. The completed welds shall be visually inspected for uniformity, porosity, excessive spatter and penetration.

4.8 Packaging inspection. Packaging of each item shall be inspected to determine compliance with the requirements of section 5.

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5. PACKAGING

5.1 Preservation, packing, and marking. Unless otherwise specified, preservation, packaging, and marking shall be in accordance with ASTM D 3951. When specified (see 6.2.1), level A or level B preservation, level A or level B packing, and marking shall be accomplished in accordance with MIL-W-45562.

6. NOTES

6.1 Intended use. The welding machine is intended for use with direct current welding wherein the constant current arc characteristic is required. Both straight and reverse polarities are used with the four types of controls. Type I control is intended to be used for conventional direct current welding. Type II control is intended to be used with conventional welding and when up and down slope is required to stop tungsten spitting and to crater out welds. Type III control is intended to be used with conventional welding and when pulsation is required. Type IV control is intended to be used with conventional welding and when up and down slope and pulsation is required.

6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type and size required (see 1.2).
- d. Initial power source, specified (see 3.2).
- e. If machine is required to be configured in a specific measurement system (US or SI), state required system (see 3.2.1).
- f. Running gear, if required (see 3.2.9).
- g. Painting, if different (see 3.3.5).
- h. Remote control, if required (see 3.4.4.7).
- i. High frequency unit, if required (see 3.4.5).
- j. Electrical system and input power, if different (see 3.2).
- k. Lubrication chart or plate, if different (see 3.6.1).
- l. Nameplate, if different (see 3.6.2).
- m. Inspection conditions, if different (see 4.3).

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- n. First article inspection, if different (see 4.4).
- o. Quality conformance inspection, if different (see 4.5).
- p. Rough handling test, if required (see 4.7.4).
- q. If preservation, packing, and marking in accordance with MIL-W-45562 are required, specify level required (see 5.1).

6.2.2 Consideration of data requirements. The requirements for technical data should be considered when this specification is applied on a contract. The Data Item Descriptions (DIDs), DD Form 1664, for required data should be listed on a Contract Data Requirements List (DD Form 1423). The current issue of DoD 5010.12-L, Acquisition Management Systems and Data Requirements List, (AMSDL) should be researched for the applicable DD Form 1664 and to ensure that only current approved DIDs are cited on the DD Form 1423.

6.3 First article. When first article inspection is required, the item to be tested should be the first item offered for acceptance under the contract. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

6.4 Workmanship. Workmanship of the machine shall be commensurate with all requirements specified herein and shall be of a quality equal to that prevailing among manufacturers producing equipment of the type covered by this specification.

6.5 Training. Training required by the procuring activity shall be provided as specified in the contract.

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

6.7 Subject term (keyword) listing.

Controls, programmed
Enclosure
Pulsation
Slope control
Rectifier
Transformer

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Custodians:

Army - AL
Air Force - 99
Navy - YD

Preparing activity:

DLA - IP
Project (3431-0182)

Review activities:

Navy - YD, CG
Air Force - 84

User activities:

Navy - MC, CG, AS, YD

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER
MIL-W-80243B2. DOCUMENT TITLE Welding Machines Arc, (DC, Transformer-Rectifier,
Constant Current, Programmed)

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

VENDOR

USER

MANUFACTURER

OTHER (Specify): _____

b. ADDRESS (Street, City, State, ZIP Code)

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)