

NOT MEASUREMENT
SENSITIVE

MIL-T-31000
15 December 1989
SUPERSEDING
(See 6.4)

MILITARY SPECIFICATION

TECHNICAL DATA PACKAGES, GENERAL SPECIFICATION FOR

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

1. SCOPE.

1.1. SCOPE. This specification prescribes the requirements for preparing a technical data package (TDP) composed of one or more TDP elements and related TDP management data products. (See 6.1).

1.2. Classification. This specification covers the following elements of TDPs and TDP management data products. (See 6.2)

1.2.1. TDP elements.

a. Conceptual design drawings and associated lists.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Director, Defense Quality and Standardization Office, Technical Data Division, Suite 1403, 5203 Leesburg Pike, Falls Church, VA 22041-3466 using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC D4861

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- b. Developmental design drawings and associated lists.
- c. Product drawings and associated lists.
- d. Commercial drawings and associated lists.
- e. Special inspection equipment (SIE) drawings and associated lists.
- f. Special inspection equipment (SIE) operating instructions.
- g. Special inspection equipment (SIE) descriptive documentation.
- h. Special inspection equipment (SIE) calibration procedures.
- i. Special tooling drawings and associated lists.
- j. Specifications.
- k. Preservation, packaging, packing, and marking data.
- l. Quality engineering planning list.
- m. Software and software documentation.
- n. Test requirements documents.

1.2.2 TDP management data products.

- a. Source control drawing approval request.
- b. Drawing number assignment report.
- c. Proposed critical manufacturing process description.
- d. TDP quality control program plan.
- e. TDP validation report.

2. APPLICABLE DOCUMENTS.

2.1 Government documents.

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

SPECIFICATIONS

MILITARY

MIL-S-83490	Specifications, Types and Forms.
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STANDARDS

MILITARY

DOD-STD-100	Engineering Drawing Practices.
MIL-STD-490	Specification Practices.
MIL-STD-961	Military Specifications and Associated Documents, Preparation of.
MIL-STD-1345	Test Requirements Document, Preparation of..
DOD-STD-1476	Metric System, Application in New Design.
MIL-STD-1519	Test Requirements Document, Preparation of.
MIL-STD-1529	Vendor Substantiation for Aerospace Propulsion System Items.
MIL-STD-2073-1	DOD Materiel Procedures for Development and Application of Packaging Requirements.
DOD-STD-2101	Classification of Characteristics.

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DOD-STD-2167A

Defense System Software Development.

(Unless otherwise specified, copies of 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. The following other Government documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

DEPARTMENT OF DEFENSE

DOD 5220.22-M	Department of Defense Industrial Security Manual for Safeguarding Classified Information.
DOD Federal Acquisition Regulation Supplement, Part 27	Data Requirements.
DOD Directive 5230.24	Distribution Statements on Technical Documents.
Federal Cataloging Handbook H4/H8	Commercial and Government Entity (CAGE) Publications.

(Application for copies of DOD Manual 5220.22-M should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of the DoD Federal Acquisition Regulation Supplement are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001. Copies of DoD Directive 5230.24 are available from the Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, 700 Robbins Avenue, Philadelphia, PA 19111-5093. Copies of the Cataloging Handbook H4/H8 are available from the Commander, Defense Logistics Services Center, Battle Creek, MI 49017-3084.)

2.2 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification shall take precedence.

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Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS.

3.1 General. TDP elements and TDP management data products shall be prepared in accordance with this specification and applicable Data Item Descriptions (DID), as tailored and imposed through contract data requirements lists (CDRL) in contracts, purchase orders, and Military Interdepartmental Procurement Requests (MIPR). These requirements apply to data prepared by either manual or automated methods, such as Computer Aided Design and Computer Aided Manufacturing systems, or combinations thereof. Furthermore, these requirements apply to data using either U. S. customary units of measurement, the International System of Units (SI), or combinations thereof.

3.2 Preparation and management. Prime contractors and their subcontractors shall impose the same requirements for TDP preparation and management on their respective subcontractors as were imposed on them by the Government, the prime contractor, or higher level subcontractor.

3.2.1 Requirements covered by Government or non-Government standardization documents. TDP elements or component parts thereof, shall not be prepared nor submitted for requirements that are defined by an existing Government or non-Government standardization document, such as a specification or standard.

3.2.2 Referenced documents. Documents referenced in a TDP element shall be furnished as an integral part of that element. When first tier references do not provide the technical information required by the TDP element, subordinate reference documents shall be provided until the design disclosure requirements are met. Technical manuals, procedural manuals, maintenance manuals and company drafting manuals shall not be considered as reference documents. When information essential to meeting TDP design disclosure requirements (such as default surface finish values) are contained in such documents, that information must be incorporated in a document acceptable for inclusion in the TDP element.

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3.2.3 Existing data. When existing data meets the following criteria, or can be modified or revised to meet the following criteria, it shall be used in lieu of preparing new data:

a. It is furnished with rights-in-data consistent with the contract stipulations regarding data rights;

b. It is furnished at a cost to the Government equal to or less than the cost of preparing new data;

c. It meets the legibility and reproducibility requirements for the TDP element of which it is to be a part;

d. It meets the design disclosure requirements of the TDP element of which it is to be a part;

e. It is identified by a Commercial and Government Entity (CAGE) Code, document number, title, and applicable contract number(s).

f. Any nonstandard symbols or drawing practices used are explained in the TDP element.

3.3 Protecting classified information. TDPs or parts thereof, containing classified information shall be protected and marked in accordance with the Department of Defense Industrial Security Manual for Safeguarding Classified Information, DOD Manual 5220.22-M.

3.4 Distribution statements. All TDP documents prepared by or for the DoD will cite the appropriate distribution statement, and if applicable, export control notice, in accordance with DoD Directive 5230.24.

3.5 Contract numbers. When a TDP document is prepared under a Government contract, the Government contract number under which it is prepared shall appear on the first sheet of the document original. When a TDP document is delivered under a Government contract other than the one under which it was prepared, the Government contract number under which it is delivered shall appear on the first sheet of each copy submitted. If the document is prepared and submitted under the same contract, only the entry for the contract under which it is prepared is required.

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3.5.1 Contractor identification on TDP documents. When a TDP document is prepared by a design activity other than the one represented by the CAGE code assigned to the document, that design activity shall be identified on the document by its CAGE code or name and the applicable contract numbers. Subcontractors preparing TDP documents shall be identified by CAGE code or name and subcontract numbers so as to establish traceability to the applicable Government contract.

3.5.2 Application of contract numbers. When TDP documents or copies thereof are to be delivered under a subsequent or other contract, cost effective techniques may be used to apply the delivery contract numbers. Examples of such techniques are using a rubber stamp for paper copies, photographic overlays for microfilm, or electronic application to digital data.

3.5.3 Contract numbers in data rights legends. The requirements of paragraphs 3.5 and 3.5.1 do not alter Defense Federal Acquisition Regulations Supplement, Part 27 requirements for identifying contractors and contract numbers in rights-in-data legends. Furthermore, contractor identifications and contract numbers appearing in rights-in-data legends do not satisfy the requirements of paragraphs 3.5 and 3.5.1.

3.6 TDP elements. TDPs shall consist of one or more of the following TDP elements as specified in the contract or purchase order:

3.6.1 Conceptual design drawings and associated lists. Conceptual design drawings and associated lists shall define design concepts in graphic form, and include appropriate textual information required for analysis and evaluation of those concepts. (See 6.3)

3.6.2 Developmental design drawings and associated lists. Developmental design drawings and associated lists shall provide sufficient data to support the analysis of a specific design approach and the fabrication of prototype hardware for test or experimentation. Drawings and lists required to present a design approach may vary from simple sketches to complex drawings, or a combination of both. (See 6.3)

3.6.3 Product drawings and associated lists. Product drawings and associated lists shall provide the necessary design, engineering,

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manufacturing, and quality assurance requirements information necessary to enable the procurement or manufacture of an interchangeable item that duplicates the physical and performance characteristics of the original product, without additional design engineering effort or recourse to the original design activity. Product drawings shall reflect the level of design maturity that the item has attained. When specified in the contract or purchase order, product drawings for aerospace propulsion items shall include vendor substantiation data in accordance with MIL-STD-1529. (See 6.3)

3.6.4 Commercial drawings and associated lists. Commercial drawings and associated lists shall provide engineering and design disclosure information in support of end items that are commercially developed items, off-the-shelf items, or items not developed at Government expense. These drawings and lists are prepared in accordance with the design documentation practices of the contractor or supplier of the item. (See 6.3)

3.6.5 Special inspection equipment (SIE) drawings and associated lists. SIE drawings and associated lists shall be prepared to provide the data required to permit the limited production of SIE which duplicates the physical and performance characteristics of the original SIE. SIE is also known as special test equipment. (See 6.3)

3.6.6 Special inspection equipment operating instructions (EOI). EOIs shall be prepared to provide detailed procedures for setting up and operating a specific item of SIE. (See 6.3)

3.6.7 Special inspection equipment descriptive (ED) documentation. EDs shall be prepared to provide the information whereby personnel, not having detailed knowledge of the SIE may set up, program, operate, calibrate, and maintain a specific item of SIE without the assistance of a design contractor's facilities or highly trained personnel. (See 6.3)

3.6.8 Special inspection equipment calibration procedures (CP). CPs shall be prepared to describe the procedures and requirements for calibrating an item, a system, or a group of SIE used in the testing and inspection of hardware. (See 6.3)

3.6.9 Special tooling drawings and associated lists. Special tooling drawings and associated lists shall be prepared to provide

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the data necessary to enable a competent manufacturer to produce an item which duplicates the physical and performance characteristics identical to those of the original tooling. (See 6.3)

3.6.10 Specifications. Specifications shall be prepared as military specifications or program peculiar specifications as required in the contract or purchase order. (See 6.3)

3.6.10.1 Military specifications. These specifications shall be prepared as coordinated, limited coordination or "USED IN LIEU OF" limited coordination military specifications in accordance with MIL-STD-961.

3.6.10.2 Program peculiar specifications. These specifications shall be prepared in accordance with MIL-STD-490 and meet the requirements for the Type and Form specified in the contract or purchase order. Until MIL-STD-490 is revised to include Forms, Forms shall be in accordance with MIL-S-83490.

3.6.11 Preservation, packaging, packing and marking data. Preservation, packaging, packing, and marking requirements for hardware shall be documented for each end item and repair in accordance with MIL-STD-2073-1. Detailed drawings and associated lists required to describe packaging requirements shall be prepared as product or commercial drawings, whichever was ordered for the item under contract. (See 6.3)

3.6.12 Quality engineering planning list (QEPL). QEPLs shall be prepared for each new end item and for items that incur major design changes. QEPLs shall be prepared at the beginning of the Full Scale Development (FSD) effort and shall be updated to reflect changes that occur as the design matures. QEPLs shall be traceable to the current configuration of the end-item and reflect the status of the quality assurance provisions for assemblies, subassemblies, priority parts, and critical processes. (See 6.3).

3.6.13 Software and software documentation. Software and software documentation required for the operation of the hardware or special inspection equipment related to the hardware defined in the TDP shall be prepared in accordance with DOD-STD-2167. (See 6.3).

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3.6.14 Test requirements documents. Test requirements documents shall be prepared in accordance with MIL-STD-1345 or MIL-STD-1519. (See 6.3)

3.7 TDP management data products. When specified in the contract or purchase order, the following data products related to the management and control of TDPs shall be prepared:

3.7.1 Source control drawing approval request. When specified in the contract or purchase order, a source control drawing approval request shall be prepared and submitted to the cognizant Government design activity prior to preparing a source control drawing. Each source control item shall be approved by the cognizant Government design activity prior to inclusion on a source control drawing. (See 6.3)

3.7.2 Drawing number assignment report. A drawing number assignment report shall be prepared to identify and describe the use of Government drawing numbers by the contractor. (See 6.3)

3.7.3 Proposed critical manufacturing process description. A description of proposed manufacturing processes that are critical to meeting the design requirements of an item shall be prepared and submitted to the cognizant Government design activity for review. (See 6.3)

3.8 Quality assurance provisions (QAP). When specified in the contract or purchase order, the quality assurance requirements for items or assemblies which have inspection characteristics classified as critical, major, or minor in accordance with DOD-STD-2101 shall be documented as QAPs in accordance with APPENDIX B. QAPs are not required for items defined by Government or non-Government standardization documents; for items depicted on a document having an approved source of supply; or for commercial, proprietary, or off-the-shelf items that are used without alteration or selection.

3.9 Legibility and reproducibility. All documents prepared or submitted shall meet the legibility and reproducibility requirements specified in the specification or standard controlling the media in which the data is to be delivered. As a minimum, all lines, symbols, letters, and numerals shall be readable.

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3.10 Contractor and Government Entity (CAGE) Codes. When CAGE Codes are to be listed on documents used in TDPs and TDP elements, only those codes identified in Federal Cataloging Handbook H4/H8 with the Type designation "A" may be used.

3.11 Metric documents. When the contract or purchase order specifies the use of the metric system (SI) in new design in accordance with DOD-STD-1476, TDP documents shall be identified as metric documents and conform to DOD-STD-1476.

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 its 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 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.

4.1.2 Government in-process reviews. The Government reserves the right to perform in-process and final reviews of the TDP during the preparation of the data or upon completion of the data at the contractor's facility, as required by the contract or purchase order.

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4.2 Contractor quality control system. The contractor shall develop and maintain a system for the detailed examination and technical review of the TDP, TDP elements and components thereof to be supplied under the terms of the contract or purchase order. The system shall assure conformance of the TDP to all requirements specified herein and in the DIDS as tailored in the contract or purchase order. The system shall be documented and subject to review by the Government's representative. If the contractor's methods and procedures do not comply with system or do not attain their objectives, the system shall be subject to disapproval by the Government.

4.2.1 TDP quality control system requirements. The contractor's quality control system shall address:

a. The methods and procedures to be used to control the development, maintenance and delivery of the TDP, including the use of electronic approvals or authorizations, if applicable.

b. Assignments of responsibilities and procedures for the detailed examination, review and final approval of the TDP by the contractor.

c. Qualifications of the personnel performing the examinations and reviews of the TDP.

d. Procedural flow of information and documentation within the organization for the development, review and approval processing of the TDP and components thereof.

e. Procedures for ensuring that nonstandard items used in the design have been documented as required for the TDP element.

f. Methods of ensuring that approved engineering changes have been incorporated into the TDP in accordance with contract requirements.

g. Procedures for ensuring that security markings, distribution statements, and rights-in-data legends are assigned and applied in accordance with applicable specifications, standards, regulations and public laws.

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h. Methods of detecting, correcting, and preventing the recurrence of deficiencies within the TDP and discrepancies between the elements and components thereof.

4.2.2 TDP quality control program plan. When specified in the contract or purchase order, the contractor's TDP quality control system shall be documented in a TDP quality control program plan. If check lists are to be used in the TDP inspections, copies of the lists shall be included in the plan. (See 6.3).

4.3 Inspection of TDP elements. TDP elements and the components thereof, including data prepared by subcontractors, shall be inspected for the following:

a. Compliance with the requirements of this specification and applicable DIDs as tailored in the contract or purchase order.

b. Inclusion of all documents, including sub-tier references, required to meet the design disclosure requirements of the TDP element.

c. Accuracy of the assignment and identification of security markings, distribution statements and rights-in-data legends.

d. Inclusion of contract numbers and contractor identifications.

e. Legibility and reproducibility.

f. TDP components have not been prepared for requirements that could be met by existing Government or non-Government standardization documents except as permitted for commercial drawings and associated lists.

g. Accuracy of the information contained in the TDP documents.

4.4 TDP validation. The contractor shall validate that the TDP and elements thereof conform to the contractual requirements, and that they accurately depict the hardware developed or produced under the contract. Use of the TDP in producing, inspecting and testing satisfactory hardware is considered acceptable evidence that the validation requirement has been met. When specified in the contract or purchase order, the contractor's validation shall be documented in a TDP validation report. (See 6.3)

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5. PACKAGING

5.1 Packaging of the TDP. Packaging of TDP elements and TDP management data products shall be as required by the specification or standard controlling the deliverable media cited in the contract or purchase order.

6. NOTES.

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

6.1 Intended use. TDP elements conforming to the requirements of this specification are intended for use as a basis for design evaluation, competitive acquisition, installation, maintenance, modification, or engineering support of military materiel developed by or for the Department of Defense. TDP management data products are intended for use by the acquiring activity in ensuring that TDP elements acquired under this specification will be satisfactory for their intended uses.

6.1.1 Other technical data requirements. In some instances, technical data products not covered by this specification may be required to enable the Government to perform the functions listed in 6.1. When this occurs, data managers are requested to inform the Preparing Activity of their needs so those data products can be considered for addition to this specification.

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)
- c. The TDP elements to be supplied. (See 1.2.1 and 3.6)

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d. The TDP data management products to be supplied. (See 1.2.2, 3.7 and Appendix A)

e. A completed option selection worksheet for drawings and associated lists (conceptual, developmental, product, commercial, special inspection equipment and production tooling) and specifications. See figures 1 through 8.

6.3 Data requirements. The following Data Item Descriptions (DIDs) 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 27.475-1 exempts the requirement for a DD Form 1423.

<u>Reference Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
3.6.1	DI-DRPR-81001	Conceptual Design Drawings and Associated Lists	Appendix A
3.6.2	DI-DRPR-81002	Developmental Design Drawings and Associated Lists	Appendix A
3.6.3	DI-DRPR-81000	Product Drawings and Associated Lists	Appendix A
3.6.4	DI-DRPR-81003	Commercial Drawings and Associated Lists	Appendix A
3.6.5	DI-DRPR-81004	Special Inspection Equipment Drawings and Associated Lists	Appendix A
3.6.6	DI-QCIC-81005	Special Inspection Equipment Operating Instructions	Appendix A
3.6.7	DI-QCIC-81006	Special Inspection Equipment Descriptive Documentation	Appendix A
3.6.8	DI-QCIC-81007	Special Inspection Equipment Calibration Procedures	Appendix A
3.6.9	DI-DRPR-81008	Special Tooling Drawings and Associated Lists	Appendix A

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<u>Reference Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
3.6.10	(see 6.3.1)	Specifications	See 6.3.1, Appendix A
3.6.11	(see 6.3.2)	Preservation, Packaging, Packing, and Marking Data	See 6.3.2, Appendix A
3.6.12	DI-CMAN-80788	Quality Engineering Planning List	Appendix A
3.6.13	(see 6.3.3)	Software and software documentation	See 6.3.3, Appendix A
3.6.14	DI-T-2181	Test requirements documents	Appendix A
3.6.14	DI-ATTS-80041	Test requirements documents	Appendix A
3.7.1	DI-DRPR-81010	Source Control Drawing Approval Request	Appendix A
3.7.2	DI-DRPR-81011	Drawing Number Assignment Report	Appendix A
3.7.3	DI-CMAN-81012	Proposed Critical Manufacturing Process Description	Appendix A
4.2.2	DI-QCIC-81009	TDP Quality Control Program Plan	Appendix A
4.4	DI-QCIC-81013	TDP Validation Report	Appendix A

6.3.1 DIDs for specifications. Applicable DIDs and tailoring instructions for acquiring specifications are specified in MIL-STD-490 and MIL-STD-961.

6.3.2 DIDs for preservation, packaging, packing and marking data. Applicable DIDs and tailoring instructions for acquiring preservation, packaging, packing and marking data are specified in MIL-STD-2073-1.

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6.3.3 DIDs for software and software documentation. Applicable DIDs and tailoring instructions for acquiring software and software documentation are specified in DOD-STD-2167.

6.4 Supersession data. This specification supercedes DOD-D-1000B dated 28 October 1977; MIL-T-47500(MI) dated 24 March 1989; MIL-T-47500/1(MI) dated 24 March 1989; MIL-T-47500/2(MI) dated 24 March 1989; MIL-T-47500/3(MI) dated 24 March 1989; MIL-T-47500/4(MI) dated 24 March 1989; MIL-T-47500/5(MI) dated 24 March 1989; and MIL-T-47500/6(MI) dated 24 March 1989.

6.4.1 Delayed deactivation of superseded documents. The documents superseded by this specification will remain active through 30 June 1990. This delay in deactivating the superseded documents is to allow a period of time for Departments and Agencies to incorporate the data acquisition concepts of this specification into their implementing instructions and procedures.

6.5 Definitions. For the purposes of this specification, the following definitions apply:

6.5.1 Associated list. A tabulation of engineering information pertaining to an item depicted on an engineering drawing or on a set of engineering drawings. (See DOD-STD-100).

6.5.2 Commercial and Government Entity (CAGE) Code. A five character code assigned to commercial activities that manufacture or supply items used by the Federal Government and to Government activities that control design or are responsible for the development of certain specifications, standards, or drawings which control the design of Government items. CAGE Code assignments are listed in the H4/H8 CAGE Publications.

6.5.3 Commercial drawings. Drawings prepared by a commercial design activity, in accordance with that activity's documentation standards and practices, to support the development and manufacture of a product not developed at Government expense.

6.5.4 Commercial item. A product, material, component, sub-system, or system sold or traded to the general public in the course of normal business operations at prices based on established catalog or market prices.

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6.5.5 Company standard. A company document which establishes engineering and technical limitations and applications for items, materials, processes, methods, designs and engineering practices unique to that company.

6.5.6 Competent manufacturer. A manufacturer capable of producing similar products at the same state of the art in the same or similar lines of technology.

6.5.7 Conceptual design drawings. Drawings that describe the engineering concepts on which a proposed technology or design approach is based.

6.5.8 Critical application item. Any item essential to preserving human life, or which, if it fails, endangers human life or adversely affects the completion of a military operation directly or through the impact of its failure on an end item or system.

6.5.9 Critical manufacturing process. A process that is mandatory for use during the manufacturing of an item and without which, an acceptable item cannot be produced.

6.5.10 Developmental design drawings. Drawings which describe the physical and functional characteristics of a specific design approach to the extent necessary to permit the analytical evaluation of the ability of the design approach to meet specified requirements and enable the development and manufacture of experimental hardware.

6.5.11 Drawing form. A sheet of drafting material displaying the basic format features such as title block, general tolerance blocks and margins.

6.5.12 Drawing format. The arrangement and organization of information within a drawing. This includes such features as the size and arrangement of blocks, notes, lists, revision information, and the use of optional or supplemental blocks.

6.5.13 Non-Government standardization document. A standardization document developed by a private sector association, organization or technical society which plans, develops, establishes or coordinates standards, specifications, handbooks or related documents.

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6.5.14 Product drawings. Engineering drawings that provide the necessary design, engineering, manufacturing and quality support information necessary to permit a competent manufacturer to produce an interchangeable item which duplicates the physical and performance characteristics of the original design without additional design engineering or recourse to the original manufacturer.

6.5.15 Quality assurance provisions. Quality assurance requirements documented and annotated in accordance with APPENDIX B herein.

6.5.16 Quality assurance requirements. The tests and inspections necessary to verify that an end item meets the physical and functional requirements for which it was designed, or verify that a component, part or subassembly will perform satisfactorily in its intended application.

6.5.17 Reference documents. Documents referred to in a TDP element that contain information necessary to meet the design disclosure requirements of that TDP element.

6.5.18 Special inspection equipment. Either single or multipurpose integrated test units engineered, designed, fabricated or modified to perform special purpose testing of an item. It consists of items or assemblies of equipment that are interconnected and interdependent so as to become a new functional entity for testing purposes (FAR 45.101).

6.5.19 Special tooling. Unique tooling which is mandatory to the manufacture of an item. It differs from tooling designed to increase manufacturing efficiency in that the use of the special tool imparts some characteristic to the item that is necessary for satisfactory performance and cannot be duplicated through other generally available manufacturing methods.

6.5.20 Technical data package. A technical description of an item adequate for supporting an acquisition strategy, production, engineering and logistics support. The description defines the required design configuration and procedures required to ensure adequacy of item performance. It consists of all applicable technical data such as drawings and associated lists, specifications, standards, performance requirements, quality assurance provisions, and packaging details.

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6.5.21 Vendor substantiation data. The quality conformance inspections, tests, evaluation criteria and procedures to be followed to approve a potential supplier as a qualified source for a product, material or process used in an aerospace propulsion system.

6.6 Subject term (keyword) listing.

- Conceptual design drawings
- Commercial drawings
- Developmental design drawings
- Drawing number assignment report
- Preservation, packaging and packing data
- Product drawings
- Proposed critical manufacturing process description
- Quality Assurance Procedures
- Quality engineering planning list
- SIE Calibration procedures
- SIE descriptive documentation
- SIE drawings
- SIE operating instructions
- Software and software documentation
- Source control drawing approval request
- Special tooling drawings
- TDP quality control program plan
- TDP quality control system
- TDP validation
- Test requirements document

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TDP OPTION SELECTION WORKSHEET PRODUCT DRAWINGS AND ASSOCIATED LISTS					
A. CONTRACT NO.		B. EXHIBIT/ATTACHMENT NO.		C. CLIN.	
D. CORL DATA ITEM NO.					
1. DELIVERABLE PRODUCT (X and complete as applicable)					
a. ORIGINALS (Drawing masters) (Identify specification, type, grade and class, etc.)					
b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)					
c. DIGITAL DATA (Identify specification, exchange media, etc.)					
2. CAGE CODE AND DOCUMENT NUMBERS (X one)					
a. CONTRACTOR					
b. GOVERNMENT (Complete (1) and (2) or (3))					
(1) Use CAGE Code		(2) Use Document Numbers		(3) To Be Assigned By:	
3. DRAWING FORMATS AND DRAWING FORMS (X one and complete as applicable)					
a. CONTRACTOR FORMATS. Forms to be supplied by contractor.					
b. GOVERNMENT FORMATS. Forms to be supplied by contractor. Samples supplied by (Specify)					
c. GOVERNMENT FORMATS. Forms to be supplied as Government Furnished Material by (Specify)					
4. TYPES AND QUANTITY OF DRAWINGS SELECTION (X one)					
a. CONTRACTOR SELECTS				b. GOVERNMENT SELECTS (Specify in Item 5)	
5. ASSOCIATED LISTS (X and complete as applicable)					
a. PARTS LISTS (X one)		(1) Integral		(2) Separate	
				(3) Contractor's Option	
b. DATA LISTS (X one)		(1) Not Required		(2) Required (Specify levels of assembly)	
c. INDEX LISTS (X one)		(1) Not Required		(2) Required (Specify levels of assembly)	
6. DETAILS (X one)					
a. MULTIDETAILED DRAWINGS PERMITTED				b. MONODETAILED DRAWINGS MANDATORY	
7. QUALITY ASSURANCE PROVISIONS (X one)					
a. NOT REQUIRED. MIL-T-31000, para 3.8 does not apply.					
b. REQUIRED. MIL-T-31000, para 3.8 applies. Quality assurance requirements shall be documented as QAPs in accordance with MIL-T-31000, Appendix B. (X one)					
		(1) DARCOM Form 2484-R Required		(2) DARCOM Form 2484-R Not Required	
8. VENDOR SUBSTANTIATION DATA (X one)					
a. NOT REQUIRED				b. REQUIRED	
9. OTHER TAILORING (Attach additional sheets as necessary)					

DD Form 2554-1, DEC 89

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FIGURE 1. DD Form 2554-1, TDP Option Selection Worksheet - Product Drawings and Associated Lists.

MIL-T-31000

TDP OPTION SELECTION WORKSHEET CONCEPTUAL DESIGN DRAWINGS AND ASSOCIATED LISTS					
A. CONTRACT NO.		B. EXHIBIT/ATTACHMENT NO.		C. CLIN.	
D. CDRL DATA ITEM NO.					
1. DELIVERABLE PRODUCT (X and complete as applicable)					
a. ORIGINALS (Drawing masters) (Identify specification, type, grade and class, etc.)					
b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)					
c. DIGITAL DATA (Identify specification, exchange media, etc.)					
2. CAGE CODE AND DOCUMENT NUMBERS (X one)					
a. CONTRACTOR					
b. GOVERNMENT (Complete (1) and (2) or (3))					
(1) Use CAGE Code		(2) Use Document Numbers		(3) To Be Assigned By:	
3. DRAWING FORMATS AND DRAWING FORMS (X one and complete as applicable)					
a. CONTRACTOR FORMATS. Forms to be supplied by contractor.					
b. GOVERNMENT FORMATS. Forms to be supplied by contractor. Samples supplied by (Specify)					
c. GOVERNMENT FORMATS. Forms to be supplied as Government Furnished Material by (Specify)					
4. TYPES AND QUANTITY OF DRAWINGS SELECTION (X one)					
a. CONTRACTOR SELECTS				b. GOVERNMENT SELECTS (Specify in Item 6)	
5. ASSOCIATED LISTS (X and complete as applicable)					
a. PARTS LISTS (X one)		(1) Integral		(2) Separate	
				(3) Contractor's Option	
b. DATA LISTS (X one)		(1) Not Required		(2) Required (Specify levels of assembly)	
c. INDEX LISTS (X one)		(1) Not Required		(2) Required (Specify levels of assembly)	
6. OTHER TAILORING (Attach additional sheets as necessary)					

DD Form 2554-2, DEC 89

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FIGURE 2. DD Form 2554-2, TDP Option Selection Worksheet - Conceptual Design Drawings.

MIL-T-31000

TDP OPTION SELECTION WORKSHEET DEVELOPMENTAL DESIGN DRAWINGS AND ASSOCIATED LISTS			
A. CONTRACT NO.		B. EXHIBIT/ATTACHMENT NO.	
		C. CLIN.	
		D. CORL DATA ITEM NO.	
1. DELIVERABLE PRODUCT (X and complete as applicable)			
a. ORIGINALS (Drawing masters) (Identify specification, type, grade and class, etc.)			
b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)			
c. DIGITAL DATA (Identify specification, exchange media, etc.)			
2. CAGE CODE AND DOCUMENT NUMBERS (X one)			
a. CONTRACTOR			
b. GOVERNMENT (Complete (1) and (2) or (3))			
(1) Use CAGE Code	(2) Use Document Numbers	(3) To Be Assigned By:	
3. DRAWING FORMATS AND DRAWING FORMS (X one and complete as applicable)			
a. CONTRACTOR FORMATS. Forms to be supplied by contractor.			
b. GOVERNMENT FORMATS. Forms to be supplied by contractor. Samples supplied by (Specify)			
c. GOVERNMENT FORMATS. Forms to be supplied as Government Furnished Material by (Specify)			
4. TYPES AND QUANTITY OF DRAWINGS SELECTION (X one)			
a. CONTRACTOR SELECTS		b. GOVERNMENT SELECTS (Specify in Item 8)	
5. ASSOCIATED LISTS (X and complete as applicable)			
a. PARTS LISTS (X one)	(1) Integral	(2) Separate	(3) Contractor's Option
b. DATA LISTS (X one)	(1) Not Required	(2) Required (Specify levels of assembly)	
c. INDEX LISTS (X one)	(1) Not Required	(2) Required (Specify levels of assembly)	
6. DETAILS (X one)			
a. MULTIDETAIL DRAWINGS PERMITTED		b. MONODETAIL DRAWINGS MANDATORY	
7. APPLICABILITY OF DOD-STD-100. The following chapters of DOD-STD-100 apply: (X as applicable)			
a. CHAPTER 300, "DRAWING TITLES"	b. CHAPTER 400, "NUMBERING CODING AND IDENTIFICATION"	c. CHAPTER 500, "REVISION OF ENGINEERING DRAWINGS"	
8. OTHER TAILORING (Attach additional sheets as necessary)			

DD Form 2554-3, DEC 89

239360

FIGURE 3. DD Form 2554-3, TDP Option Selection Worksheet - Developmental Design Drawings and Associated Lists.

MIL-T-31000

TDP OPTION SELECTION WORKSHEET COMMERCIAL DRAWINGS AND ASSOCIATED LISTS			
A. CONTRACT NO.	B. EXHIBIT/ATTACHMENT NO.	C. CLIN.	D. CORL DATA ITEM NO.
1. DELIVERABLE PRODUCT (X and complete as applicable)			
	a. ORIGINALS (Drawing masters)		
	b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)		
	c. DIGITAL DATA (Identify specification, exchange media, etc.)		
2. OTHER TAILORING (Attach additional sheets as necessary)			

DD Form 2554-4, DEC 89

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FIGURE 4. DD Form 2554-4, TDP Option Selection Worksheet - Commercial Drawings and Associated Lists.

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TDP OPTION SELECTION WORKSHEET					
SPECIAL INSPECTION EQUIPMENT DRAWINGS AND ASSOCIATED LISTS					
A. CONTRACT NO.		B. EXHIBIT/ATTACHMENT NO.		C. CLIN.	
D. CDRL DATA ITEM NO.					
1. DELIVERABLE PRODUCT (X and complete as applicable)					
a. ORIGINALS (Drawing masters) (Identify specification, type, grade and class, etc.)					
b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)					
c. DIGITAL DATA (Identify specification, exchange media, etc.)					
2. CAGE CODE AND DOCUMENT NUMBERS (X one)					
a. CONTRACTOR					
b. GOVERNMENT (Complete (1) and (2) or (3))					
(1) Use CAGE Code		(2) Use Document Numbers		(3) To Be Assigned By:	
3. DRAWING FORMATS AND DRAWING FORMS (X one and complete as applicable)					
a. CONTRACTOR FORMATS. Forms to be supplied by contractor.					
b. GOVERNMENT FORMATS. Forms to be supplied by contractor. Samples supplied by (Specify)					
c. GOVERNMENT FORMATS. Forms to be supplied as Government Furnished Material by (Specify)					
4. TYPES AND QUANTITY OF DRAWINGS SELECTION (X one)					
a. CONTRACTOR SELECTS				b. GOVERNMENT SELECTS (Specify in Item 6)	
5. ASSOCIATED LISTS (X and complete as applicable)					
a. PARTS LISTS (X one)		(1) Integral	(2) Separate	(3) Contractor's Option	
b. DATA LISTS (X one)		(1) Not Required	(2) Required (Specify levels of assembly)		
c. INDEX LISTS (X one)		(1) Not Required	(2) Required (Specify levels of assembly)		
6. OTHER TAILORING (Attach additional sheets as necessary)					

DD Form 2554-5, DEC 89

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FIGURE 5. DD Form 2554-5, TDP Option Selection Worksheet - Special Inspection Equipment Drawings and Associated Lists.

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TDP OPTION SELECTION WORKSHEET SPECIAL TOOLING DRAWINGS AND ASSOCIATED LISTS					
A. CONTRACT NO.		B. EXHIBIT/ATTACHMENT NO.		C. CLIN.	
				D. CDRL DATA ITEM NO.	
1. DELIVERABLE PRODUCT (X and complete as applicable)					
a. ORIGINALS (Drawing masters) (Identify specification, type, grade and class, etc.)					
b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)					
c. DIGITAL DATA (Identify specification, exchange media, etc.)					
2. CAGE CODE AND DOCUMENT NUMBERS (X one)					
a. CONTRACTOR					
b. GOVERNMENT (Complete (1) and (2) or (3))					
(1) Use CAGE Code		(2) Use Document Numbers		(3) To Be Assigned By:	
3. DRAWING FORMATS AND DRAWING FORMS (X one and complete as applicable)					
a. CONTRACTOR FORMATS. Forms to be supplied by contractor.					
b. GOVERNMENT FORMATS. Forms to be supplied by contractor. Samples supplied by (Specify)					
c. GOVERNMENT FORMATS. Forms to be supplied as Government Furnished Material by (Specify)					
4. TYPES AND QUANTITY OF DRAWINGS SELECTION (X one)					
a. CONTRACTOR SELECTS				b. GOVERNMENT SELECTS (Specify in Rem 6)	
5. ASSOCIATED LISTS (X and complete as applicable)					
a. PARTS LISTS (X one)		(1) Integral		(2) Separate	
				(3) Contractor's Option	
b. DATA LISTS (X one)		(1) Not Required		(2) Required (Specify levels of assembly)	
c. INDEX LISTS (X one)		(1) Not Required		(2) Required (Specify levels of assembly)	
6. OTHER TAILORING (Attach additional sheets as necessary)					

DD Form 2554-6, DEC 89

209760

FIGURE 6. DD Form 2554-6, TDP Option Selection Worksheet - Special Tooling Drawings and Associated Lists.

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TDP OPTION SELECTION WORKSHEET MILITARY SPECIFICATIONS			
A. CONTRACT NO.	B. EXHIBIT/ATTACHMENT NO.	C. CLM.	D. CDRL DATA ITEM NO.
1. ITEM, PROCESS OR MATERIAL			
2. MILITARY SPECIFICATION TYPE PER MIL-STD-961 (X one and complete as applicable)			
a. COORDINATED	b. LIMITED COORDINATION (Specify coordination range)	c. "USED IN LIEU OF" LIMITED COORDINATION (Specify coordination range)	
3. ASSOCIATED DOCUMENTS PER MIL-STD-961. The following documents associated with military specifications are required under the CDRL data item number referenced herein. (X and complete as applicable)			
a. DOCUMENT	b. CDRL DATA ITEM NO.	a. DOCUMENT	b. CDRL DATA ITEM NO.
(1) Supplements		(5) Cancellation Notice	
(2) Amendments		(6) Reinstatement Notice	
(3) Validation Notice		(7) Military Specification Sheets	
(4) Inactive for New Design Notice			
4. DELIVERABLE PRODUCT (X and complete as applicable)			
a. ORIGINALS (Masters) (Identify specification, type, grade and class, etc.)			
b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)			
c. DIGITAL DATA (Identify specification, exchange media, etc.)			
5. OTHER TAILORING (Attach additional sheets as necessary)			

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FIGURE 7. DD Form 2554-7, TDP Option Selection Worksheet - Military Specifications.

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TDP OPTION SELECTION WORKSHEET PROGRAM PECULIAR SPECIFICATIONS			
A. CONTRACT NO.		B. EXHIBIT/ATTACHMENT NO.	
		C. CLIN.	
		D. CDRL DATA ITEM NO.	
1. ITEM, PROCESS OR MATERIAL			
2. SPECIFICATION TYPE PER MIL-STD-490 (X one)			
a. TYPE A - SYSTEM/SEGMENT SPECIFICATION		c. TYPE C - PRODUCT SPECIFICATIONS	
b. TYPE B - DEVELOPMENT SPECIFICATIONS		d. TYPE D - PROCESS SPECIFICATION	
(1) Type B1 - Prime Item		(1) (a) Type C1a - Prime Item Function	
(2) Type B2 - Critical Item		(b) Type C1b - Prime Item Fabrication	
(3) Type B3 - Non-Complex Item		(2) (a) Type C2a - Critical Item Function	
(4) Type B4 - Facility or Ship		(b) Type C2b - Critical Item Fabrication	
(5) Type B5 - Computer Program		(3) Type C3 - Non-Complex Item Fabrication	
		(4) Type C4 - Inventory Item	
3. FORM (X one)			
a. FORM 1a		b. FORM 1b	
		c. FORM 2	
		d. FORM 3	
4. ASSOCIATED DOCUMENTS PER MIL-STD-490. The following documents associated with program peculiar specifications are required under the CDRL data item number cited herein. (X and complete as applicable)			
a. DOCUMENT		b. CDRL DATA ITEM NO.	
(1) Specification Change Notice		(5) Software Top Level Design Document	
(2) Engineering Change Proposals		(6) Software Detailed Design Document	
(3) Specification Revision Pages		(7) Interface Design Document	
(4) Changes to General Specification for Ships of the U.S. Navy		(8) Data Base Design Document	
5. DELIVERABLE PRODUCT (X and complete as applicable)			
a. ORIGINALS (Masters) (Identify specification, type, grade and class, etc.)			
b. REPRODUCTIONS (Identify specification, type, grade and class, etc., and quantity of each)			
c. DIGITAL DATA (Identify specification, exchange media, etc.)			
6. OTHER TAILORING (Attach additional sheets as necessary)			

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247760

FIGURE 8. DD Form 2554-8, TDP Option Selection Worksheet - Program Peculiar Specifications.

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SELECTION AND ORDERING GUIDANCE

10. SCOPE.

10.1. Scope. This appendix provides guidance for Government personnel on determining what technical data should be acquired and on completing the TDP option selection worksheets, DD Forms 2554-1 through 2554-8, associated with this specification. This appendix is not a mandatory part of the specification.

20. APPLICABLE DOCUMENTS.20.1 Government documents.

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

SPECIFICATIONS

MILITARY

MIL-D-5480	Data, Engineering and Technical, Reproduction Requirements for.
MIL-M-9868	Microfilming of Engineering Documents, 35mm Requirements for.
MIL-M-38761	Microfilming and Photographing of Engineering/Technical Data and Related Documents: PCAM Card Preparation, Engineering Data Micro-Reproduction System, General Requirements for, Preparation of.

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STANDARDS

MILITARY

MIL-STD-1367	Packaging, Handling, Storage, and Transportability Program Requirements (for Systems and Equipment)
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HANDBOOKS

MIL-HDBK-59	Computer-Aided Acquisition and Logistics Support (CALS) Program Implementation Guide.
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(Unless otherwise specified, copies of 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. The following other Government documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

Public Law 98-525	Defense Procurement Reform Act of 1984.
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(Copies of the DoD Federal Acquisition Regulation Supplement are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.)

30. ACQUISITION TECHNIQUES.

30.1 General. Government activities acquiring technical data are required to carefully review their needs for technical data and TDP management data products. Each TDP element and each TDP management data product must be ordered as a separate entry on the DD Form 1423, Contract Data Requirements List (CDRL) included in the contract or purchase order. For some TDP elements, standard ordering forms, identified as TDP option selection worksheets have been developed.

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30.2 Selecting and ordering TDP elements.30.2.1 Conceptual design drawings and associated lists.

a. Selection. Conceptual design drawings and associated lists are used when there is a need to verify preliminary design and engineering and confirm that the technology is feasible and that the design concept has the potential to be useful in meeting a stated military requirement.

b. Ordering. Require the preparation of a TDP containing conceptual design drawings and associated lists in the Statement of Work. Cite DI-DRPR-81001 and reference DD Form 2554-2 in the CDRL. Complete a DD Form 2554-2 and include it in the contract or purchase order. Section 40 contains guidance on completing the form.

30.2.2 Developmental design drawings and associated lists.

a. Selection. Developmental design drawings and associated lists are used to describe a specific design approach. They provide the information to develop hardware for test or experimentation, and for the analytical evaluation of inherent ability of the design approach to attain the required performance.

b. Ordering. Require the preparation of a TDP containing developmental design drawings and associated lists in the Statement of Work. Cite DI-DRPR-81002 and reference the DD Form 2554-3 in the CDRL. Complete a DD Form 2554-3 and include it in the contract or purchase order. Section 40 contains guidance on completing the form.

~30.2.3 Product drawings and associated lists.

a. Selection. Product drawings and associated lists should be selected whenever there is current or future need for the Government to procure or manufacture the equipment, components, or spares and repair parts from either the original equipment manufacturer or an alternate source.

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b. Ordering. Require the preparation of a TDP containing production drawings and associated lists in the Statement of Work. Cite DI-DRPR-81000 and reference the DD Form 2554-1 in the CDRL. Complete a DD Form 2554-1 and include it in the contract or purchase order. Section 40 contains guidance on completing the form.

30.2.4 Commercial drawings and associated lists.

a. Selection. Commercial drawings and associated lists are used to obtain existing information regarding commercial off-the-shelf items acquired by the Government as end items. They are not intended to be used to document commercial items used as components in end items developed at Government expense. Prior to contracting for commercial drawings, the acquiring activity should review the drawings for their adequacy for the Government's intended uses for the drawings. Commercial drawings and associated lists should not be acquired as a substitute for product drawings and associated lists when the item is designed at Government expense.

b. Ordering. Cite DI-DRPR-81003 and reference the DD Form 2554-4 in the CDRL. Complete a DD Form 2554-4 and include it in the contract or purchase order. Section 40 contains guidance on completing the form.

30.2.5 Special inspection equipment (SIE) drawings and associated lists.

a. Selection. SIE drawings and associated lists are used for the limited production of SIE required to inspect and test a specific hardware system. SIE drawings are not adequate to procure and maintain logistic support of standard military inspection systems and test equipment that are deployed throughout the maintenance and user communities.

b. Ordering. Require the preparation of a TDP containing SIE drawings and associated lists in the Statement of Work. Cite DI-DRPR-81004 and reference the DD Form 2554-5 in the CDRL. Complete a DD Form 2554-5 and include it in the contract or purchase order. Section 40 contains guidance on completing the form.

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30.2.6 SIE operating instructions.

a. Selection. SIE operating instructions should only be ordered when SIE drawings are also required under the contract or purchase order.

b. Ordering. Require the preparation of a TDP containing SIE operating instructions in the Statement of Work. Cite DI-QCIC-81005 in the CDRL

30.2.7 SIE descriptive documentation.

a. Selection. SIE descriptive documentation should only be ordered when SIE drawings are also required under the contract or purchase order.

b. Ordering. Require the preparation of a TDP containing SIE descriptive documentation in the Statement of Work. Cite DI-QCIC-81006 in the CDRL.

30.2.8 SIE calibration procedures.

a. Selection. SIE calibration procedures should only be ordered when SIE is required to manufacture the equipment or hardware to be delivered under the contract.

b. Ordering. Require the preparation of a TDP containing SIE calibration procedures in the Statement of Work. Cite DI-QCIC-81007 in the CDRL.

30.2.9 Special tooling drawings and associated lists.

a. Selection. Special tooling drawings are used to permit the Government or an alternate source to duplicate the physical and functional requirements of tooling that are mandatory for the manufacture of the item. These drawings are intended for limited production of tooling for use in a manufacturing environment. They are not adequate for acquiring or producing support equipment.

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b. Ordering. Require the preparation of a TDP containing special tooling drawings and associated lists in the Statement of Work. Cite DI-DRPR-81008 and reference the DD Form 2554-6 in the CDRL. Complete a DD Form 2554-6 and include it in the contract or purchase order. Section 40 contains guidance on completing the form.

30.2.10 Specifications.

a. Selection. Refer to MIL-STD-961, section 6, for guidance in determining the type of military specification and associated documents to be acquired. Refer to MIL-STD-490, section 6, for guidance in selecting the Types and Forms of program peculiar specifications to be acquired. Until MIL-STD-490 is actually revised to include Forms, refer to MIL-S-83490, section 6, for guidance in selecting the appropriate Forms for program peculiar specifications.

b. Ordering. Require the preparation of a TDP containing specifications in the Statement of Work. Cite the appropriate DID as listed in MIL-STD-961 or MIL-STD-490 in the CDRL. Reference the completed DD Form 2554-7 or DD Form 2554-8 in the CDRL. Complete a DD Form 2554-7 or DD Form 2554-8 and include it in the contract or purchase order. Additional documentation associated with specifications must be ordered as separate data items on the CDRL. Section 40 contains guidance on completing the forms.

30.2.11 Preservation, packaging, packing, and marking data.

a. Selection. Prior to ordering preservation, packaging, packing and marking data, an engineering task to develop these requirements must be included in the contract or purchase order. An example of such a task would be a requirement for the contractor to maintain a packaging, handling, storage and transportability program in accordance with MIL-STD-1367.

b. Ordering. Require the preparation of a TDP containing preservation, packaging, packing and marking data in the Statement of Work. Cite the appropriate DID as listed in MIL-STD-2073-1, Appendix J, in the CDRL.

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30.2.12 Quality engineering planning list (QEPL).

a. Selection. QEPLs should only be ordered when quality assurance provisions have been required for product drawings and the acquiring activity wishes to monitor the progress of the contractor in developing and documenting the quality assurance requirements for the hardware. Prior to selecting QEPLs as an element of the TDP, the acquiring activity must require classification of characteristics in accordance with MIL-STD-2101, and documentation of quality assurance requirements as quality assurance provisions in accordance with 3.8 and Appendix B.

b. Ordering. Require the preparation of a TDP containing QEPLs in the Statement of Work. Cite DI-CMAN-80788 in the CDRL.

30.2.13 Software and software documentation.

a. Selection. Software and software documentation should be acquired when it is necessary for the operation of the end item, component systems thereof, or special inspection equipment covered by the TDP. Refer to DOD-STD-2167 for information on selecting software products and related software documentation.

b. Ordering. Require the preparation of a TDP including software and software documentation in the Statement of Work. Cite the appropriate DIDs as identified in DOD-STD-2167, section 6, in the CDRL.

~30.2.14 Test requirements documents.

a. Selection. Test requirements documents (TRD) are acquired when the Government needs data to select or design test equipment to test the item under contract, interface devices to connect the item to test equipment, or to develop procedures to test, align and fault isolate the item or the interface device. The two primary standards controlling the preparation of TRDs are MIL-STD-1345 and MIL-STD-1519. The choice of the specific standard to be used depends on the preference of the acquiring activity.

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b. Ordering. Require the preparation of a TDP including test requirements documents in accordance with either MIL-STD-1345 or MIL-STD-1519 in the Statement of Work. When MIL-STD-1345 is used in the Statement of Work, cite DI-T-2181 in the CDRL. When MIL-STD-1519 is used in the Statement of Work, cite DI-ATTS-80041 in the CDRL.

30.3 TDP management data products and their uses.

30.3.1 Source control drawing approval request.

a. Selection. Source control drawing approval requests are used to ensure that only valid source qualification requirements are included in the TDP. Under Public Law 98-525, the Defense Procurement Reform Act of 1984, the Government must actively seek multiple sources for any item for which source qualification is a requirement. This obligation applies to source control items as well as qualified products list (QPL) and qualified manufacturers list (QML) items.

b. Ordering. Require the preparation of source control drawing approval requests in the Statement of Work. Cite DI-DRPR-81010 and identify the approving activity in the CDRL.

30.3.2 Drawing number assignment report.

a. Selection. A drawing number assignment report provides the Government with the information necessary to complete Government records on the use of specific Government drawing numbers. This report should only be acquired when drawings and associated lists are to be identified with Government CAGE Codes and document numbers.

b. Ordering. Require the preparation of drawing number assignment reports in the Statement of Work. Cite DI-DRPR-81011 in the CDRL.

30.3.3 Proposed critical manufacturing process description.

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a. Selection. The proposed critical manufacturing process description is used to provide the Government with the opportunity to approve or disapprove the documentation of a manufacturing process as critical in the TDP.

b. Ordering. Require the preparation of proposed critical manufacturing process descriptions in the Statement of Work. Cite DI-CMAN-81012 and identify the approving activity in the CDRL.

30.3.4 TDP quality control program plan.

a. Selection. A TDP quality control program plan may be required when the procuring activity wishes to evaluate the system that the contractor intends to use to control the development and maintenance of the TDP. When selecting the TDP quality control program plan, the procuring activity should take care not to duplicate requirements included in other CDRL data items for quality program plans for hardware or software.

b. Ordering. Require the preparation of a TDP quality control program plan in the Statement of Work. Cite DI-QCIC-81009 in the CDRL.

30.3.5 TDP validation report.

a. Selection. A TDP validation report is used by the Government to review the procedures and evaluate the results of the contractor's validation of the TDP as conforming to the data requirements in the contract or purchase order.

b. Ordering. Require the preparation of a TDP validation report in the Statement of Work. Cite DI-QCIC-81013 in the CDRL.

40. TDP WORKSHEETS. The following paragraphs provide guidance on completing the TDP option selection worksheets, DD Form 2554-1 through 2554-8.

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40.1. Headings.

40.1.1 Contract No. Enter the number of the acquisition document shown in block E of the DD Form 1423.

40.1.2 CLIN. Enter the contract line item number from block A of the DD Form 1423.

40.1.3 Exhibit/Attachment No. Enter the number or letter which appears in block B of the DD Form 1423.

40.1.4 CDRL Data Item No. Enter the data item number from block 1 of the DD Form 1423 entry referencing the worksheet.

40.2 Worksheets for drawings. The following choices are required to complete the worksheets (DD Forms 2554-1 through 2554-6) for drawings and associated lists.

40.2.1 Deliverable product. The options in this block determine what the actual data product delivered will be. The choices are not exclusive to each other, and more than one deliverable product may be required for the same set of drawings.

40.2.1.1 Originals. Originals should be ordered only if the Government intends to take possession of the drawing masters and assume responsibility for maintaining the drawing package. If this option is selected, the media on which the drawings are to be prepared must be specified by reference to an applicable specification or standard, including type, grade, class or material thickness, as applicable. Refer to DOD-STD-100 for additional information on media requirements for drawing originals.

40.2.1.2 Reproductions. Reproductions are the most prevalent deliverable for drawings. Reproductions may range from full size paper or sepia copies to microfilm aperture cards. They may or may not be suitable for producing additional copies. Refer to MIL-M-9868, MIL-D-5480 and MIL-M-38761 for additional information on the types of reproductions that can be acquired.

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The types and quantities of each type of reproduction required must be specified by reference to applicable specifications or standards including type, grade, and class as applicable.

40.2.1.3 Digital data. Digital data is the preferred delivery method for data. However, caution must be exercised to ensure that the delivered digital data can be received, stored, retrieved and used by the Government. Refer to MIL-HDBK-59 for guidance in selecting and specifying digital delivery.

40.2.2 CAGE Code and document numbers. This choice is exclusive. It determines how the drawings and associated lists will be identified.

40.2.2.1 Contractor. When contractor CAGE Code and document numbers are specified, the documents will be identified with the contractor's CAGE Code and document numbers. Usually the Government will not be able to assume control of the drawing masters (originals), except through a subsequent data procurement action.

40.2.2.2 Government. If the Government intends to take delivery of the drawing originals or to assume responsibility for maintaining the drawing package at some time in the future, then the documents should be identified by a Government CAGE Code and Government document numbers. If this option is selected, additional information must be specified as follows:

a. If the acquiring activity has already determined the Cage Code and Government document numbers to be used, the Cage Code should be entered in the "USE CAGE CODE" block and the range of document numbers entered in the "USE DOCUMENT NUMBERS" block.

b. If the acquiring activity has not determined the Government Cage Code and Government document numbers that are to be used, then the Government activity that will specify this information should be identified in the "TO BE ASSIGNED BY:" block.

40.2.3 Drawing formats and drawing forms. These options specify the drawing format to be used and assign responsibilities for

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providing the drafting material or media (drawing forms) on which the documents are to be generated.

40.2.3.1 Contractor format, forms to be supplied by contractor. This option should be selected if the documents are to be identified with the contractor's CAGE Code and contractor document numbers.

40.2.3.2 Government format, forms to be supplied by contractor. This option requires the contractor to acquire and use drawing media in the Government's specified format. If selected, the Government activity responsible for providing sample drawing forms must be specified. Usually this option is not cost effective as the contractor must special order drawing forms in several different sizes. At best it should be used only on acquisitions which will require the delivery of a very large number of original drawings.

40.2.3.2 Government format, forms to be supplied as Government Furnished Material. This is the most cost effective option, when the Government is acquiring drawings with Government CAGE Codes and Government document numbers. If selected, the Government activity that will supply the drawing forms must be specified.

40.2.4 Types and quantities of drawings selection. This option assigns the responsibility for determining the details of the use of various types of drawings to fulfill the design disclosure requirements of TDP element to be delivered.

40.2.4.1 Contractor selects. This choice permits the contractor to use its own judgement as to how to structure the drawing package to provide the required design disclosure for the TDP element. It does not diminish the contract requirements for design disclosure.

40.2.4.2 Government selects. This option gives the Government the authority to direct the contractor as to which types of drawings to use for each component, subassembly or part. If selected, the types of drawings to be used must be specified. When selected, this option should be tailored to permit the contractor the maximum freedom in the use of various drawing types that the Government can give.

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40.2.5 Associated lists. These choices must be completed to define the Government's requirements for associated lists as defined in DOD-STD-100.

40.2.5.1 Parts lists. Unless there is a specific Government requirement for integral or separate parts lists, "CONTRACTOR'S OPTION" should be selected. This option allows the contractor to use either an integral or separate parts list as best suits the specific item or part being documented, as well as the contractor's normal documentation practices and manufacturing procedures.

40.2.5.2 Data lists. Either "REQUIRED" or "NOT REQUIRED" must be selected. Data lists aid in assembling larger sets of drawings. Therefore, on most acquisitions, data lists should be required. When data lists are required, the contractor must be given guidance as to the levels of assembly at which they are required. For example, an electronic system composed of input and output sections made up of equipment racks containing replaceable drawers may require data lists at the drawer, rack, section and system (or end-item) level. Other terms for the required levels may be used.

40.2.5.3 Index lists. Select "REQUIRED" or "NOT REQUIRED." Index lists are not normally needed for small or moderate sized drawing packages. However, they help in assembling the larger drawing packages required for major equipments, systems and subsystems. The assembly level at which index lists are required must be specified.

~40.2.6 Details. These options have a major impact on the number of drawings to be prepared, and, subsequently, the cost of the data.

40.2.6.1 Multidetail drawings permitted. This option permits the contractor to determine whether or not to use a detail assembly drawing or a combination of an assembly drawing and a detail drawing to document a specific item or part. This option does not prohibit the use of a monodetail drawing where practical.

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40.2.6.2 Monodetail drawings mandatory. This option prohibits the use of multidetail drawings. This increases the number of drawings to be prepared and the cost of the data package. Monodetail drawings are generally considered more suitable to large scale manufacturing environments than multidetail drawings; however, both can be used. This requirement may be tailored to allow multidetail drawings for certain conditions, such as simple, inseparable assemblies and tabulated drawings.

40.2.7 Applicability of DOD-STD-100 (developmental design drawings only). These options apply the requirements of the chapters cited only to developmental design drawings. They should be selected as necessary, if the Government intends to store and retrieve the drawings.

40.2.8 Quality assurance provisions (QAPs). This option requires the contractor to document certain inspection and quality assurance requirements on product drawings in a very specific manner. See Appendix B. QAPs should be required only when the contract or purchase order imposes an engineering task to classify characteristics in accordance with MIL-STD-2101, and the use of QAPs has been mandated by the acquiring activity.

40.2.8.1 Not required. Unless there is a specific Government requirement for using QAPs, this choice should be selected.

40.2.8.2 Required. When this choice is selected a further decision must be made as to whether or not the QAPs will be documented on a specific form, DARCOM Form 2484-R. Use of the DARCOM Form 2484-R is a requirement for certain Army components only.

40.2.9 Vendor substantiation data. This requirement applies to aerospace propulsion systems acquisitions only and is used primarily by Air Force organizations.

40.2.10 Other tailoring. This block may be used to tailor any requirement of MIL-T-31000, DOD-STD-100, a DID or any other document affecting the content, format, or media of the data product.

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40.3 Worksheets for specifications. The following choices are required to complete the worksheets for specifications, DD Form 2554-7 and DD Form 2554-8:

40.3.1 Item, process or material. Identify the item, the process or the material for which the specification is to be prepared. More than one item, process or material may be specified if the same type of specification is to be prepared for each.

40.3.2 Specification Type. Select one. See MIL-STD-961 or MIL-STD-490 for the characteristics of each Type.

40.3.2.1 Coordination range (Military only). If either LIMITED COORDINATION or "USED IN LIEU OF" LIMITED COORDINATION specifications are selected, specify the degree or range of coordination required. For example, Navy-wide or Army Tank-Automotive Command and Army Missile Command.

40.3.2.2 Form (program peculiar only). Identify the desired Form of the program peculiar specification to be delivered. See 30.2.10.

40.3.3 Associated documents. This block is for reference only. Identify the documents associated with specifications that are also required under the contract or purchase order. Each associated document must be ordered as a separate data item on the DD Form 1423. Refer to MIL-STD-961 or MIL-STD-490 for the characteristics of each.

40.3.3.1 See CDRL data item no. Enter the number of the separate data item on the DD Form 1423 that places the associated document on order.

40.3.4 Deliverable product. The options in this block determine what the actual data product delivered will be. The choices are not exclusive to each other, and more than one deliverable product may be required for the same specification.

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40.3.4.1 Originals. Originals should be ordered if the Government intends to assume responsibility for maintaining the specification. If this option is selected, the media on which the document is to be delivered must be specified. (See MIL-STD-961.)

40.3.4.2 Reproductions. The numbers and kinds of reproductions required must be specified by reference to applicable specifications or standards including type, grade and class, as applicable.

40.3.4.3 Digital data. Digital data is the preferred delivery method for data. However, caution must be exercised to ensure that the delivered digital data can be received, stored, retrieved and used by the Government. Refer to MIL-HDBK-59 for guidance in selecting and specifying digital delivery.

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QUALITY ASSURANCE PROVISIONS

10. SCOPE.

10.1. Scope. This appendix prescribes the requirements for preparing and maintaining quality assurance provisions (QAPs) when QAPs have been specified in the contract or purchase order as a requirement for the technical data package or an element thereof. This appendix is a mandatory part of the specification. The information contained herein is intended for compliance.

10.2. Application. The requirements of this appendix are applicable to QAPs for systems, subsystems, sets, groups, units, assemblies, subassemblies and parts.

20. APPLICABLE DOCUMENTS.20.1 Government documents.

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

STANDARDS

MILITARY

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes.
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MIL-STD-1235 Single and Multilevel Continuous Sampling Procedures and Tables for Inspection by Attributes.

20.1.2 Other Government Documents. The following other Government documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

DEPARTMENT OF DEFENSE

DOD 5220.22-M Department of Defense Industrial Security Manual for Safeguarding Classified Information.

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

20.2 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

30. REQUIREMENTS

~30.1 General. QAPs are stipulations of actions to be taken to determine that the manufactured items, assemblies, subassemblies or components conform to the stated requirements. QAPs support technical requirements at each point or level at which inspection is to be accomplished. They specify the characteristics that are to be inspected, how the inspection is to be conducted, (i.e., how the product is to be evaluated, examined, or tested), and the criteria to be used for determining the acceptability of the product.

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30.2 Documents requiring QAPs. When there is no specification or standard for the item, QAPs shall be prepared and maintained on drawings or on a document referenced on the drawing.

30.2.1 Product drawings. Product drawings containing inspection characteristics which are classified as critical, major or minor in accordance with MIL-STD-2101 shall have QAPs.

30.3 Documents not requiring QAPs. QAPs are not required for:

- a. Commercial, proprietary or off-the-shelf items, unless altered for Government use.
- b. Items purchased to recognized military and non-Government specifications and standards.
- c. Items purchased to documents containing an approved source of supply.

30.4 Specifying characteristics. The QAP symbol shown in Figure 9 shall be placed next to each characteristic classified as critical or major in accordance with MIL-STD-2101.

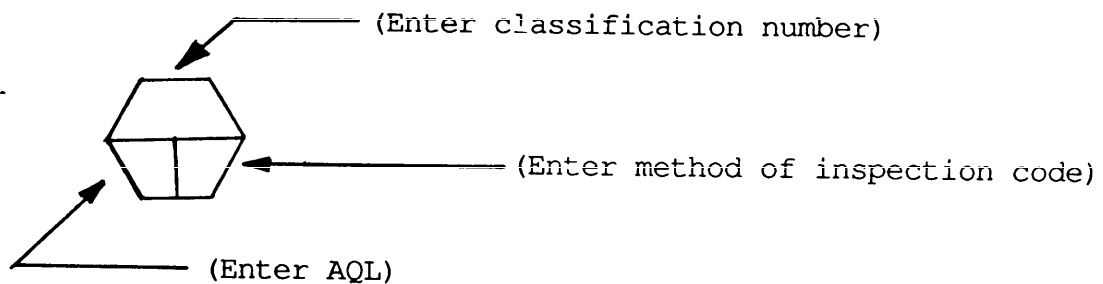


Figure 9. QAP Symbol.

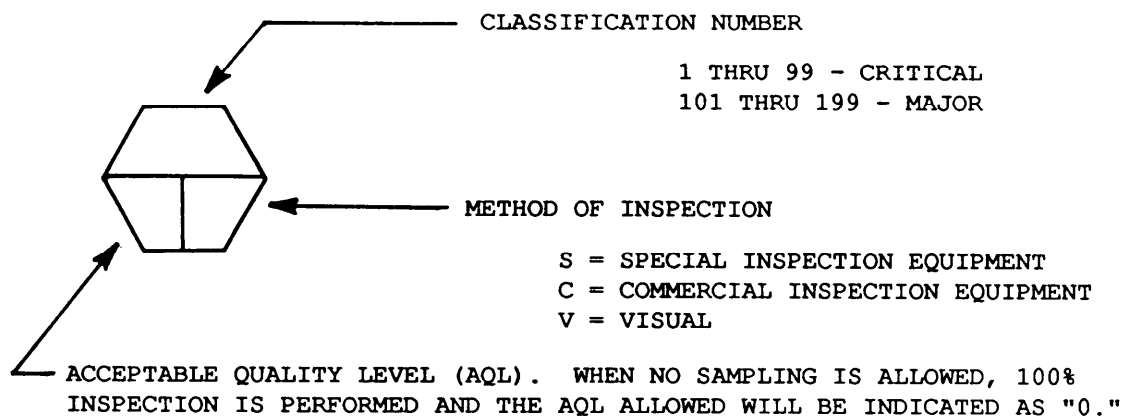
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30.5. QAP notes on drawings. The use of the QAP symbol and characteristic designations shall be explained on drawings containing QAP symbols by placing QAP notes and legends on the drawing as shown in figure 10. The characteristic classification designations used on the drawing shall be entered in note E.

QUALITY ASSURANCE PROVISIONS

- A. UNLESS OTHERWISE SPECIFIED IN THE CONTRACT THE CONTRACTOR IS RESPONSIBLE FOR THE PERFORMANCE OF ALL INSPECTION REQUIREMENTS AS SPECIFIED HEREIN.
- B. CLASSIFICATION OF CHARACTERISTICS AND INSPECTION REQUIREMENTS ARE IDENTIFIED ON THIS DRAWING AS FOLLOWS:



- C. SAMPLING INSPECTION SHALL BE IN ACCORDANCE WITH MIL-STD-105.
- D. A FIRST ARTICLE SAMPLE IS REQUIRED WHEN SPECIFIED IN THE CONTRACT.
ACCEPTANCE WILL BE BASED ON CONFORMANCE TO THE REQUIREMENTS OF THIS DRAWING.
- E. QUALITY CONFORMANCE INSPECTION SHALL CONSIST OF THOSE CHARACTERISTICS CLASSIFIED AS MAJORS NRS. 101, 102, 103, 104, AND 105. (NOTE: If the drawing contains critical or minor characteristics, they shall also be listed in this note.)
- F. ALL OTHER CHARACTERISTICS ARE SUBJECT TO INSPECTION UNDER THE CONTRACTOR'S QUALITY OR INSPECTION SYSTEM.

Figure 10. Example of QAP notes on drawings.

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30.5.1 Compliance with specifications. Drawing notes requiring compliance with material and process specifications which contain a section entitled "Quality Assurance Provisions" shall not be classified as critical, major or minor, unless tighter control or inspection is necessary. The quality assurance requirements within such those specifications shall control the inspection of those characteristics. If tighter control or inspection is required for a specific application of such a specification, it shall be indicated in the drawing note and the specific change in inspection criteria stated in the QAPs on the drawing.

30.5.2 Method of inspection. The method of inspection shall be indicated as follows:

a. When special inspection equipment is used to perform an inspection or test, the code "S" shall be entered in the QAP symbol. The QAP notes shall identify the special inspection equipment by part number and the specific characteristics for which it is used.

b. When commercial inspection equipment is use to perform an inspection or test, the code "C" shall be entered in the QAP symbol.

c. When the inspection or test is to be performed visually, the code "V" shall be entered in the QAP symbol.

30.6 Unspecified characteristics. Characteristics determined to be provided for producibility or manufacturing convenience only, or that are adequately inspected by the quality assurance requirements of specifications shall not be designated for inspection with a QAP symbol. When a drawing contains only these types of characteristics, the following note shall be place on the drawing in lieu of the notes and legends required by 30.5.

"NOTE: QUALITY ASSURANCE PROVISIONS. ALL CHARACTERISTICS ARE SUBJECT TO INSPECTION UNDER THE CONTRACTOR'S INSPECTION OR QUALITY SYSTEM."

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CONCLUDING MATERIAL

Custodians:

Army - MI
Navy - OS
Air Force - 16
DLA - DH

Preparing activity:

OSD - DO

(Project CMAN-0020)

Review activities:

Army - AR, AT, AV, CE, CR, GL, ME, SM
Navy - AS, EC, SA, SH, YD
Air Force - 10, 11, 19, 26
Marine Corps - MC
NSA - NS