



DEPARTMENT OF THE NAVY

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IN REPLY REFER TO  
NAVSEALOGCENINST 4355.9B  
N44/DPD  
OCT 23 1998

NAVSEALOGCEN INSTRUCTION 4355.9B

From: Commanding Officer, Naval Sea Logistics Center

Subj: RECEIPT INSPECTION REQUIREMENTS FOR LEVEL I/SUBSAFE  
(NON-NUCLEAR) STOCK PROGRAM MATERIAL

Ref: (a) NAVSEA 0948-LP-045-7010  
(b) NAVSEA 0924-062-0010  
(c) NAVSUP/NAVSEAINST 4440.16B  
(d) NAVSEA ltr 4400 Ser SEA 04MS6/4045/551 of 7 Mar 94  
(e) NAVICPINST 4030.10K  
(f) Navy and Marine Corp Product Data Reporting and Evaluation Program (R)  
(PDREP) Manual NAVSO P-3683  
(g) NAVICPINST 4355.5L  
(h) NAVSEASYSKOM ltr 9505 OPR 56YD Ser 56YD/047 of  
30 Jul 91

Encl: (1) Inspection Instructions for Level I/SUBSAFE Assemblies, Finished Components, Piece/Parts, and Miscellaneous Items  
(2) Inspection Instructions for Level I Barstock and Seamless Pipe/Tubing  
(3) Inspection Instructions for Level I/SUBSAFE Fasteners  
(4) Inspection Instructions for Level I Welding Electrodes (Covered)  
(5) Inspection Instructions for Level I Welding Electrodes and Rods (Bare) Solid and Alloy or Flux Cored  
(6) Inspection Instructions for Level I Consumable Welding Inserts and Silver Brazing Alloys

1. Purpose. To provide the necessary inspection, test and certification requirements to assure Level I/SUBSAFE Stock Program materials are in compliance with the contract and the unique Level I and SUBSAFE requirements of references (a) and (b).

2. Cancellation. This instruction supersedes NAVSEALOGCENINST 4355.9A (R)

3. Summary of Changes. This revised instruction provides updated inspection instructions for repaired material and welding Electrodes. (A)

4. Glossary of Acronyms and Abbreviations

AQL	-	Acceptable Quality Level
C1	-	SMIC assigned to Level I Special Clean Material
CAD	-	Certifying Activity Designator
DCMC	-	Defense Contract Management Command
ESR	-	Electroslag Remelt
ET	-	Eddy Current Test
L1	-	SMIC assigned to Level I Material
LI/SS	-	Level/SUBSAFE
Level I	-	Level I Program (reference (a))
MIC	-	Material Identification and Control
MIL	-	Military
MT	-	Magnetic Particle Test
MTIS	-	Material Turned Into Stores
NA	-	Not Applicable
NAVICP	-	Naval Inventory Control Point
NAVSEA	-	Naval Sea Systems Command
NAVSEALOGCEN	-	Naval Sea Logistics Center
NAVSUP	-	Naval Supply Systems Command
NDT	-	Nondestructive Test
NPS	-	Nominal Pipe Size
OQE	-	Objective Quality Evidence
PNS	-	Portsmouth Naval Shipyard
PT	-	Liquid Penetrant Test
QDR	-	Quality Deficiency Report
RFI	-	Ready For Issue
RT	-	Radiography Test
S1	-	SMIC assigned to Level I Surface Material
SB	-	SMIC assigned to SUBSAFE Special Clean Material
SMIC	-	Special Material Identification Code
SS	-	SMIC assigned to SUBSAFE Material
SUBSAFE	-	Submarine Safety (reference (b))
TDP	-	Technical Data Package
UT	-	Ultrasonic Test
VAR	-	Vacuum Arc Remelt

(A)

5. Background

a. The LI/SS Stock Program was established in 1966 to assure that certified LI/SS materials are available through the stock system to support the maintenance, overhaul, and repair of critical shipboard systems. The program is a joint NAVSEA/NAVSUP effort with policies and overall responsibilities defined in reference (c).

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b. An important element of the LI/SS Stock Program is the certification of new materials entering the program. In order to be certified for use, new material must pass stringent inspection and tests to assure the requirements of the contract and references (a) and (b) are met. These inspection and test requirements are described within this instruction.

c. Responsibility for preparation and maintenance of this instruction was reassigned from NAVICP to NAVSEALOGCEN by reference (d).

## 6. General

a. Enclosures (1) through (6) specify the minimum technical and quality assurance inspection requirements for all LI/SS Stock Program material procured by NAVICP. Additional characteristics may be inspected, or increased sampling inspection for a specific characteristic may be conducted when deemed necessary, provided such increased inspection is fully documented.

b. Reference (e) specifies the requirements and methods for the packaging, packing, and marking of LI/SS Stock Program items.

c. Reference (f) provides guidance for the implementation of the Navy Product Data Reporting and Evaluation Program (PDREP) and contains defect codes, definitions and processing procedures for reporting nonconformances. (R)

d. When the word "contract" is used in this instruction, it is to mean contract or purchase order and/or drawing or specification.

## 7. Responsibilities

### a. Receipt Inspection Activity

(1) Inspect LI/SS Stock Program material in accordance with references (c) and (g) procedures and the inspection and test requirements contained herein.

(a) Inspection. Inspection shall be performed or verified by designated personnel qualified to perform or verify inspections for the commodity and item involved.

1. The inspection characteristics listed in the enclosures are provided for the inspector to follow. Characteristics other than those required by

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references (a) and (b) are added to assure requisite quality, fit, form and function of the material. Characteristics not required are marked NA. Sampling inspection shall be as specified in paragraph 6a(1)(d) below.

2. Normal NDTs required by reference (a) (Material Verification Tests) cannot be conducted on non-metallic items or, in most cases, on coated or plated materials. In these cases, the following applies:

a. For non-metallic items material verification shall be on the basis of proper certification in lieu of actual testing.

b. For plated or coated items NAVSEALOGCEN shall be contacted via the telephone for guidance regarding the conduct or waiver of verification tests. Ensure telephone waivers are properly documented.

3. When the contract specifies a drawing that is proprietary and is not available locally or from NAVICP, the applicable enclosure shall be modified as follows:

a. Characteristic 4 (Visual); configuration only is waived.

b. Characteristics 15 (Dimensions) and 19 (Finish) are waived.

4. During unpackaging, inspecting, transporting and handling, or when connections are uncapped during inspection, the inspector shall take all precautions necessary to preserve the cleanliness and integrity of the material.

5. Assemblies (excluding in-line unions and similar connectors) shall not be disassembled. If during inspection an indication of a hidden defect is suspected or apparent, report findings to NAVICP (Code 845) via locally developed assist request forms for guidance, if required.

6. Test welding of welding electrodes shall be performed by welders qualified to the requirements of the contract.

(b) Acceptance Identification. Material inspected and accepted will be identified by color coding or MIC marking in accordance with reference (a), appendices C and D.

(R)

1. Thin wall tubing (.125 nominal wall thickness or less) will be marked in accordance with MIL-STD-792 by electro-chemical etch in a continuous manner (at least every eighteen to thirty-six inches) along the length of each piece.

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2. Non-metallic items cannot be marked with the MIC mark in the normal manner. In lieu of conventional MIC marking methods as specified in reference (a), the MIC mark shall be entered on a durable tag. The tag shall be securely attached to the item.

(c) Inspection Lot. A lot for the purpose of receipt inspection shall be all material that is of the same specification, type, composition, size, grade, class, condition, form, piece/part number, finish, assembly, heat or heat-treat lot and received in the same shipment on one contract from one contractor except as follows:

1. Each valve over six inches nominal size shall be considered a separate lot.

2. A lot for welding electrodes shall be as specified in the applicable military specification and if it is received in the same shipment on one contract, from one contractor with the same traceability code.

3. A lot for continuous cast, pour, or batch of material shall be as specified in the applicable material specification and if it is received in the same shipment on one contract, from one contractor with the same traceability code.

4. For characteristics other than 1, 5, 6, and 24 (seamless condition for pipe and tube), an inspection lot may be considered as being all material that is of the same specification, type, composition, size, grade, class, condition, form, piece/part number, finish, assembly and received in the same shipment on one contract from one contractor.

(d) Sampling

1. Select samples in such a manner that all material within the lot has an equal chance of being selected.

2. Inspect material for fit, form, and function in accordance with the sampling plan(s) in the applicable military or federal specification or standard, drawing, or contract to which the material was manufactured. In the absence of such sampling plans, unless otherwise specified in the applicable enclosure, sampling shall be per MIL-STD-105 (Revision in effect on date of contract), General Inspection Level II, Table II-A, AQL 1.0 except as follows:

a. Sampling for Material Verification Tests shall be in accordance with Tables 3-1 through 3-4 of reference (a).

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b. All data concerning material verification (chemical and mechanical properties and seamless condition), traceability (material certifications to material marking), and NDT certifications shall be 100% inspected. Any defective data shall be cause for rejection of the data and the lot of material it represents.

c. All material shall be 100% inspected for heat/lot traceability identification marking (material traceable to certifications) except inspect the unit container for welding and brazing filler material and items that are individually packaged. Only those items with marking deficiencies shall be rejected.

(e) Rejections

1. All nonconformances to contractual requirements shall be recorded and processed in accordance with references (f) and (g). Material that has been rejected for a single attribute (other than Characteristics 1, 5, 6, or 24 (seamless condition)) and is urgently required can be accepted when the portion of the lot that is needed to fill the urgent requirement is tested for the rejected attribute and passes. This 100% inspection must be authorized by the NAVICP LI/SS Inventory Manager or the LI/SS Stock Program Coordinator at the certifying activity.

2. For welding and brazing filler material where 100% inspection of the rejected attribute may not be feasible, the NAVICP LI/SS Inventory Manager or certifying activity LI/SS Stock Program Coordinator may authorize increased or additional sampling and inspection for the lot or portion of the lot needed to fill urgent requirements.

(f) MTIS Recertification. Stock numbered material identified by SMIC L1/C1/S1/SS/SB received for recertification and ultimate return to system stock as RFI (Condition Code A) will be processed in accordance with reference (g). Any assistance required in assembling the data necessary for recertification (e.g., certifications, contract, drawings, etc.) or any other assistance that may be required in this effort should be requested from NAVICP (Code 845).

(g) Repaired Material Certification. Repaired material is material that was certified by the LI/SS Stock Program, placed in service and returned for refurbishment. Material is refurbished in accordance with the Technical Data Package (TDP). Components replaced or reworked during the repair process are receipt inspected in accordance with this instruction and the requirements of the TDP.

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1. Components which are not replaced or reworked are 100% visually inspected for markings and to ensure certifications are available.

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(h) Minor Waiver Approval Authority

1. Minor waiver approval authority is granted to the LI/SS Stock Program receipt inspection activity as defined in reference (h). The inspection activity is encouraged to exercise this authority to avoid excessive QDR traffic and expedite material flow. Waivers for particular situations not specifically addressed in reference (h) that the receipt inspection activity wishes to handle as minor waivers should be discussed with NAVSEALOGCEN engineers on an individual basis.

2. The use of DD Form 1694 is not mandatory for minor waivers granted by the receipt inspection activity in accordance with the provisions of reference (h). Such minor approvals may be documented on local forms but copies of all documentation including telephone conversations required by reference (h) shall be provided to NAVSEALOGCEN (N44).

(2) Conduct periodic audits in accordance with reference (c) to provide adequate confidence that the procedures of this instruction are in effect and the specified acceptance criteria is being met. All infractions discovered and the corrective action(s) initiated to prevent recurrence of similar infractions should be documented.

(3) Recommend additions, deletions, or changes to this instruction to NAVSEALOGCEN (N44).

b. NAVSEALOGCEN

(1) Conduct annual program review of the LI/SS receipt inspection activity to assure compliance with the requirements of this instruction.

(2) Publish changes and additional enclosures when required.

8. Maintenance. The maintenance responsibility for this instruction is assigned to the LI/SS Support Division (N44) of the Logistics Support Engineering Group (N40).

  
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INSPECTION INSTRUCTIONS FOR LEVEL I/SUBSAFE ASSEMBLIES  
FINISHED COMPONENTS, PIECE/PARTS,  
AND MISCELLANEOUS ITEMS

1. **Documentation.** Review all documentation pertaining to the shipment to ensure all certificates and other documents required by the contract have been received and are applicable to the contract and material received. The receipt inspection activity shall identify each certification documentation received with the appropriate MIC number and file with the inspection reports.
2. **Damage.** Visually inspect each shipment for any evidence of damage incurred in shipping. In the event any such damage is discovered, additional inspection as necessary shall be performed to determine if the material itself is affected.
3. **Preservation, Packaging, Packing and Labeling.** Visually check each shipment of material to ensure it is properly labeled and packaged in accordance with contract requirements. Check each item in the sample to the degree necessary to ensure the preservation is of the proper type and is properly applied as required by the contract. Material inspected and accepted will be repackaged utilizing the packaging materials furnished by the contractor in order to comply with contract requirements or to the requirements of reference (e).
4. **Visual Inspection.** Visually inspect each item in the sample to ensure the general configuration is in accordance with the contract; the inner and outer surfaces are free of dirt, chips, scale or foreign substances; and there are no dents, gouges or grinding marks which restrict flow or violate minimum wall thickness. When the inspector observes a questionable surface condition, PT may be conducted to support visual determination.
5. **Material Identification.** Check each shipment for proper identity, such as contractor's name/trademark, material identity, size, pressure rating, drawing and revision, assembly number and other markings that may be required by the contract. Ensure all markings required for traceability (heat, lot, batch, etc.) and required by the contract are clearly and permanently marked on the material and are directly traceable to the contractor's certification. When items are individually packaged, ensure required markings on each individual container are clear and directly traceable to the contractor's certifications. Nameplates, warning plates, instruction plates, etc., shall be properly installed and the required information legible and complete as required by the contract.

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6. Material Verification. Review each certification to ensure material meets the chemical, mechanical, or physical properties required by the material specification and contract.

a. Material verification tests and sampling for material verification tests shall be in accordance with Tables 3-2 and 3-4 of reference (a). Method/procedure to which material verification tests are to be accomplished shall be determined by the receipt inspection activity. Nonconformances shall be reported utilizing the defect codes in reference (f), Appendix E.

b. Special Testing Requirements. Each valve over six inches NPS shall be verified.

7. Radiography. When radiography is required by the contract, ensure the production film has been approved by the cognizant DCMC and all pieces radiographed are marked with the "RT" symbol and traceability marking. Verify that RT acceptance letter has been issued by PNS.

8. Magnetic Particle Test. Ensure MT, when required by the contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.

9. Ultrasonic/Eddy Current Test. Ensure UT/ET, when required by the contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.

10. Liquid Penetrant Test. Ensure PT, when required by the contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.

For flexible type hose fittings fabricated from hex stock (QQ-N-281 and QQ-N-286), the inspector is permitted to explore indications for depth by first checking depth at locations previously prepared by the contractor for depth measurement. These areas might be present on parts and can be recognized as areas where the metal surface has been disturbed by grinding. At the discretion of the inspector, a second area along the defect may be ground and penetrant inspected to insure the defect does not violate contract requirements.

11. Operational or Functional Test. NA

12. Pressure Test. Ensure certifications of satisfactory hydrostatic, seat tightness, air, gas, or hydraulic test performed by the contractor in accordance with the contract have been submitted.

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NOTE: Hydrostatic testing by the LI/SS Stock Program receipt inspection activity will only be conducted when specifically directed by NAVSEALOGCEN.

13. Electrical/Electronic Test. NA

14. Missing, Wrong, or Improperly Assembled Parts. On samples selected for Visual Inspection, ensure protective devices (dust caps, plates, covers, etc.) or any other part required by the contract are not missing, of the proper type, and installed as required by the contract. Ensure locking devices (if required) are the proper type, in working order, and installed as required by the contract.

15. Dimensions. Each item of the selected sample shall be inspected, as accessible without disassembly, to verify that dimensions are in accordance with contract requirements. Measurements may include but are not limited to the following:

- a. Socket dimensions for inside diameter, outside diameter, socket depth, silver-braze ring groove, concentricity.
- b. Dimensions affecting weld preparation.
- c. Diameter of bolt circle. Number, size and orientation of bolt holes.
- d. Wall thickness.
- e. Overall dimensions (height, width, length).
- f. Nominal size.
- g. Diameter (outside and inside).
- h. Distance across flats.
- i. Concentricity.
- j. Gap.
- k. Size of drain, inlet and outlet plugs.
- l. Mounting dimensions.
- m. "O" ring groove location and dimensions.

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- n. "O" ring sealing surface dimensions.
- o. Flange dimensions.
- p. Connector pins straight and in correct position.
- q. Full coverage and adherence of plating on pins.
- r. Valve stem inspection.
  - (1) Location of keyways.
  - (2) Concentricity of the stem.
  - (3) Orientation of the stem (end to end).
  - (4) Centerline of the tooth on the spline.
- s. Ball inspection.
  - (1) Outside diameter of ball.
  - (2) Waterway dimension.
  - (3) Stem slot dimension.

16. Welding. When welding is a contract requirement, check the samples chosen for Visual Inspection to ensure welded joints are sound in appearance with good adherence of weld material and base metal and bend radii of formed parts are in accordance with the contract. Ensure weld areas are free of cracks, melt through, oxidation, arc strike, weld splinters, gouge marks and slag and weld and root reinforcements and joint overweld dimensions are in accordance with the contract.

17. Brazing. When brazing is a contract requirement, check the sample chosen for Visual Inspection to ensure braze joints are sound in appearance with good adherence of braze material and base metal. Ensure brazed area is free of cracks.

18. Soldering. NA

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19. Finish. On samples selected for Visual Inspection, ensure all surface finishes are in accordance with the contract. Special attention should be paid to "O" ring sealing surfaces and visible machined mating surfaces.
20. Shelf Life. NA
21. Technical Data. NA
22. Mercury-Free. NA
23. Procedure Approval (Special Process). NA
24. Special Manufacturing Process. If applicable, verify special manufacturing processes identified on contract ordering data have been performed and properly documented on material certifications as required (e.g., seamless pipe verification, rolled versus cut threads on fasteners, centrifugal casting versus static castings, etc.).
25. Design/Evaluation. NA

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**INSPECTION INSTRUCTIONS FOR LEVEL I BARSTOCK AND  
SEAMLESS PIPE/TUBING**

1. **Documentation**. Review all documentation pertaining to the shipment to ensure all certificates and other documents required by the contract have been received and are applicable to the contract and material received. Receipt inspection activity shall identify each certification documentation received with the appropriate MIC number and file with the inspection reports.
2. **Damage**. Visually inspect each shipment for any evidence of damage incurred in shipping. In the event any such damage is discovered, additional inspection as necessary shall be performed to determine if the material itself is affected.
3. **Preservation, Packaging, Packing, and Labeling**. Visually check each shipment of material to ensure it is properly labeled and packaged in accordance with contract requirements. Check each item in the sample to the degree necessary to ensure the preservation is of the proper type and is properly applied as required by the contract. Material inspected and accepted will be repackaged utilizing the packaging materials furnished by the contractor in order to comply with contract requirements or to the requirements of reference (e).
4. **Visual Inspection**. Visually inspect each piece in the sample of pipe/tube to ensure the general configuration is in accordance with the contract; the inner and outer surfaces are free of dirt, chips, scale or foreign substances; and there are no dents, gouges or grinding marks which restrict flow or violate minimum wall thickness. Barstock shall be free from seams, laps, gouges, scale and laminations. When the inspector observes a questionable surface condition, PT/MT may be conducted to support visual determination.
  - a. Suspected internal defects of pipe/tube shall be examined by appropriate means as determined by the receipt inspection activity.
  - b. Sample size for inspection of ferrous pipe/tube is limited to one length of pipe/tube for Stock Program material. For pipe/tube awaiting receipt inspection and transshipment to end user, the procedure specified in paragraph 6a(1)(a)2b of the basic instruction shall be followed.
5. **Material Identification**. Check each shipment for proper identity, such as contractor's name/trademark, material identity, size, pressure rating, and any other markings that may be required by contract. Ensure all markings required for

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traceability (heat, lot, batch, etc.) and required by the contract are clearly and permanently (or temporary, if permitted by contract) marked on the material and directly traceable to the contractor's certification.

**6. Material Verification.** Review each certification to ensure material meets the chemical, mechanical, or physical properties required by the material specification and contract.

a. Material verification tests and sampling for material verification tests shall be in accordance with Tables 3-1 and 3-4 of reference (a). Method/procedure to which material verification tests are to be accomplished shall be determined by the receipt inspection activity. Nonconformances shall be reported utilizing the defect codes in reference (f), Appendix E.

b. Identify all test specimens taken for material verification to the parent pipe/tubing/barstock by MIC number.

c. Material that may be accepted based on OQE in accordance with Table 3-1 of reference (a) shall be reviewed and approved for acceptance by the certifying activity LI/SS Stock Program Coordinator or designee.

**7. Radiography.** When radiography is required by the contract, ensure the production film has been approved by the cognizant DCMC and all pieces radiographed are marked with the "RT" symbol and traceability marking. Verify that RT acceptance letter has been issued by PNS.

**8. Magnetic Particle Test.** Ensure MT, when required by the contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.

**9. Ultrasonic/Eddy Current Test.** Ensure UT/ET, when required by the contract, is certified by the contractor as having been accomplished, and the results meet the requirements of the contract. Where UT/ET is a contract requirement, the applicable test shall be performed on the selected samples in accordance with contractual requirements.

a. The inspector shall use the same test method as the contractor used.

b. UT testing need not be performed on pipe/tube less than .875 inch outside diameter.

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10. Liquid Penetrant Test. Ensure PT, when required by the contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.

11. Operational or Functional Test. NA

12. Pressure Test. Ensure certifications of satisfactory hydrostatic test performed by the contractor in accordance with the contract have been submitted.

NOTE: Hydrostatic testing by the LI/SS Stock Program receipt inspection activity will only be conducted when specifically directed by NAVSEALOGCEN.

13. Electrical/Electronic Test. NA

14. Missing, Wrong, Assembled Parts. NA

15. Dimensions. Each item of the selected sample shall be inspected to verify that dimensions are in accordance with contract requirements. Measurements may include but are not limited to the following:

- a. Length
- b. Wall thickness (mechanical or UT).
- c. Diameter (outside and/or inside), as applicable.

d. The outside diameter or inside diameter and wall thickness measurements shall be made on one end of the pipe/tube and shall be repeated a sufficient number of times in different angular positions on the end of the pipe/tube to detect any flattening of the pipe/tube or eccentricity of the bore.

16. Welding. NA

17. Brazing. NA

18. Soldering. NA

19. Finish. On each piece of the pipe/tube sample selected for Visual Inspection, ensure all surface finishes are in accordance with the contract.

20. Shelf Life. NA

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21. Technical Data. NA

22. Mercury-Free. NA

23. Procedure Approval (Special Process). NA

24. Special Manufacturing Process. If applicable, verify special manufacturing processes identified on contract ordering data have been performed and properly documented on material certifications as required, e.g., seamless condition, ESR, VAR, etc.

25. Design/Evaluation. NA

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shall be in accordance with Tables 3-1 and 3-4 of reference (a). Method/procedure to which material verification tests are to be accomplished shall be determined by the receipt inspection activity. Nonconformances shall be reported utilizing the defect codes in reference (f), Appendix E.

7. Radiography. NA

8. Magnetic Particle Test. Ensure MT, when required by the contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.

9. Ultrasonic/Eddy Current Test. NA

10. Liquid Penetrant Test. Ensure PT, when required by contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.

11. Operational or Functional Test. NA

12. Pressure Test. NA

13. Electrical/Electronic Test. NA

14. Missing, Wrong, Assembled Parts. NA

15. Dimensions. Each item of the selected sample shall be inspected to verify dimensions are in accordance with contract requirements. Measurements may include but are not limited to the following:

- a. Diameter of full body.
- b. Overall length.
- c. Thread (functional diameter, pitch diameter, major/minor diameter, etc.).
- d. Thread length.
- e. Head height, width across flats/corners, etc.
- f. Nut thickness, width across flats/corners, etc.

16. Welding. NA

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## INSPECTION INSTRUCTIONS FOR LEVEL I/SUBSAFE FASTENERS

1. **Documentation.** Review all documentation pertaining to the shipment to ensure all certificates and other documents required by the contract have been received and are applicable to the contract and material received. Receipt inspection activity shall identify each certification documentation received with the appropriate MIC number and file with the inspection reports.
2. **Damage.** Visually inspect each shipment for any evidence of damage incurred in shipping. In the event any such damage is discovered, additional inspection as necessary shall be performed to determine if the material itself is affected.
3. **Preservation, Packaging, Packing and Labeling.** Visually check each shipment of material to ensure it is properly labeled and packaged in accordance with contract requirements. Check each item in the sample to the degree necessary to ensure the preservation is of the proper type and is properly applied as required by the contract. Material inspected and accepted will be repackaged utilizing the packaging materials furnished by the contractor in order to comply with contract requirements or to the requirements of reference (e).
4. **Visual Inspection.** Visually inspect each item in the sample to ensure the general configuration is in accordance with the contract; the inner and outer surfaces are free of foreign substances; and there are no cracks, seams, laps, laminations or other injurious defects. When the inspector observes a questionable surface condition, PT may be conducted to support visual determination.
5. **Material Identification.** Check each shipment for proper identity, such as contractor's name/trademark, material identity, size, drawing and revision, and other markings that may be required by the contract. Ensure all markings required for traceability (heat, lot, batch, contractor's symbol, etc.) required by the contract are clearly and permanently marked on the material and are directly traceable to the contractor's certification. Ensure all fasteners are properly identified and the required information is legible and complete as required by the contract. If one or more fasteners inspected are found to be defective to characteristic number 5, reject only the defective items, not the entire lot.
6. **Material Verification.** Review each certification to ensure material meets the chemical, mechanical, or physical properties required by the material specification and contract. Material verification tests and sampling for material verification tests

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17. Brazing. NA

18. Soldering. NA

19. Finish. On samples selected for Visual Inspection, ensure all surface finishes are in accordance with the contract.

20. Shelf Life. NA

21. Technical Data. NA

22. Mercury-Free. NA

23. Procedure Approval (Special Process). NA

24. Special Manufacturing Process. If applicable, verify special manufacturing processes identified on contract ordering data have been performed and properly documented on material certifications as required. Ensure threads are formed (i.e., rolled versus cut) as specified in the contract ordering data.

25. Design/Evaluation. NA

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**INSPECTION INSTRUCTION FOR LEVEL I  
WELDING ELECTRODES (COVERED)**

1. **Documentation.** Review all documentation pertaining to the shipment to ensure all certificates and other documents required by the contract have been received and are applicable to the contract and material received. Receipt inspection activity shall identify each certification documentation received with the appropriate MIC number and file with the inspection reports.
2. **Damage.** Visually inspect each shipment for any evidence of damage incurred in shipping. In the event any such damage is discovered, additional inspection as necessary shall be performed to determine if the material itself is affected.
3. **Preservation, Packaging, Packing and Labeling.** Visually check each shipment of material to ensure it is properly labeled and packaged in accordance with contract requirements. The inspector by visual observation shall check each electrode container in the sample to ensure it is in accordance with contract requirements. Material (containers not opened for inspection) will be repackaged utilizing the packaging materials furnished by the contractor in order to comply with contract requirements or to the requirements of reference (e). Voids created in shipping containers by removal of samples selected for inspection will be filled with an appropriate packaging material to stabilize the load.
4. **Visual Inspection.** Visually inspect sample electrodes to ensure the general configuration is in accordance with the contract; the covering of the electrodes is free from unacceptable flaking, cracking, chipped arc ends or other surface defects that would interfere with uniform performance of the electrodes. When a questionable surface condition is observed, the inspector may conduct the necessary test or measurement to support visual observation.

**NOTE:** Where lot size for receipt inspection is larger than lot size specified in the material specification sampling tables, inspect electrodes to MIL-STD-105 (revision in effect on date of contract), Inspection Level S-4, Table II-A, AQL 4.0 for Schedule A, and AQL 6.5 for Schedule B.

5. **Material Identification.** Ensure markings required by contract for traceability (lot control number, heat number/code, etc.) are clearly and permanently marked on the containers and are directly traceable to the manufacturer's certifications. Stamping, imprinting, etc., shall be properly applied and the required information legible and complete as required by contract. Sample inspect electrodes for MIL type

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designation and other marking not specified above that may be required by contract to ensure individual electrodes are marked as required by contract.

6. Material Verification. Review each certification to ensure material meets the chemical, mechanical, or physical properties required by the material specification and contract.

a. Material verification tests and sampling for material verification tests shall be in accordance with Tables 3-3 and 3-4 of reference (a). Method/procedure to which material verification tests are to be accomplished shall be determined by the receipt inspection activity. Nonconformances shall be reported utilizing the defect codes in reference (f), Appendix E.

b. In cases of retest, only quantitative chemical analysis shall be used.

c. Condition B covering water content for receipt inspection acceptance of MIL-E-0022200/10A electrodes shall be 0.25 percent by weight maximum.

7. Radiography. NA

8. Magnetic Particle Test. NA

9. Ultrasonic/Eddy Current Test. NA

10. Liquid Penetrant Test. NA

11. Operational or Functional Test. NA

12. Pressure Test. NA

13. Electrical/Electronic Test. NA

14. Missing, Wrong, Assembled Parts. NA

15. Dimensional Inspection. Inspect each item of the selected sample to verify dimensions are in accordance with the contract.

a. Concentricity inspection need not be conducted as a routine inspection during receipt inspection. Should electrode usability problems such as flaking and

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cracking or fingernailing of the coating occur during welding tests, concentricity inspection shall be conducted as specified in the applicable material specification.

b. Core wire diameter measurements of the sample electrodes shall be taken at the grip end.

16. Welding. Quality conformance weld tests shall be conducted as specified in the applicable military or American Welding Society (AWS) specification to verify conformance with contract requirements. (A)

a. Only 5 Charpy V-notch impact tests at the lower of the two temperatures specified in MIL-E-22200/10 for MIL-10018-M1 and MIL-12018-M2 electrodes need be conducted. (R)

b. In general, acceptance of mechanical test properties is to be based on a review and acceptance of the contractor's OQE (i.e. mechanical property certifications) only. Exceptions to this requirement, which require full mechanical testing as defined by the applicable filler material specification, are as follows: (A)

(1) MIL-E-22200/10 filler materials

(2) AWS classifications E7018-B2L (formerly E8018-B2L) and E8018-B3L (formerly E9018-B3L) filler materials per ANSI/AWS A5.5.

c. Performance of the 0 and 9 hour exposure tests for verification of moisture content applies for the AWS classifications defined above. (A)

d. The maximum carbon content shall be 0.07 percent for MIL-11018-M type electrodes procured to MIL-E-22200/1. (A)

e. For those filler material specifications which require a diffusible hydrogen test, the receipt activity is to accept this attribute based on the manufacturer's OQE (i.e. review and acceptance of diffusible hydrogen certifications) only. (A)

17. Brazing. NA

18. Soldering. NA

19. Finish. NA

20. Shelf Life. NA

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21. Technical Data. NA

22. Mercury-Free. NA

23. Procedure Approval (Special Process). NA

24. Special Manufacturing Process. If applicable, verify special manufacturing processes identified on contract ordering data have been performed and properly documented on material certifications as required (i.e., moisture content, etc.).

25. Design/Evaluation. NA

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INSPECTION INSTRUCTIONS FOR LEVEL I  
WELDING ELECTRODES AND RODS (BARE)  
SOLID AND ALLOY OR FLUX CORED

1. **Documentation.** Review all documentation pertaining to the shipment to ensure all certificates and other documents required by the contract have been received and are applicable to the contract and material received. Receipt inspection activity shall identify each certification documentation received with the appropriate MIC number and file with the inspection reports.
2. **Damage.** Visually inspect each shipment for any evidence of damage incurred in shipping. In the event any such damage is discovered, additional inspection, as necessary, shall be performed to determine if the material itself was affected.
3. **Preservation, Packaging, Packing, and Labeling.** Visually check each shipment of material to ensure it is properly labeled and packaged in accordance with contract requirements. The inspector, by visual observation, shall check each electrode container in the sample to ensure it is in accordance with contract requirements. Material inspected and accepted will be repackaged utilizing the packaging materials furnished by the contractor in order to comply with contract requirements or to the requirements of reference (e).
4. **Visual Inspection.** Visually inspect each item in the sample to ensure general configuration is in accordance with the contract; electrodes are clean and free from slivers, depressions, scratches, (excluding seams of alloy and flux cored electrodes), scale, or contaminants such as oil or preservatives which will adversely affect the welding characteristics, the operation of the equipment, or the properties of the deposited weld metal; and spool and coil winding requirements are met. (Unwinding for inspection is not necessary.) When a questionable surface condition is observed, the inspector may conduct the necessary test or measurement to support visual observation.
5. **Material Identification.** Ensure markings required by contract for traceability (lot control number, heat number/code, etc.) are clearly and permanently marked on the containers and are directly traceable to the manufacturer's certifications. Stamping, imprinting, etc., shall be properly applied and the required information legible and complete as required by contract. Sample inspect rods, coils, and spools for MIL Type designation and other marking not specified above that may be required by contract to ensure individual rods, coils, and spools are marked as required by contract.

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6. Material Verification. Review each certification to ensure material meets the chemical, mechanical, or physical properties required by the material specification and contract.

a. Material verification tests and sampling for material verification tests shall be in accordance with Tables 3-3 and 3-4 of reference (a). Method/procedure to which material verification tests are to be accomplished shall be determined by the receipt inspection activity. Nonconformances shall be reported utilizing the defect codes in reference (f), Appendix E.

b. In cases of retest, only quantitative chemical analysis shall be used.

7. Radiography. NA

8. Magnetic Particle Test. NA

9. Ultrasonic/Eddy Current Test. NA

10. Liquid Penetrant Test. NA

11. Operational or Functional Test. NA

12. Pressure Test. NA

13. Electrical/Electronic Test. NA

14. Missing, Wrong, Assembled Parts. NA

15. Dimensional Inspection. Inspect each item of the selected sample to verify dimensions are in accordance with the contract. Ensure cast and helix, when applicable, are in accordance with contract requirements. Samples selected shall be measured at a minimum of two locations for diameter.

16. Welding. Quality conformance weld tests shall be conducted as specified in the applicable military or American Welding Society (AWS) specification to verify conformance with contract requirements.

(A

a. In general, acceptance of mechanical test properties is to be based on a review and acceptance of the contractor's OQE (i.e. mechanical property certifications) only. Exceptions to this requirement, which require full mechanical testing as defined by the applicable filler material specification, are as follows:

(A

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(1) MIL-E-24403/1 and /2 filler materials.

(A

(2) AWS classifications ER70S-B2L (formerly ER80S-B2L) and ER80S-B3L (formerly ER90S-B3L) filler materials per ANSI/AWS A5.28.

(A

b. For those filler material specifications which require a diffusible hydrogen test, the receipt activity is to accept this attribute based on the manufacturer's OQE (i.e. review and acceptance of diffusible hydrogen certifications) only.

(A

17. Brazing. NA

18. Soldering. NA

19. Finish. NA

20. Shelf Life. NA

21. Technical Data. NA

22. Mercury-Free. NA

23. Procedure Approval (Special Process). NA

24. Special Manufacturing Process. If applicable, verify special manufacturing processes identified on contract ordering data have been performed and properly documented on material certifications as required.

25. Design/Evaluation. NA

INSPECTION INSTRUCTIONS FOR LEVEL I CONSUMABLE  
WELDING INSERTS AND SILVER BRAZING ALLOYS

1. Documentation. Review all documentation pertaining to the shipment to ensure all certificates and other documents required by the contract have been received and are applicable to the contract and material received. Receipt inspection activity shall identify each certification documentation received with the appropriate MIC number and file with the inspection reports.
2. Damage. Visually inspect each shipment for any evidence of damage incurred in shipping. In the event any such damage is discovered, additional inspection, as necessary, shall be performed to determine if the material itself is affected.
3. Preservation, Packaging, Packing, and Labeling. Visually check each shipment of material to ensure it is properly labeled and packaged in accordance with contract requirements. Check each item in the sample to the degree necessary to ensure preservation, when applicable, is of the proper type and is properly applied as required by contract. Material inspected and accepted will be repackaged utilizing the packaging materials furnished by the contractor in order to comply with contract requirements or to the requirements of reference (e).
4. Visual Inspection. Visually inspect each item in the sample to ensure general configuration is in accordance with the contract. Inserts shall have smoothly finished surfaces and shall be free from slivers, depressions, scratches and scale or any foreign matter that would adversely affect usability characteristics of the insert or properties of the fused metal. Check that spool or coil winding requirements are met. (Unwinding for inspection is not necessary.) When a questionable surface condition is observed, the inspector may conduct the necessary test to support visual observation.
5. Material Identification. Ensure markings required by contract for traceability (lot control number, heat number/code, etc.) are clearly and permanently marked on the containers/packages and are directly traceable to the manufacturer's certifications. Stamping, imprinting, etc., shall be properly applied and the required information legible and complete as required by contract. Sample inspect material for MIL Type/grade/classification designation and other marking not specified above, that may be required by contract to ensure individual coils, rings, rod, strip, or wire are marked as required by contract.
6. Material Verification. Review each certification to ensure material meets the chemical, mechanical, or physical properties required by the material specification

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and contract. Material verification tests and sampling for material verification tests shall be in accordance with Tables 3-3 and 3-4 of reference (a). Method/procedure to which material verification tests are to be accomplished shall be determined by the receipt inspection activity. Nonconformances shall be reported utilizing the defect codes in reference (f), Appendix E.

7. Radiography. NA
8. Magnetic Particle Test. NA
9. Ultrasonic/Eddy Current Test. NA
10. Liquid Penetrant Test. Ensure PT, when required by the contract, is certified by the contractor as having been accomplished and the results meet the requirements of the contract.
11. Operational or Functional Test. NA
12. Pressure Test. NA
13. Electrical/Electronic Test. NA
14. Missing, Wrong, Assembled Parts. NA
15. Dimensional Inspection. Inspect each item of the selected sample to verify dimensions are in accordance with the contract. Ensure cast and flatness, when applicable, are in accordance with contract requirements.
16. Welding. Quality conformance weld tests shall be conducted as specified in the applicable military specification to verify conformance with contract requirements.
17. Brazing. NA
18. Soldering. NA
19. Finish. NA
20. Shelf Life. NA
21. Technical Data. NA

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22. Mercury-Free. NA

23. Procedure Approval (Special Process). NA

24. Special Manufacturing Process. If applicable, verify special manufacturing processes identified on contract ordering data have been performed and properly documented on material certifications as required.

25. Design/Evaluation. NA