MIL-W-80024D

18 December 1985

SUPERSEDING
MIL-W-80024C

9 June 1977

MILITARY SPECIFICATION

WELDING MACHINES, ARC, AC, TRANSFORMER, CONSTANT CURRENT

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

1. SCOPE

- 1.1 <u>Scope</u>. This specification covers AC industrial welding machines of the constant current, transformer type, 60 percent duty cycle, with or without gas shielded welding controls.
- 1.2 <u>Classification</u>. The welding machines shall be of the following types and sizes. The type and sizes required shall be as specified (see 6.2.1).

Type I - With gas shielded welding controls.

Type II - Without gas shielded welding controls.

Size 200 - 200 Amperes Size 300 - 300 Amperes Size 400 - 400 Amperes Size 500 - 500 Amperes Size 600 - 600 Amperes Size 1000 - 1000 Amperes Size 1200 - 1200 Amperes

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 38114-5297, 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.

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 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.

2.1.2 Other Government documents and publications. The following other Government documents and publications form 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

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

(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, the issue of the documents which are DoD adopted 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 nongovernment documents which are current on the date of the solicitation.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

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

ANSI/NFPA 79 - Metalworking Machine Tools and Plastics Machinery, Electrical Standard for.

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

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 St., Philadelphia, PA 19103.)

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

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specifications sheets or military 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 <u>First article.</u> 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 <u>Design</u>. The welding machine shall be new and one of the manufacturer's current models capable of maintaining a stable arc and weld satisfactory at any alternating current value within the range of the machine. Type I machines shall be equipped with controls for gas, water, high frequency stabilization and welding current. Each control shall be marked to indicate its function. The welding machine shall include all components, parts, and features necessary to meet the performance requirements specified herein. All parts subject to wear, breakage, or distortion shall be accessible for adjustment, replacement, and repair.
- 3.2.1 Measurement systems. Unless otherwise specified, 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 welding machine. 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 US units. These

measurements may be converted to SI units through the use of the conversion factors and methods specified in FED-STD-376.

- 3.2.1.1 Measuring and indicating device calibrations, Unless otherwise specified, either the U.S. Customary System of Units (US) or the International System of Units (SI) shall be used to graduated measuring and indicating devices such as scales, temperature indicators, and other similar devices. When only one system of graduation is acceptable, the particular graduation required shall be as specified (see 6.2.1). Regardless of the measurement system used, all measuring and indicating devices on the welding machine shall be graduated in the same system.
- 3.2.1.1.1 <u>Dual calibrations</u>. When specified (see 6.2.1), measuring and indicating devices shall be graduated in both the US and the SI system of measurements.
- 3.2.2 Reclaimed materials. The welding machine may contain reclaimed materials provided such materials will not jeopardize the welding machine'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 the materials originally selected for use on the welding machine.
- 3.2.3 <u>Energy efficiency.</u> The welding machine and its applicable components that directly consume energy in normal operation shall be designed and constructed for the highest degree of energy efficiency as governed by the latest developments available within the industry.
- 3.2.4 <u>Controls.</u> All operating controls shall be located convenient to the operator at his normal work station.
- 3.2.5 <u>Safety and health requirements.</u> Covers, guards, or other safety devices shall be provided for all 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 welding machine, whether or not specifically required herein, shall comply with all of the requirements of OSHA 2206 that are applicable to the welding machine itself. Additional safety and health requirements shall be as specified (see 6.2.1 and 6.4).
- 3.2.6 Mercury restriction. The welding machine shall not contain mercury or mercury compounds nor be exposed to free mercury during manufacture.
- 3.2.7 Asbestos restriction. Asbestos and materials containing asbestos shall not be used on or in the welding machine.

- 3.2.8 Environmental protection. The welding machine shall be so designed and constructed that, under the operating, service, transportations, and storage conditions described herein, the welding machine shall not emit materials hazardous to the ecological system as prescribed by federal, state, or local statutes in effect at point of installation (see 6.4).
- 3.2.9 <u>Lubrication.</u> Means shall be provided to insure adequate lubrication for all moving parts. Recirculating lubrication systems shall include a filter which is cleanable or replaceable. Each lubricant reservoir shall have means for determining fluid level. All oil holes, grease fittings, and filler caps shall be accessible.
- 3.2.10 <u>Interchangeability.</u> To provide for replacement of worn parts, all parts shall be manufactured to definite dimensions and tolerance.
- 3.2.11 <u>Portability</u>. 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 machine shall be provided with a lifting device for handling by crane or hoist, and the device 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.
- 3.3 <u>Construction.</u> The welding machine shall be constructed of parts which are new, without defects, and free of repairs. The structure shall be capable of withstanding all forces encountered during operation of the welding machine to its maximum rating and capacity without permanent distortion.
- 3.3.1 <u>Castings and forgings</u>. All castings and forgings shall be free of 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 <u>Fastening devices.</u> All screws, pins, bolts, and other fasteners shall be installed in a manner to prevent change of tightness. Fastening devices subject to removal or adjustment shall not be swaged, peened, staked, or otherwise permanently installed.
- 3.3.3 <u>Surfaces.</u> All surfaces shall be clean and free of sand, dirt, fins, sprues, flash, scale, flux, and other 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 manufacturers 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 <u>Painting.</u> Unless otherwise specified (see 6.2.1), the welding machine shall be painted in accordance with the manufacturer's commercial practice.
- 3.3.6 <u>Threads.</u> All threaded parts used on the welding machine and its related attachments and accessories shall conform to FED-STD-H28 and the applicable "Detailed Standard" section reference therein.
- 3.4 <u>Components</u>. The welding machines shall consist of, but not be limited to, transformers, rectifiers, controls, receptacles and instruments.
- 3.4.1 Enclosure. The sheet metal enclosure shall be dripproof, so designed and constructed to give adequate support and protection against rough handling normally encountered in the welding field. Ventilation opening shall be louvered or otherwise designed to prevent water spray that would interfere with the satisfactory operation of the machine, from entering the enclosure. All intake or exhaust openings shall be screened or shall be small enough to prevent entrance of trash or rodents. In let and outlet electrical connections shall be clearly and permanently marked. The outlet welding terminals shall be of the stud and nut type, 1/2 inch (12.7 mm) in diameter or receptacles of equivalent capacity with a pair of matching plugs suitable for attachments to the welding leads.
- 3.4.2 Transformer. The welding transformer shall be designed to allow the controls to make very fine adjustments in each current range. device for controlling the welding current may be provided as an integral part of the transformer, or it may be provided by other components with the control circuit. The secondary circuit shall be thoroughly insulated form the primary. The transformer shall be of the laminated core or shell type. The transformer shall sustain, without damage, a welding dead short circuit Insulation shall be a class B, F, or H insulation system for 30 seconds. adequate for intended service. Insolation distances and clearance shall be as liberal as is economically practicable. The transformer shall be provided with an automatically resettable thermostatic protection device. The transformer shall be securely mounted within the enclosure, and located in such a manner that the center of gravity of the entire unit shall be as low as is consistent with economical sound design.
- 3.4.3 Controls. The control panel of the welding machine shall be conveniently located and clearly marked. All switches, knobs, or handles shall be of the design to permit the operator to adjust the controls with a gloved hand. The control panel shall contain, but not be limited to, the following:

Type I

- a. On-off switch.
- b. High-frequency control.
- c. Welding current control.
- d. Controls for gas and water.
- e. Remote control cable receptacle.

Type II

- a. On-off switch.
- b. Welding current control.
- 3.4.3.1 Remote controls. Type I welding machine shall have the following remote controls: The welding machines shall be equipped with remote controls from which it shall be possible to control welding current, high frequency stabilizing current, gas, and water from a position remote from the welding machine. The remote welding current control shall be foot operated, and it shall be capable of controlling the welding current through ranges selected on the master current control at the machine, from minimum to maximun, corresponding to the range selected. The remote control for initiating the welding cycle may be a switch attached to the torch, a switch incorporated in the foot operated current control, or initiating may be accomplished by circuits completed by contacting the work or by completing the high frequency stabilizing current circuit. The control for initiating the weld cycle shall start water and gas to flow and shall energize the welding current transformer and high frequency power supply. The remote control shall have a cable, not less than 20 feet (6 m) long, with connecting plugs or attachments.
- 3.4.3.2 Time delay shut-off control. Type I welding machines shall have the following time delay shut-off control: At the termination of the welding operation, the welding current transformer and the source of high frequency current shall be de-energized and, after an interval, the water and gas shall automatically be shut off. The water and gas post flow interval shall be adjustable. The time shall be of sufficient duration to insure adequate gas shielding of the weld area and electrode while they are cooling, and for the water cooling of the torch.
- 3.4.4 Cooling system. Adequate ventilation and cooling of all component parts to meet the duty cycle specified herein shall be provided by forced air. The cooling fan or fans shall have totally enclosed, permanently lubricated bearing motors. The fan assembly shall be securely fastened to rigid mount in such a manner to withstand the vibrations encountered in this type of equipment. Fan blades shall be of a material and design that will prevent fatigue failure. Provisions shall be made for protection of the components from overheating in case of failure of air circulating device. Type I welding machines shall also included necessary valves, fittings, and other components for controlling the flow of cooling water to the torch. Inlet and outlet connections shall be clearly identified.
- 3.4.5 High frequency power supply for type I welding machines. The high frequency power supply shall be contained within the unit, and no supplemental source of power shall be required. A switch(s) shall be provided on the panel for switching the high frequency power off, on, or to automatically off. The output of the high frequency power unit shall be adequate to supply the required high frequency power at the work when using a welding cable at least 20 feet (6 m) long. The spark shall be produced in an inert

gas atmosphere across a type of gap normally produced between the electrode and workpiece. Suitable devices shall be incorporated in the circuits to minimize radio frequency radiation from the machine caused by the high frequency stabilization current, and to protect the machine from high frequency power feedback.

- 3.4.6 Electrical system. Unless otherwise specified (see 6.2.1), the electrical system shall conform to ANSI/NFPA 79. Each welding machine shall draw all of its electrical power from a single 230/460 volt, 3 phase, 60 Hz circuit. Each welding machine shall have a fused safety disconnect switch or circuit breaker. The welding machine shall be initially wired for operation on 460 volts. An identified terminal for grounding the welding machine when it is installed shall be mounted in or near the disconnect switch. The terminal shall be suitable for connecting the size grounding conductor specified in ANSI/NFPA 79 for the disconnect fuse rating.
- 3.4.7 $\underline{\text{Motors.}}$ Motors shall be rated for continuous duty and shall have ball or roller bearings of the sealed and permanently lubricated type. Unless otherwise specified (see 6.2.1), each motor enclosure shall meet the requirements for a dripproof enclosure.
- 3.4.8 Solid state components. Solid state design shall be used throughout for electronic components.
- 3.4.9 <u>Control circuit voltage.</u> Auxiliary control circuits shall be isolated from the input electric power supply by a low-voltage transformer having a secondary nominal voltage of 120 volts.
- 3.5 <u>Size and capacity.</u> Unless otherwise specified (see 6.2.1), the size and capacity of the welding machine shall be not less than those specified in table I for the welding machine size specified.

TABLE I. Amperes welding ranges.

Size	Туре	Minimum Welding Range (Amperes)	Size	Туре	Minimum Welding Range (Amperes)
200	I	10-25	500	I	65-550
	11	40-250		II	100-625
300	I	15-375	1200	II	200-1500
	II	60-375			
400	I	20-500			
	II	80-500			

- 3.6 Performance. The welding machines shall be satisfactory for use in welding within the welding current ranges specified in table I. The machines shall perform to applicable portions of standards published in NEMA EW-1. When operated by a qualified welder, each machine within its capacity shall be a satisfactory power source for AC welding with an electrode stablized for use with AC current. Type I machines shall be suitable for gas tungsten-arc welding in addition to the above requirements. The open circuit voltage shall conform to requirements of NEMA EW-1. The welding machines shall perform with a 60 percent duty cycle at rated current. The maximum allowable temperature rise of various parts of the machines shall not exceed the maximum allowable temperature for the given class of insulation system used.
- 3.7 Nameplate. Unless otherwise specified (see 6.2.1), nameplate shall be securely attached to each machine. The nameplate shall contain the information listed below. If the machine is a special model, the model designation shall include the model of the basic standard machine and a suffix identified in the manufacturer's permanent records. The captions listed may be shortened or abbreviated, 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 (characteristics and rating)
Power output (characteristics and rating)
Contract Number or Order Number
National Stock Number or Plant Equipment Code
Date of manufacture

- 3.8 Power factor correction. Means shall be provided to correct the power factor at rated load to not less than 75 percent.
- 3.9 <u>Technical data</u>. When technical data (operating manuals, maintenance manuals, parts catalogs, prints, wiring diagrams, lubrication charts, machine alignment and accuracy test results) 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.
- 3.10 Workmanship. Workmanship of the welding machine and accessories shall be of a quality equal to that of the manufacturer's commercial equipment of the type specified herein.
 - 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.
- 4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of 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 <u>Classification of inspections.</u> The inspection requirements specified herein <u>are classified as follows:</u>
 - a. First article inspection (see 4.4).
 - b. Quality conformance inspection (see 4.5).
- 4.3 <u>Inspection conditions</u>. Unless otherwise specified herein, all inspections, tests, and examinations shall be performed in the manufacturer's designated indoor test area under the ambient temperature, the relative humidity, and the air pressure existing inside the building at the time the inspections, tests, and examinations are performed.
- 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 and all tests 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 test in 4.7.1, and the inspection in 4.8. Failure of the item to pass the examination, the test, and inspection shall be cause for rejection.

- 4.6 Examination. The welding machine shall be visually examined to determine compliance with all requirements of this specification.
- 4.7 <u>Tests.</u> Except as otherwise specified (see 6.2.1), all test shall follow the procedures of NEMA EW-1, when applicable.
- 4.7.1 <u>High potential test</u>. The welding machine shall be subjected to a high potential test as described in Testing Standard of NEWA EW-1. When first article inspection is required, this test shall be performed after the rough handling test in 4.6.2.
- 4.7.2 Rough handling test. A chain or cable shall be attached to the lifting device of the welding machine. The welding machine shall be raised and then dropped to fall freely a distance between 15 cm (6 inches) minimum and 25 cm (10 inches) maximum upon a solid concrete slab. The drop shall be repeated 80 that the impact is made on three of the lower edges of the machines. There shall be no damage to the welding machine as a result of these tests other than minor denting of the cited lower edges.
- 4.7.3 Temperature tests. Starting with the machine at room temperature (approximately 20 degrees centigrade), the welding machine shall be operated at rated load at 60 percent duty cycle for a period not exceeding four hours or until stable temperatures are obtained, which ever is shorter. STable temperatures are obtained when the maximum temperature of the windings read at 10-minute intervals shows no change in three (3) consecutive readings. The temperature tests are to be made with the welding machine connected to a resistance load having a power factor of not less than 0.99. Temperature rise shall be in accordance with 3.4.
- 4.7.4 <u>Capacity tests.</u> With the welding machine operating on 230 or 460 volt supply, the output current shall be measured by an ammeter when the welding machines is connected to a resistance load. The current range, at rated load volts, shall be not greater than the lowest limit and not less than the highest current limit voltage and shall conform to requirements NEMA EW-1.
- 4.7.5 Welding performance tests. Performance tests shall demonstrate the capabilities of the machine to weld within its specified range. Fifty percent of the welds shall be performed with the machine connected to 230 volts and fifty percent when the machine is connected to 460 volts. Welding tests shall be performed in accordance with 3.4. The following tests shall be performed:

Type I machines:

a. Welds shall be made using AWS-E6011 or AWS-E6012 covered electrodes and sizes that will demonstrate the rated values as specified in table I. The test specimen shall be mild steel plates at least six inches in length and the weld shall be deposited the

full length of the specimen. The test specimen shall be of sufficient width to facilitate tests.

b. Tungsten gas welding on 1/16-inch (1.6 mm) (thick aluminum alloy plate using 1/16-inch (1.6 mm) diameter tungsten electrode.

Type II machines:

Part "a" above shall apply.

Evidence of difficulty in establishing or maintaining an arc during the welding or the inability to produce a sound weld shall constitute failure of test.

- 4.7.6 <u>High frequency power tests</u>. The high frequency power unit of type I welding machine shall be tested for conformance with the requirements of 3.4.5.
- 4.8 <u>Packaging inspection</u>. Packaging shall be inspected to determine compliance with the requirements of section 5.

5. PACKAGING

5.1 <u>Preservation, packing, and marking.</u> Unless otherwise specified, preservation, packing, 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 <u>Intended use</u>. The welding machines covered by this specification are intended for use in alternating current welding applicable.
 - 6.2 Ordering data.
- 6.2.1 <u>Acquisition requirements.</u> Acquisition documents should specify the following:
 - a. Title, number, and date of this specification.
 - b. Types, and sizes required (see 1.2).
 - c. First article, if required (see 3.1).
 - d. If welding machine is required to be configured in a specific measurement system (US or SI), state required system (see 3,2.1).

- e. If measuring and indicating devices are required to be graduated in a specific measurement system (US or SI), state required system (see 3.2.1.1).
- f. Dual calibrations (US and SI), if required (see 3.2.1.1.1).
- g. Additional safety and health requirements, if required (see 3.2.5).
- h. Running gear, if required (see 3.2.11).
- i. Painting, if different (see 3.3.5).
- j. Electrical system and input power supply if different (see 3.4.6).
- k. Motor enclosure, if different (see 3.4.7).
- Design, if different (specify vertical or horizontal) (see 3.2).
- m. Size and capacity (see 3.5).
- n. First article inspection, if different (see 4.4).
- o. Quality conformance inspection, if different (see 4.4).
- P. Tests, if different (see 4.7).
- q. Level of preservation, packing, and marking, if different (see 5.1).
- 6.2.2 Contract data requirements. Required technical data (operating manuals, parts lists, wiring diagrams, foundation and anchor bolt plans and acceptance test reports) should be specified on a DD Form 1423, Contract Data Requirements List, incorporated into the contract.
- 6.3 <u>First article</u>. When first article inspection is required, the item to be <u>tested should</u> 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 Safety and health requirements. Paragraph 3.2.5 requires compliance only with those OSHA requirements that concern the welding machine itself. It does not require compliance with those OSHA requirements that concern "the welding machine in its operating environment" such as noise levels, radiation levels electromagnetic emissions, noxious vapors, air contaminants, and heat. Since OSHA limits the total hazard level of these hazards in the environment (and does not limit the hazard level of individual weld-

ing machine in the environment) the procuring activity is advised to analyze the existing hazard levels in the proposed operating environment, and specify additional requirement that will integrate the new welding machine into its future operating environment. The welding machine shall be equipped with all point-of-operation welding machine supplied to the commercial market. If specific point-of-operation guarding is required, the procuring activity should specify the exact configuration of the guard required, since the guard configuration is dependent on the size and configuration of the workpieces. The above, and any other additional safety and health requirements should be specified in detailed under 6.2.1(g).

6.5 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 - AL
Navy - SH
Air Force - 99
Review activities:
DLA - GS
Navy - YD
Air Force - 84

User activities
Army - AL
DLA - GS
Navy - MC, CG, AS, YD

Preparing activity: DLA - IP

Project 3431-0169

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NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of apecification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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NECESSARY

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL (See Instructions - Reverse Side)				
1. DOCUMENT NUMBER MIL-W-80024D		chines, Arc, AC, Transformer,		
3a. NAME OF SUBMITTING ORGAN		4. TYPE OF ORGANIZATION (Merk one) VENDOR		
b. ADDRESS (Street, City, State, ZIP	Code)	USER		
		MANUFACTURER		
		OTHER (Specify)		
5 PROBLEM AREAS a. Paragraph Number and Wording				
b. Recommended Warding				
c. Resson/Rationals for Recomme	ndation			
6. REMARKS				
7a. NAME OF SUBMITTER (Last, Fir	a(, MI) - Optional	b WORK TELEPHONE NUMBER (Include Area Code) — Optional		
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