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MIL-T-47500/4(MI)
24 March 1989

MILITARY SPECIFICATION

TECHNICAL DATA PACKAGES

DRAWINGS, SPECIAL TEST EQUIPMENT (STE), SPECIAL INSPECTION EQUIPMENT (SIE), AND SPECIAL TOOLING

This specification is approved for use by the Department of the Army and is available for use by all departments and agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification prescribes requirements for STE, SIE, and special tooling drawings acquired in support of Department of Defense materiel.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, 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, U.S. Army Missile Command, ATTN: AMSMI-RD-SE-TD-ST, Redstone Arsenal, AL 35898-5270, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC A4646

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MILITARY

SPECIFICATIONS

MIL-D-5480	Data, Engineering and Technical, Reproduction Requirements for
MIL-M-9868	Microfilming of Engineering Documents, 35MM Requirements for
MIL-T-47500	Technical Data Package, General Specification for

STANDARDS

DOD-STD-100	Engineering Drawing Practices
MIL-STD-45662	Calibration System Requirements

(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.)

2.2 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for associated detail specifications, specification sheets, or MS standards), 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 General. The complete requirements for drawings described herein shall consist of this document and the basic MIL-T-47500. The contract or purchase order will identify the selection of options for drawings to be acquired (see 6.2). The requirements of DOD-STD-100 apply.

3.2 Existing drawings. Drawings and associated lists prepared prior to the application of this specification shall be acceptable, if they meet the following criteria:

a. They are identified by name and address of design activity, Commercial and Government Entity (CAGE) Code, drawing title, drawing number in accordance with DOD-STD-100, and contract number, if applicable.

b. Where nonstandard drawing practices and symbols were employed, explanations are provided.

3.3 Special test equipment, special inspection equipment, and special tooling drawings. Drawings prepared to meet the requirements of this specification shall provide:

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- a. Details of unique processes, i.e., not published or generally available to industry, when essential to design and manufacture.
- b. Performance ratings.
- c. Dimensional and tolerance data.
- d. Critical manufacturing processes and assembly sequences.
- e. Toleranced input and output characteristics.
- f. Diagrams.
- g. Mechanical and electrical connections.
- h. Physical characteristics, including form and finish.
- i. Details of material identification, including heat treatment and protective coatings.
- j. Inspection, test and evaluation criteria.
- k. Calibration information.
- l. Environmental requirements.
- m. Reliability requirements.
- n. Maintainability requirements.

3.4 Types and quantity of drawings. DOD-STD-100 shall be used for the selection of the types of drawings necessary to satisfy contractual requirements. Unless otherwise specified in the contract or purchase order (see 6.2), the contractor is responsible for the selection of the types and quantity of drawings to satisfy the content requirements; however, this selection is subject to Government approval.

3.4.1 Multi-detail or detail assembly drawings. Multi-detail or detail assembly drawings in accordance with DOD-STD-100 shall be utilized to the maximum extent practicable.

3.4.2 Commercial items. Commercial items shall be identified on detail assembly drawings in lieu of preparing specification control drawings. At least two sources are required for each commercial item and they shall be identified on the assembly drawing by vendor part number and CAGE Code.

3.4.3 Altered commercial items. Any commercial item requiring alteration shall be documented on an altered item drawing in accordance with DOD-STD-100.

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3.5 Selection of options. Drawings shall be prepared to meet the requirements of the selection worksheets (see 6.3 and MIL-T-47500).

3.6 Legibility and reproducibility. Drawings shall be of such clarity that when reproduced or when microfilmed, will produce copies conforming to the legibility requirements of MIL-M-9868 or MIL-D-5480.

3.7 Associated documents. Special Inspection Equipment operating instructions (EOIs), Special Inspection Equipment Descriptions Documentation (EDs), and Special Inspection Calibration Procedures (CPs) shall be prepared as part of the STE and SIE technical data package on book-form drawings (DOD-STD-100) in A-size format.

3.7.1 Preparation of EOIs. EOIs prepared to meet the requirements of this specification shall (see 6.3):

a. Cover detailed instructions for setting up and operating the test equipment in conformance with the Quality Assurance Procedures (QAPs) for the component under test.

b. Identify the STE or SIE to be used by part number.

c. Be numbered the same as the top STE or SIE drawing number prefixed by OI, unless the piece of STE or SIE is used to test more than one component, assembly or end item, then the EOI shall be identified by the drawing number of the Unit Under Test (UUT) prefixed by OI.

d. State the requirements and tolerances being measured with a cross reference to the specifications, QAPs or drawing requirements under inspection. Accept and reject criteria in the EOI shall be consistent with the allowable tolerances in the specifications, QAPs or drawing requirements.

e. Include computer programs for computerized STE and SIE.

3.7.2 Preparation of EDs. EDs prepared to meet the requirements of this specification shall (see 6.3):

a. Contain detailed description of the STE or SIE to include any embedded Commercial Inspection Equipment (CIE).

b. Include computer programming and tape/card or other input device preparation instructions.

c. Be numbered the same as the STE or SIE they are describing except the number shall be prefixed by ED.

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3.7.3 Preparation of CPs. CPs prepared to meet the requirements of this specification shall be in accordance with the following (see 6.3):

- a. The calibration requirements shall conform to the requirements of MIL-STD-45662.
- b. They shall carry the same part number as the STE or SIE they are describing except the number shall be prefixed by CP.

4. QUALITY ASSURANCE PROVISIONS

4.1 Acceptance criteria. Each drawing and referenced document shall be examined for conformance to the following requirements:

- a. Drawings have not been prepared when appropriate specifications, standards or drawings exist (see MIL-T-47500).
- b. Altered or selected parts have been properly delineated (see DOD-STD-100).
- c. Complete definition of material requirements and conditions are stated in accordance with the applicable specifications. These shall include heat treatment and protective coatings and other required material considerations.
- d. Rights in data have been properly approved and are identified in accordance with contract requirements.
- e. The order of precedence of references.
- f. Identification requirements are specified when required (see DOD-STD-100).
- g. Legibility and reproducibility are as required (see 3.6).
- h. Microfilm, reproducible and non-reproducible drawings, including originals have been properly prepared for delivery, (see 5.1)

4.2 Validation of drawings. Use of the drawings in producing, inspecting and testing satisfactory production hardware is considered acceptable evidence that the validation requirement has been met. Validation results shall be documented and subject to review by the Government.

5. PACKAGING

5.1 Packaging requirements. Packaging requirements shall be as specified in MIL-T-47500 and the contract or purchase order.

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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. This specification reflects Department of Defense policy for acquiring or preparing those drawings and associated documents necessary to provide identification, inspection procedures, and calibration requirements to assure acceptance of Department of Defense materiel produced under contract.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of the specification.
- b. Applicable DID's (see 6.3).
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1).
- d. Applicable selection worksheets (reproduced, completed and included as part of the contract) (see 3.5).

6.3 Data requirements. The following Data Item Descriptions (DID's) must be listed, as applicable, on the Contract Data Requirements List (DD Form 1423) when this specification is applied on a contract, in order to obtain the data, except where DOD FAR Supplement 227.475-1 exempts the requirement for a DD Form 1423.

<u>Ref Para</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
3.3	DI-CMAN-80782	Special tooling drawings	--
3.3	DI-CMAN-89781	Special test equipment (STE) and special inspection equipment (SIE) drawings	--
3.5	DI-DRPR-80055	Drawing number assignment report	--

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<u>Ref Para</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
3.7.1	DI-CMAN-80785	Special inspection equipment operating instructions (EOIs)	--
3.7.2	DI-CMAN-80786	Special inspection equipment descriptive documentation (EDs)	--
3.7.3	DI-CMAN-80787	Special inspection calibration procedures (CPs)	--
4.2	DI-CMAN-80792	Validation report	--

The above DID's were those 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.

6.3 Drawings prepared by other than manual means. Drawings prepared by other than manual means (by computer, plotter, photsetter, etc.) shall provide all of the engineering information required by this specification. Subject to government approval, minor variations from DOD-STD-100 to accommodate the document preparation technique involved shall be acceptable as long as these variations do not detract from the requirements concerning the information contents.

6.4 Subject term (key word) listing.

Drawings
Production tooling
Special inspection equipment
Special test equipment

Custodian:
Army - MI

Preparing activity:
Army - MI

(Project No. CMAN-0014-4)

Review activities:
Army - AR, AT, AV, CE, CR, GL, ME, SM

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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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-T-47500/4(MI)		2. DOCUMENT TITLE Drawings, Special Test Equipment (SIE), Special Inspection Equipment (SIE), and Special Tooling	
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)	

DD FORM 1426
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