

MIL-E-24403/2C(SH)
7 July 1989
SUPERSEDING
MIL-E-24403/2B(SH)
28 August 1985
(See 6.6)

MILITARY SPECIFICATION

ELECTRODES - WELDING, FLUX CORED, LOW-ALLOY STEEL

This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers low-alloy steel flux cored welding electrodes for the fabrication of HY-80 and HY-100 steel weldments for as-welded applications.

1.2 Classification. Electrodes shall be of the types specified (see 3.3) and shall be of the forms and sizes in accordance with MIL-E-24403. In addition to the sizes specified in MIL-E-24403, the 0.035-inch size may be used for MIL-101TC, MIL-101TM, MIL-121TC, and MIL-121TM type electrodes. Also, the 0.068- and 0.072-inch sizes may be used for self-shielded electrodes.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specification, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362-5101 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 3439

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

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SPECIFICATIONS

FEDERAL

BB-C-101 - Carbon Dioxide (CO₂): Technical and U.S.P.

MILITARY

MIL-P-116 - Preservation, Methods of.
MIL-S-16216 - Steel Plate, Alloy, Structural, High yield strength (HY-80 and HY-100).
MIL-A-18455 - Argon, Technical.
MIL-E-24403 - Electrodes - Welding, Flux Cored General Specification for.
MIL-S-24645 - Steel Plate, Sheet, or Coil, Age-Hardening Alloy, Structural, High Yield Strength (HSLA-80).

STANDARDS

MILITARY

MIL-STD-271 - Requirements for Nondestructive Testing Methods.
MIL-STD-2149 - Standard Procedures for Explosion Testing Ferrous and Non-Ferrous Metallic Materials and Weldments.

(Unless otherwise indicated, copies of federal and military specifications, standards and handbooks are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

2.1.2 Other Government documents, drawings, and Publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

PUBLICATION

NAVAL SEA SYSTEMS COMMAND (NAVSEA)

0900-LP-003-9000 - Radiographic Standards for Production and Repair Welds.

(Application for copies should be addressed to the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

E 83 - Standard Practice for Verification and Classification of Extensometers. (DoD adopted)
E 604 - Standard Test Method for Dynamic Tear Testing of Metallic Materials, (DoD adopted)

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

AMERICAN WELDING SOCIETY (AWS)

A4.3 - Standard Methods for Determination of the Diffusible Hydrogen Content of Martensitic, Bainitic, and Ferritic Weld Metal Produced by Arc Welding.

B4.0 - Standard Methods for Mechanical Testing of Welds.
(DoD adopted)

(Application for copies should be addressed to the American Welding Society, Inc., 550 NW LeJeune Road, P.O. Box 351040, Miami, FL 33135.)

(Non-Government standards and other publications are normally available from the organizations that 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 document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Qualification. The electrodes furnished under this specification shall be products which are authorized by the qualifying activity for listing on the applicable qualified products list at the time of award of contract (see 4.3 and 6.4).

3.2 Conformance. Electrodes furnished under this specification shall conform to the requirements of MIL-E-24403 and as specified herein.

3.3 Chemical composition. The types and chemical composition of the deposited weld metal shall be as specified in table I.

3.4 Mechanical properties. The mechanical properties of deposited weld metal shall be as specified in table II.

3.5 Soundness. Welds shall meet the acceptance standards for radiographic inspection in accordance with class 1 of NAVSEA 0900-LP-003-9000.

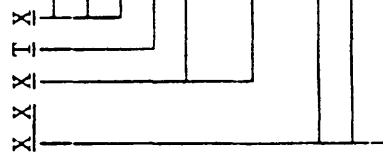
3.6 Hydrogen. For testing specified in AWS A4.3, the diffusible hydrogen levels in milliliters (mL) per 100 grams of deposited weld metal shall not exceed 5.0 mL per 100 grams maximum average value nor 5.8 mL per 100 grams maximum single value. Electrodes with an LH suffix added to the designation shall not exceed 2.0 mL per 100 grams maximum average value nor 2.3 mL per 100 grams maximum single value.

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TABLE I. Type designation and chemical composition of deposited weld metal.

MIL-type ^{1/}	Chemical composition (percent) ^{2/}									
	Carbon	Manganese	Silicon	Phosphorus	Sulfur	Nickel	Chromium	Molybdenum	Vanadium	Copper
MIL-110TC ^{3/}	0.10	1.20 to 1.80	0.60	0.010	0.010	2.00 to 2.50	0.60	0.25 to 0.50	0.05	0.02
MIL-100TC ^{3/} MIL-100TM ^{4/} MIL-100TS ^{5/} MIL-101TC ^{3/} MIL-101TM ^{4/} MIL-101TS ^{5/}	0.10	0.50 to 1.50	0.60	0.015 CO ₂	0.015 CO ₂	1.30 to 3.75	0.20	0.50	0.05	0.06
MIL-120TC MIL-120TM MIL-120TS MIL-121TC MIL-121TM MIL-121TS	0.10	0.60 to 1.80	0.60	0.015	0.012	1.75 to 4.00	0.55	0.70	0.05	0.06

^{1/} An illustration of the method of classification of flux cored electrodes is shown below.



C for carbon dioxide (CO₂) shielding gas.

M for 75 percent argon and 25 percent carbon dioxide gas mixture shielding.

S for self-shielding.

T for flux-cored electrode.

0 for electrodes used in the flat and horizontal welding position and tested in the flat position (see figure 1).

1 for electrodes designed primarily for all welding positions. Sizes 5/64 and smaller are used in all positions and tested in the vertical position (see figure 1 and MIL-STD-2149).

10 for 100,000 pounds per square inch (lb/in²) tensile strength classification.

11 for 110,000 lb/in² tensile strength classification.

12 for 120,000 lb/in² tensile strength classification.

^{2/} Single values are maximum percentages.

^{3/} The CO₂ shall be in accordance with grade B of BB-C-101.

^{4/} The CO₂ shall be in accordance with grade B of BB-C-101. The argon shall be in accordance with MIL-A-18455.

^{5/} The aluminum content of the weld metal for self-shielding electrodes shall be a maximum of 1.10 percent.

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TABLE II. As-welded mechanical properties. 1/

MIL-type	Yield strength ^{2/} (lb/in ²)	Elongation in 1.4 inches or 2 inches minimum (percent)	Transverse side bend	Impact ^{3/}				Explosion crack- starter
				Charpy V-notch ^{4/}		Dynamic tear ^{5/}		
				Energy (ft-lb) minimum average	Temperature (°F)	Energy (ft-lb) minimum	Temperature (°F)	
MIL-110TC	95,000 to 110,000	18	6/	60 35	0 minus 60	425 300	30 minus 20	1/
MIL-100TC MIL-100TM MIL-100TS MIL-101TC MIL-101TM MIL-101TS	82,000 to 97,000	18	6/	60 35	0 minus 60	425 300	30 minus 20	1/
MIL-120TC MIL-120TM MIL-120TS MIL-121TC MIL-121TM MIL-121TS	102,000 to 122,000	18	6/	60 45	0 minus 60	575 400	30 minus 20	1/

See footnotes at top of next page.

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- 1/ The ultimate tensile strength and percentage reduction of area shall be recorded for information only.
- 2/ The yield strength shall be the average of duplicate specimens measured at 0.2 percent offset by using a class B extensometer in accordance with ASTM E 83, or better.
- 3/ Requirements of either Charpy V-notch or dynamic tear shall be met.
- 4/ For each testing temperature, the average values of five tests shall be greater than the minimum average value specified. No two specimens shall have values below the minimum average specified. One specimen may have a value of 10 foot-pounds below the minimum average specified. Test procedure for Charpy V-notch shall be in accordance with AWS B4.0.
- 5/ Test procedure for 5/8-inch dynamic tear test shall be in accordance with ASTM E 604.
- 6/ The convex surface of the specimen after bending shall have no visual cracks exceeding 1/8 inch. The corners of the specimen shall have no visual cracks exceeding 3/16 inch. The bend radius shall be 2t and the tests conducted in accordance with AWS B4.0.
- 7/ Explosion crack-starter test results shall meet the following criteria when tested at 0 degrees Fahrenheit (°F):
 - (a) First shot - Crack-starter bead shall crack.
Percent reduction in thickness obtained for information only.
No piece shall be thrown out of weldments.
No through-thickness cracks shall be present.
No crack shall extend into hold-down area.
Crack shall remain within 12-1/2 inch radius measured from center of weldment.
 - (b) Second shot - Percent reduction in thickness obtained for information only.
No piece shall be thrown out of weldment.
Through-thickness cracks are acceptable.
No cracks shall extend into hold-down area.
Crack shall remain within 12-1/2 inch radius measured from center of weldment.

Test procedure for explosion testing shall be in accordance with MIL-STD-2149.

3.7 Alloy identity.

3.7.1 Sampling for splices. For lots specified in MIL-E-24403, each end of strip to be spliced during processing shall be sampled at the splicing station for alloy identity (see 4.6), except when splicing is done to repair a break without removing the strip from the process line. The sample shall be tested for alloy identity before shipment of the lot.

3.7.2 Sampling of coils. Both ends of each coil rolled to final thickness shall be tested for alloy identity (see 4.6) before further processing into electrodes .

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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 (examinations and tests) 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall 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 ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of the manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

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

- (a) Qualification inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).

4.3 Qualification tests. The quality assurance provisions shall be in accordance with MIL-E-24403 and as specified herein. Electrodes selected in accordance with MIL-E-24403 shall be used for tests specified in table 111. Schedule A tests shall be conducted by the manufacturer, and upon successful completion of these tests, schedule B welding and testing will be conducted by the Government.

4.4 Quality conformance tests. Electrodes selected in accordance with MIL-E-24403 shall be used for tests specified in table IV (see 6.3).

4.4.1 Inspection conditions. Unless otherwise specified, all inspections shall be performed in accordance with test conditions specified in MIL-E-24403.

4.5 Weld metal test procedures.

4.5.1 Groove-weld metal test. The dimensions of the test weldment and the location of the tensile and impact specimens are shown on figure 1. The test assembly shall be welded, machined, and tested as outlined below. Tests conducted shall be in accordance with table III, schedule A for qualification or table IV for quality conformance testing.

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- (a) The base-plate material shall be HY-80 steel for MIL-10XTX and MIL-110TC or HY-100 for MIL-12XTX electrodes. The base plates shall be in accordance with MIL-S-16216, except for quality conformance testing when the Charpy V-notch is the only impact test being conducted, in which case the base plates may be in the as-rolled condition and need only conform to the chemical requirements of MIL-S-16216. When specified (see 6.2), the same lot of MIL-XTX electrodes shall be tested for quality conformance using an HY-80 base plate weldment or a MIL-S-24645 base plate weldment.
- (b) The welding position and type of shielding shall be in accordance with the classification requirements (see notes to table I).
- (c) Direct current shall be used with the polarity recommended by the electrode manufacturer. The welding current shall be within plus or minus 10 percent of the values as specified in table V.
- (d) Testing shall be of the as-welded condition.
- (e) The preheat and interpass temperature shall be $250 \pm 25^{\circ}\text{F}$ for HY-80 and HY-100 steel, except for steel conforming to MIL-S-24645, when the temperature shall be a minimum of 60°F .
- (f) The welding-heat input shall be 50,000 to 55,000 joules per inch.
- (g) Peening of weld beads shall not be permitted.
- (h) The test assembly shall be prepared by using welding sequence and techniques recommended by the electrode manufacturer which shall be reported.
- (i) Welding may be continuous except for interpass cooling. No postweld heat treatments shall be employed. Time delays per pass beyond that necessary for interpass cooling shall be reported. The weldment shall be slow cooled in still air upon completion of welding.
- (j) When 48 hours have elapsed after completion of welding, the weldment shall have the reinforcement and backing strip removed flush with the base plate on both surfaces and shall be examined for soundness.
- (k) The weld shall be inspected radiographically in accordance with level 2-2T of MIL-STD-271 and 3.5 herein.
- (l) Tension test specimens shall be machined and tested in accordance with AWS B4.0. Tension testing shall be conducted at room temperature.
- (m) Charpy V-notch impact testing, if selected, shall have specimens machined and tested in accordance with AWS B4.0. Five Charpy V-notch specimens shall be tested at each of the specified testing temperatures.
- (n) Dynamic tear testing, if selected, shall have specimens machined and tested in accordance with ASTM E 604. Two dynamic tear specimens shall be tested at the specified testing temperature.

4.5.2 Explosion crack-starter.

4.5.2.1 Welding Parameters. Fabrication of the explosion crack-starter and mechanical property prolongation assemblies shall be as follows:

- (a) The base plate shall be HY-80 steel in accordance with MIL-S-16216.
- (b) Dimensions of the test assemblies shall be in accordance with MIL-STD-2149.

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- (c) The welding position and type of shielding shall be in accordance with the classification requirements (see notes to table I).
- (d) Direct current shall be used with the polarity recommended by the electrode manufacturer. The welding current shall be plus or minus 10 percent of the values specified in table V.
- (e) The preheat and interpass temperature shall be $225 \pm 25^{\circ}\text{F}$.
- (f) The welding-heat input shall be 50,000 to 55,000 joules per inch.
- (g) Peening of weld beads shall not be permitted.
- (h) The test assembly shall be prepared by using the welding sequence and techniques recommended by the electrode manufacturer which shall be reported.
- (i) The joint surfaces shall not be clad or buttered.
- (j) Welding may be continuous except for interpass cooling. No postweld heat treatments shall be employed. Time delays per pass beyond that necessary for interpass cooling shall be reported. The weldment shall be slow cooled in still air upon completion of welding.

4.5.2.2 Prolongation assembly. The prolongation assembly shall be tested in accordance with schedule B of table III.

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TABLE III. Summary of weld metal tests required for qualification. 1/

Schedule	Chemical	Alloy identity	Hydrogen	Soundness	Tensile	Bend	Impact 2/		Explosion crack starter 3/	Test procedures	Requirements
							Charpy V-notch	Dynamic tear			
	X									MIL-E-24403	Table I herein
		X								4.6 herein	3.7 herein
			X							AWS A4.3	3.6 herein
				X	X		X			4.5.1 and figure 1 herein and MIL-STD-271	3.5 herein
								X		4.5.1 and figure 1 herein and ASTM E 604	Table II herein
									X	MIL-STD-2149 and 4.5.2.1 herein	Table II herein
				X						MIL-STD-271	3.5 herein
					X	X	X	X		MIL-STD-2149	Table II herein

B4/

See footnotes at top of next page.

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- 1/ Types and sizes of electrodes shall be qualification tested in accordance with schedule A of table III. Test weldments shall be made in the welding position and with the type of shielding specified in the classification requirements (see notes to table I).
- 2/ The Charpy V-notch and the dynamic tear tests shall be conducted to determine conformance to the impact requirements of table II.
- 3/ Types and sizes of electrodes shall be qualification tested in accordance with schedule B of table III to determine conformance to the requirements of table 11 herein, except that the smaller size flat or vertical welding electrodes (of the same type previously qualified) shall be evaluated on the basis of Charpy V-notch and dynamic tear tests conducted at temperatures specified in table II, and the explosion crack-starter test shall be omitted.
- 4/ When a single electrode formulation is being qualification tested for use with both shielding gases (MIL-XX0TC and MIL-XX0TM or MIL-XX1TC and MIL-XX1TM), the schedule A tests shall be conducted for each shielding gas using one sample of the electrode. Schedule B tests shall be conducted using the same sample of the electrode and only the shielding gas that produced the lower impact test results.

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TABLE IV. Summary of tests required for quality conformance testing.

Chemical	Alloy identity	Hydrogen	Soundness	Tensile	Impact ^{1/}		Test procedures	Requirements
					Charpy V-notch	Dynamic tear		
X							MIL-E-24403	Table I herein
	X						4.6 herein	3.7 herein
		X					MIL-E-24403	3.6 herein
			X	X	X		4.5.1 and MIL-STD-271 and figure 1 herein	3.5 herein
						X	4.5.1 and figure 1 herein and ASTM E 604	Table II herein

^{1/} Either the Charpy V-notch test at 0°F and minus 60°F or the dynamic tear test at minus 20°F shall be conducted in accordance with the impact requirements of table II.

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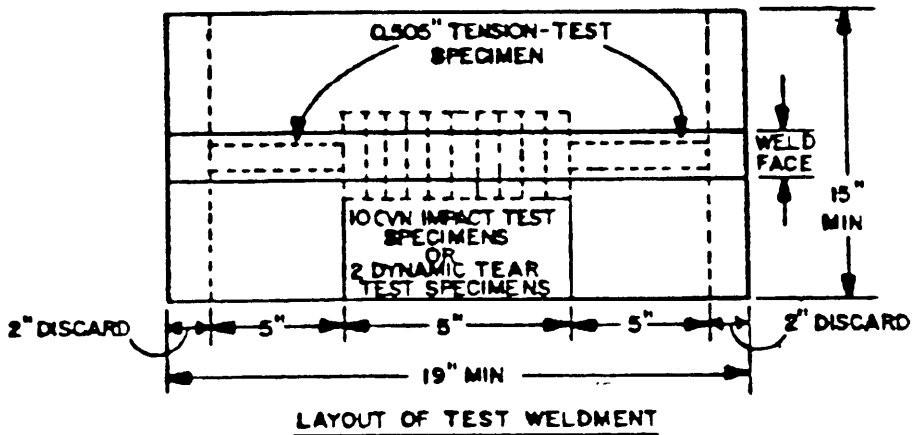
TABLE V. Electrode size and welding current.

Electrode diameter (inch)	Welding current (amperes)			
	MIL-1X1TC MIL-1X1TM	MIL-1X0TC MIL-1X0TM	MIL-1X1TS	MIL-1X0TS
0.035 <u>1/</u>	180	----	----	----
.045	190	265	----	----
.052	200	290	----	----
.068	----	----	180	210
.072	----	----	190	230
.120	----	----	----	400
1/16	220	330	----	----
5/64	230	380	200	250
3/32	----	450	230	310
7/64	----	500	----	----
1/8	----	550	----	----
5/32	----	<u>2/</u>	----	525

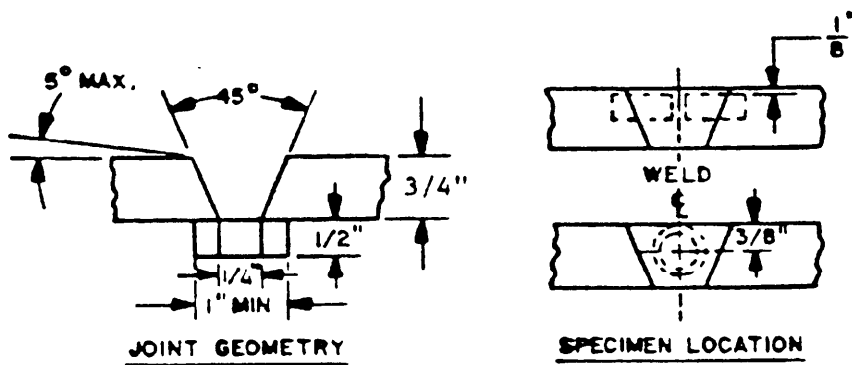
1/ The 0.035-inch size may be used for MIL-1X1TC and MIL-1X1TM type electrodes, and the 0.068- and 0.72-inch sizes may be used for self-shielding electrodes,

2/ Not specified.

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Base plate size shall be increased to provide additional Charpy (or dynamic tear) test specimens as required.



Maximum weld reinforcement shall not exceed 1/8 inch.

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FIGURE 1. Groove weld metal test.

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4.6 Alloy identity.

4.6.1 Procedure. The alloy identity test method may include chemical analysis, metal sorting devices, other approved methods, or a combination of methods. The test methods shall be prepared for approval by NAVSEA.

4.7 Inspection of packaging. Sample packages and packs, and the inspection of the preservation, packing and marking for shipment and storage shall be in accordance with the requirements of section 5 and the documents specified therein.

5. PACKAGING

(The packaging requirements specified herein apply only for direct Government acquisition.)

5.1 General. Packaging shall be as specified in MIL-E-24403, except that electrodes in the forms specified (see table VI) shall be individually preserved-packaged in accordance with submethod IIe of MIL-P-116.

TABLE VI. Unit package sizes, weights, and tolerances.

Form	Package size (inches)	Weight (pounds) <u>1/</u>
3a	4 od	1-1/2 or 2-1/2
3b	12 od	25
	14 od	50 or 60
	22 od	250
	24 od	300
	30 od	600 or 750
3d	12 id	25, 50, or 60
3e	As specified (see 6.2)	As specified (see 6.2)
4	15-1/2 od 20 od 23 od	As specified (see 6.2)

1/ Tolerances on net weight shall be plus or minus 10 percent.

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6. NOTES

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

6.1 Intended use.

6.1.1 General. This specification covers low-alloy steel flux cored welding electrodes that are able to deposit radiographic quality weld metal when in the as-welded condition meets the mechanical properties specified herein when welded on HY-80 and HY-100 steels.

6.1.1.1 MIL-type 110TC. This classification covers electrodes primarily designed for welding in the flat and horizontal positions using gas shielding.

6.1.1.2 MIL-types 100TC, 100TM, 120TC, and 120TM. These classifications cover electrodes primarily designed for welding in the flat and horizontal positions using gas shielding.

6.1.1.3 MIL-types 100TS and 120TS. These classifications cover electrodes primarily designed for welding in the flat and horizontal positions. They are self-shielding.

6.1.1.4 MIL-types 101TC, 101TM, 121TC, and 121TM. These classifications cover electrodes primarily designed for welding in all positions using gas shielding.

6.1.1.5 MIL-types 101TS and 121TS. These classifications cover electrodes primarily designed for welding in all positions. They are self-shielding.

6.1.1.6 LH suffix. The above electrodes with an LH suffix are used with substantially reduced preheat.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- (a) Title, number, and date of this specification.
- (b) Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2)
- (c) Whether an additional test weldment of steel conforming to MIL-S-24645 steel base-plate material is required (see 4.5.1).
- (d) Unit package size and weight required for electrode form 3e, and unit package weight required for electrode form 4 (see table VI).

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DID's) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DID's are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DoD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

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<u>Reference Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
4.4	DI-MISC-80678	Certification Data/Report	---

The above DID was cleared as of the date of this specification. The current issue of DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423.

6.4 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Products List QPL No. 24403 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362-5101 and information pertaining to qualification of products may be obtained from that activity.

6.5 Subject term (key word) listing.

Argon and carbon dioxide shielding gas
Explosion crack-starter
Extensometer
HY-80 steel weldments
HY-100 steel weldments
Radiographic

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

Preparing activity:
Navy - SH
(Project 3439-N637)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-E-24403/2C(SH)		2. DOCUMENT TITLE ELECTRODES - WELDING, FLUX CORED, LOW-ALLOY STEEL	
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.)

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification 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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DEPARTMENT OF THE NAVY
COMMANDER
NAVAL SEA SYSTEMS COMMAND (SEA 5523)
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