NOT MEASUREMENT SENSITIVE

> MIL-STD-961D 22 MARCH 1995 SUPERSEDING MIL-STD-961C 20 MAY 1988

# DEPARTMENT OF DEFENSE STANDARD PRACTICE FOR

# **DEFENSE SPECIFICATIONS**



AMSC D7117 AREA SDMP

### FOREWORD

- 1. This standard is approved for use by all Departments and Agencies of the Department of Defense (DoD).
- 2. DoD 4120.3-M, "Defense Standardization Program Policies and Procedures," discusses the different types of specifications used by the DoD. This standard establishes practices for developing performance and detail specifications prepared by or for the DoD. This standard covers the requirements for "standard" performance and detail specifications, meaning specifications that are used on multiple programs or applications.
- 3. It is DoD policy to give first preference to developing and using performance specifications. If it is not practical or effective to use a performance specification, a non- Government standard should be used. If it is not practical or effective to develop and use a performance specification or non- Government standard, a detail specification may be developed and used, but only as a last resort.
- 4. There are two primary objectives for the changes to this standard. First, for the DoD to meet its military needs in the current economic and political environment, it must increase access to an expanded industrial base that can meet defense needs at lower costs with state-of-the-art commercial technology. The changes herein will move the DoD to greater use of performance-based specifications and commercial-type specifications and standards. The second objective is to ensure that the contents of specifications cover—only the requirements for a product (preferably in terms of performance) and the tests to verify that those requirements are met. Specifications should not include contractual provisions, such as data requirements, quality assurance, packaging, or contract administration.
- 5. Proper preparation and use of standardization documents is a difficult task requiring careful analysis and good judgment. The following points high light areas of policy emphasis, intent, or changes. Areas where actual problems have been encountered on specific documents are also included. They are intended as a "checklist" to assist in document preparation.
- a. For commercial products, consideration should first be given to using or developing a non-Government standard or including DoD requirements in an existing non-Government standard, or developing or revising a commercial item description.
- b. Documents should be structured and formatted to categorize require ments as precisely as possible. Requirements that are generally necessary but can occasionally be removed should be written so that they can be tailored out while leaving other requirements unaffected. Requirements that are necessary only in certain instances should be written so that they can be tailored in. There is sufficient flexibility to make adjustments which may be required for a par ticular document.

- c. Detailed application guidance should be provided in the "Notes" section of each document. The purpose of this guidance is to provide noncon tractual information on when and how to use the document. Information such as the following is recommended: (1) how to apply the document to different contract types and different program phases, (2) the source of and flexibility inherent with specific document requirements, (3) guidance on what is required to satisfy document requirements, (4) the extent of Government review and approval, and (5) the relationship between the particular document and other related documents in the acquisition process.
- d. A carefully documented, permanent record should be maintained by the specification preparing activity of the source and reason behind particular requirements and changes to requirements. The ration—ale (measurement, testing, judgment, etc.) behind a specific numeric level is one example of what the record should contain. Issues and controversial areas during the coordination process should be noted, and it may be desirable to summarize these issues and areas in the "Notes" section of the document and solicit feedback as experience develops. This record should provide a basis for related application guidance and a history useful in future document revisions.
- e. Clear distinction should be made between requirements portions and guidance portions of documents. Careful attention to use of the words "should" (guidance language) and "shall" (requirement language) is important.
- f. Requirement statements should be clear and unambiguous. One test to apply in preparing a document is to ask what will a contractor have to do as a result of this requirement. The answer should be apparent to both the Government and the contractor.
- g. To the extent possible, requirements should be stated in performance or "what -is-necessary" terms, as opposed to telling a contractor "how to" perform a task.
- h. Care should be taken to avoid unnecessary reference to other stan dardization documents and document "tiering". References should be justified. When only a portion of another document needs to be referenced, only that portion should be referenced. Document preparers are cautioned that only first tier references are contractually binding. Critical requirements appearing in references below the first tier should be directly stated in the specification.
- i. Ways to increase the use of commercial products and non-Government standards which will satisfy Government requirements should be an important consideration during document preparation or revision.
- j. Data item descriptions should be developed and circulated with standar dization documents during the draft coordination stages when applicable.

- k. Feedback on the success or difficulties (benefits and costs) en countered in the application of the document on specific contracts should be encouraged. Such feedback may be made by DD Form 1426, by Material Deficiency Reports, or by letter or other appropriate forms.
- 1. Efforts should be made to encourage and obtain inputs and perspec tives outside of a document's normal proponent group (such as the quality, reliability, or packaging communities).
- m. Care should be taken to ensure that industry comments are requested during the draft stages of document preparation and that proper Govern ment coordination occurs.
- n. The figures appearing at the back of this standard are fictious and are used only as examples to illustrate format. If there is any conflict between the text and the figures, the text applies.
- 6. This revision more strongly reaffirms the DoD's policy on prohibiting fixed levels of defects, such as acceptable quality levels (AQLs) and lot tolerance percent defectives (LTPDs), as firm specification requirements. Such specification requirements imply that defects are allowable, institutionalize the process of accepting non-conforming material, and do not motivate contractors to improve product quality. In addition, AQLs and LTPDs are not requirements or tests for the product being acquired. They reflect levels of risk that the customer is willing to take when acquiring a product. As such, AQLs and LTPDs should not be part of the specification, but may be part of the quality assurance provisions in the contract.
- 7. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Office of the Assistant Secretary of Defense (Economic Security), Standardization Program Division , 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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## 1. SCOPE

1.1 <u>Scope</u>. This standard establishes the formats, contents, and pro cedures for the preparation of performance specifications, detail specifications, and associated documents, prepared either by Government activities or under contract (see 6.3 and 6.4). Associated documents for performance and detail specifications include associated specifications, specification sheets, supplements, revisions, amendments, and notices.

### 2. APPLICABLE DOCUMENTS

2.1 <u>General</u>. The documents listed in this section are specified in sections 4 and 5 of this standard. This section does not include documents cited in other sections of this standard or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 4 and 5 of this standard, whether or not they are listed.

# 2.2 Government documents.

2.2.1 <u>Specifications, standards, and handbooks</u>. 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).

# **STANDARDS**

### **FEDERAL**

FED-STD-376 - Preferred Metric Units for General Use by the Federal Government.

#### DEPARTMENT OF DEFENSE

MIL-STD-12 - Abbreviations for Use on Drawings, and in Specifications,

Standards and Technical Docu ments.

DOD-STD-963 - Data Item Descriptions.

MIL-STD-1806 - Marking Technical Data Prepared by or for the Department of

Defense.

# **HANDBOOK**

# DEPARTMENT OF DEFENSE

MIL-HDBK-248 - Acquisition Streamlining.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D , Philadelphia, PA 19111-5094.)

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

DoDISS

DoD 5010.12 -L

Department of Defense Index of Specifications and Standards.

Acquisition Management System and Data Requirements
Control List (AMSDL).

SD-1 - Standardization Directory.

SD-14 - DoD List of Toxic Chemicals, Hazardous Materials, Ozone

Depleting Chemicals, and Other Environmentally Damaging

Substances.

Cataloging Handbook H2-1 - Federal Supply Classification, Part 1, Groups and Classes.

Cataloging Handbook H6 - Federal Item Name Directory for Supply Cataloging.

United States Government Printing Office (GPO) Style Manual.

(Copies of DoD 5010.12-L, SD-1, and SD-14 are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. Copies of Cataloging Handbooks H2-1 and H6 are available from the Commander, Defense Logistics Services Center, Battle Creek, MI 49017-3084. Copies of the GPO Style Manual are available from the Superintendent of Documents, U.S. Government Printing Office, North Capitol & "H" Streets, N.W., Washington, DC 20402-0002. Copies of the DoDISS are available on a yearly subscription basis either from the Government Printing Office or the DoDSSP Subscription Services, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 <u>Non-Government publications</u>. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

# AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME Y14.5M - Dimensioning and Tolerancing. (DoD adopted)

(Application for copies should be addressed to the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017-2392).

# INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 260 - Standard Letter Symbols for Units of Measurement (SI Units, Customary Inch-Pound Units, and Certain Other Units (DoD adopted)

IEEE 268 - Metric Practice. (DoD adopted)

(Application for copies should be addressed to the IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08855-1331.)

2.4 <u>Order of precedence</u>. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

# 3. DEFINITIONS

- 3.1 <u>Acronyms used in this standard</u>. The acronyms used in this standard are defined as follows:
- a. AMSC Acquisition Management Systems Control
- b. AMSDL Acquisition Management Systems and Data Requirements Control List
- c. CDRL Contract Data Requirements List
- d. DepSO Departmental Standardization Office
- e. DID Data Item Description
- f. DoD Department of Defense
- g. DoDISS Department of Defense Index of Specifications and Stan dards
- h. DoDSSP Department of Defense Single Stock Point
- i. FAR Federal Acquisition Regulation
- j. FIPS Federal Information Processing Standard
- k. FSC Federal Supply Class
- 1. FSG Federal Supply Group
- m. GPO Government Printing Office
- n. NATO North Atlantic Treaty Organization
- o. NSN National Stock Number
- p. ODC Ozone Depleting Chemical
- q. PIN Part or Identifying Number
- r. QML Qualified Manufacturers List
- s. QPL Qualified Products List

- 3.2 <u>Associated specification</u>. The associated specification is an extension of a general specification that covers requirements for specific parts, materials, or equipments. The associated specification is prepared in the six-section format outlined in 5.3.
- 3.3 <u>Class</u>. This term provides additional categorization of differences in characteristics other than that afforded by type classification which does not constitute a difference in quality or grade, but are for specific, equally important uses, and is usually designated by Arabic numerals, such as, "class 1" or "class 2."
- 3.4 <u>Composition</u>. This term is used in classifying commodities which are differentiated strictly by their respective chemical composition and is designated in accordance with accepted trade practice.
- 3.5 <u>Coordinated specification</u>. A coordinated specification is a document required by more than one Military Department, Defense Agency, or Civilian Agency and is coordinated with various activities of the interested departments and agencies.
  - 3.6 <u>Data</u>. Recorded information, regardless of form or method of the recording.
- 3.7 <u>Data Item Description (DID), DD Form 1664</u>. A completed form that defines the data required of a contractor. The form specifically defines the data content, preparation instructions, format, and intended use. DIDs are prepared in accordance with DOD-STD-963.
- 3.8 <u>Data product specification</u>. A specification used to acquire such data products as technical data packages, drawings, test reports, and any other type of data, with the exception of technical manuals. Data product specifications are the source documents for DIDs and are listed in the AMSDL.
- 3.9 <u>Detail specification</u>. A specification that specifies design requirements, such as materials to be used, how a requirement is to be achieved, or how an item is to be fabricated or constructed. A specification that contains both performance and detail requirements is still considered a detail specification.
- 3.10 <u>General specification</u>. A general specification is prepared in the six -section format and covers requirements and test procedures that are common to a group of parts, materials, or equipments to be used with either associated specifications or specification sheets (not a mixture).
- 3.11~ <u>Grade</u>. This term usually implies differences in quality and is usually designated by capital letters, such as, "grade A" or "grade B."
- 3.12 <u>Hard conversion</u>. A hard conversion is the process of changing a measurement from inch -pound units to non-equivalent metric units which neces sitates physical configuration changes of the item outside those permitted by established measurement tolerances. The term "hard conversion" is in general use in the United States, although it is technically incorrect when applied to specific items because no "conversion"

takes place. Instead, a new metric item requiring a new part identification is created to eventually replace the customary item. The new item is often referred to as being in "hard metric."

- 3.13 <u>Hybrid metric item</u>. An item designed and produced using both metric and inch -pound units even though it may be described by only one system of units in standardization documents.
- 3.14 <u>Hybrid specification</u>. A hybrid specification is one in which some requirements are given in rounded, rational metric units, and other require ments are given in rounded, rational inch -pound units. Hybrid specifications are often required for use in new designs where existing usable components must interface in a metric system.
- 3.15 <u>Inch-pound specification</u>. Inch-pound specifications have require ments given in rounded, rational, inch-pound units, usually as a result of being originally developed in inch—pound. The magnitudes are meaningful and practical (for example, 1—ounce, not 28.3495 grams). Inch—pound specifications should include those with rounded, rational, inch—pound units only (any needed metric unit conversions should be in conformance with 4.11.2). NOTE: There have been instances where magnitudes expressed in metric units as a result of mathematical conversion from rounded, rational, inch—pound units are given first (preferred units) with the rounded, rational inch—pound units given in parenthesis or in a non—preferred position. These specifications are inch—pound documents. Inch-pound specifications are developed for items to interface or operate with other inch—pound items.
- 3.16 <u>Interchangeable item</u>. An item which possesses such functional and physical characteristics as to be equivalent in performance, reliability, and maintainability, to another item of similar or identical purposes; and is capable of being exchanged for the other item without selection for fit or performance, and without alteration of the items themselves or of adjoining items, except for adjustment.
- 3.17 <u>Interim amendment</u>. An interim amendment is a limited coordination amendment to a coordinated specification required by a single activity, Military Department, or Defense Agency to meet a need when time does not permit preparation of a coordinated amend ment.
- 3.18 <u>Interim revision</u>. An interim revision is a limited coordination revision to a coordinated specification required by a single activity, Military Depart ment, or Defense Agency to meet a need when time does not permit preparation of a coordinated revision.
- 3.19 <u>Limited coordination specification</u>. A limited coordination specification covers items of interest to a single activity, Military Department, or Defense Agency, and is prepared to meet the acquisition needs of that activity, department, or agency.
- 3.20 <u>Lot or batch</u>. A collection of units of product from which a sample is to be drawn and inspected to determine conformance with the acceptability criteria and may differ from a collection of units designated as a lot or batch for other purposes.

- 3.21 <u>Measurement sensitive specification</u>. A measurement sensitive document is one in which application of the requirements depends substantially on some measured quantity (for example, the document contains requirements for dimensions which are critical to the interfacing of the item).
- 3.22 <u>Metric specification</u>. Metric specifications have requirements given in rounded, rational, metric units, usually as a result of being originally developed in metric. The magnitudes expressed are meaningful and practical (for example, 10 grams, not 0.35273 ounces). Documents containing only electrical units which are used in both the metric and inch -pound systems (for example, volts, amps, and ohms) are classified as metric documents. Documents also containing dimensional interfaces must have these interfaces in metric sizes to be classed as metric documents. Metric specifications are developed for items to interface or operate with other metric items.
- 3.23 <u>Metric units</u>. Metric units are a system of basic measures defined by the International System of Units based on "Le Systeme International d'Unites (SI)," of the International Bureau of Weights and Measures. These units are described in IEEE 268.
- 3.24 <u>Metrication</u>. Metrication is the process of changing to the metric system, including the act of developing metric standardization documents or converting current standardization documents to metric units of measurement.
- 3.25 <u>Non-Government standard</u>. 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. The term does not include standards of individual companies. Non-Government standards adopted by the DoD are listed in the DoDISS.
- 3.26 <u>Not measurement sensitive specification</u>. A not measurement sensitive specification is one in which application of the requirements does not depend substantially on some measured quantity. This type of specification can be used with either a metric system or an inchepound system.
- 3.27 <u>Packaging</u>. The processes and procedures used to protect material from deterioration, damage, or both. It includes cleaning, drying, preserving, packing, marking, and unitization.
- 3.28 <u>Part or Identifying Number (PIN)</u>. A Part or Identifying Number (PIN) is an alpha-numeric designator which identifies parts, items, or bulk materials that are covered by a specification.
- 3.29 <u>Performance specification</u>. A specification that states requirements in terms of the required results with criteria for verifying compliance, but without stating the methods for achieving the required results. A performance specification defines the functional requirements for the item, the environment in which it must operate, and interface and interchange ability characteristics.

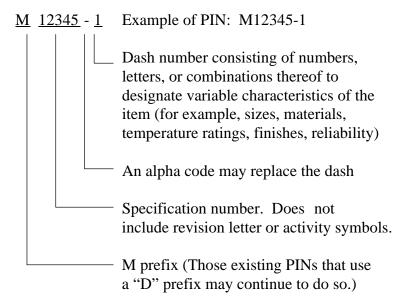
- 3.30 <u>Qualification</u>. A process in advance of and independent of an acquisition by which a manufacturer's capabilities, or a manufacturer's or distributor's products are examined, tested, and approved to be in conformance with specification requirements, and subsequent approval for or listing of products on a qualified products list (QPL) or manufacturers on a qualified manufacturers list (QML).
- 3.31 <u>Recovered material</u>. Waste materials and by-products that have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.
- 3.32 <u>Recycled material</u>. Product or other material recovered from the solid waste stream for use in the form of raw materials in the manufacture of new products other than fuel for producing heat or power by combustion.
- 3.33 <u>Soft conversion</u>. A soft conversion is the process of changing a measurement from inch -pound units to equivalent metric units within acceptable measurement tolerances without changing the physical configuration of the item.
- 3.34 <u>Specification</u>. A document prepared to support acquisition that describes essential technical requirements for material and the criteria for determining whether those requirements are met.
- 3.35 <u>Specification sheet</u>. The specification sheet is an abbreviated form of an associated specification, with the material presented in graphic or tabular format, not always requiring full sentences.
- 3.36 <u>Standard sample</u>. A representative sample, provided by, or as directed by, the acquisition activity to illustrate qualities or characteristics that cannot be readily described because test procedures or design data are not available, or because certain qualities and characteristics cannot be definitely expressed, such as the texture of fur, color of cloth, or the grain of wood.
- 3.37 <u>Standardization document</u>. As used in this standard, standardization document is a generic term that includes all the documents covered by this standard.
  - 3.38 Style. This term is used to denote differences in design or ap pearance.
- 3.39 <u>Supplement</u>. A listing of associated specifications, specification sheets, or MS sheets associated with a general specification.
- 3.40 <u>Tailoring</u>. The process by which individual requirements (sections, paragraphs, or sentences) of the selected specifications, standards, and related documents are evaluated to determine the extent to which they are most suitable for a specific system and equipment acquisition and the modification of these requirements to ensure that each achieves an optimal balance between operational needs and cost.

- 3.41 <u>Technical manual specification.</u> A specification used to acquire technical manuals for the installation, operation, maintenance, training, and support of weapon systems, weapon systems components, and support equipment. Technical manual specifications do not require the preparation of DIDs, but are listed in the AMSDL.
- 3.42 <u>Type.</u> This term implies differences in like items or processes relative to design model, shape, or other configuration and is usually designated by Roman numerals, such as "type I" or "type II."

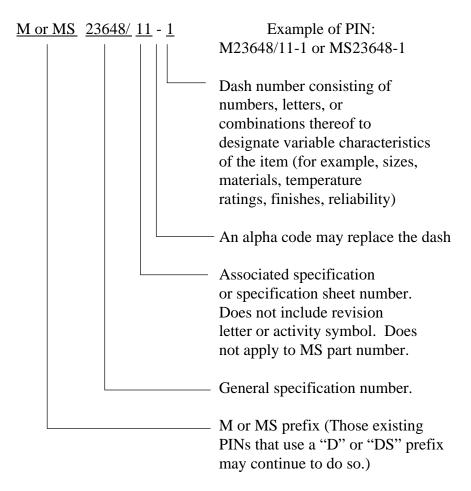
# 4. GENERAL REQUIREMENTS

- 4.1 <u>General</u>. This section covers general aspects of style, format, and general requirements for preparing a six-section specification. This includes arrangement of contents, paragraphing, numbering, heading, and notes. See figure 1 for a checklist that may be used as a guide in preparation of a specification, and figure 2 for a list of standard paragraphs that are always required or required when applicable.
- 4.2 <u>Coverage</u>. A specification shall be prepared to describe essential technical requirements for purchasing materiel. Similar items shall be covered in a single specification to the maximum extent practical. Specifications shall describe the item in a manner which encourages maximum competition. To the greatest extent possible, specification requirements shall be written so that commercial products or processes may be used to meet the requirement. Performance specifications shall be developed instead of detail specifications, whenever possible. (See 5.3.3.3 and 5.3.3.4 for a discussion on the differences between performance and detail specifications.)
- 4.2.1 <u>Tailoring of requirements</u>. Specifications shall be written and structured so that referenced documents, requirements, and verification provisions can be readily tailored to suit different applications. For detailed guidance on how to apply and tailor specifications, see MIL-HDBK-248.
- 4.3 <u>Data requirements</u>. Specifications shall not contain requirements for the development, preparation, acquisition of rights, submission, delivery, maintenance, updating, approval, or distribution of plans, reports, drawings, manuals, and other data products. Data can only be required in the contract. Only data product and technical manuals specifications (see 3.8 and 3.41) shall contain content and format requirements for data products. DIDs shall not be included in any section of a technical manual specification or a specification for equipments, assemblies, components, parts, materials, or any other type of commodity. Only data product specifications shall list the DIDs for which they are the source documents in section 6.
- 4.3.1 <u>Data product specifications</u>. Data product specifications shall have an AMSC number assigned by the AMSDL Clearance Office listed in the SD-1. The information specified in 5.3.6.5 shall be included in section 6 of the specification to indicate the DIDs that must be included in the contract to acquire the data product defined in the specification. The DIDs for which the specification serves as a source document shall be listed in section 6 of the specification (see 5.3.6.5).

- 4.3.2 <u>Technical manual specifications</u>. Technical manual specifications shall have an AMSC number assigned by the AMSDL Clearance Office listed in the SD-1. The information specified in 5.3.6.6 shall be included in section 6 of the specification to indicate the proper contractual method of acquiring the technical manuals.
- 4.3.3 <u>Qualification data</u>. Specifications shall not contain data required for qualification or qualification retention. The qualifying activity shall request data associated with qualification or qualification retention from contractors upon application for qualification or qualification retention.
- 4.3.4 <u>Use of copyright or patent material</u>. Copyright or patent material shall not be included in a specification without the prior consent of the copyright or patent owner. When such consent is obtainable, a credit line, if requested by the copyright or patent owner, shall be placed in the specification close to the material involved.
- 4.4 Part or Identifying Number (PIN). When a specification covers more than one part, item, or material that is subject to assignment of National Stock Numbers and an identification problem in the Federal Supply System may result, a specification-based PIN to identify the parts, items, or materials shall be included. If a PIN is needed, its construction shall be provided by the DoD activity requiring it. PINs shall be kept short and shall not exceed 15 characters. If it is considered that such a limitation cannot be adhered to, the preparing activity must submit a proposed deviation with detailed justification to its DepSO for approval. PINs shall be uniform for all parts covered by the same specification. Uniformity is also preferred for all PINs within the same group of closely related items. PINs for material shall be assigned in the same product increments as the items to be stocked, and shall specify the various commercially available sizes and other sizes, as needed. PINs for specifications where a part numbering system is already in use do not have to comply with the structure given below; however, the adoption of a PIN should be considered upon revision of such specifications. When using interim documents, the "00" prefix shall not be included as a part of the PIN.
  - a. The part numbering system shall be as follows, except as noted in item b. below:



For associated specifications or specification sheets, the PIN shall be as follows:



- 4.5 <u>Type designations</u>. If practicable and a definite need has been established, type designations may be used to supplement basic item names in titles of specifications. When used, they shall be standardized for a category of equipment, such as communication, electronic, photographic, aeronautical support, aircraft, missiles, engines (rocket, reciprocating aircraft), and trucks. Only one type designation shall be assigned for items or equipment physically and functionally interchangeable. Type designations shall not be used for the purpose of assigning a PIN to components and parts. They shall be used for designating the class, grade, or type of an item or equipment for specification purposes only. Existing specifications using type designations shall not be amended for the sole purpose of deleting type designations.
- 4.6 <u>Systems for type designations</u>. In standardizing type designations, industrial or commercial systems of designations which have industry wide acceptance and which are acceptable for military use without modification shall be adopted without establishing military type designations. In the absence of existing widely accepted type designations, the specification shall establish the methods or systems of type designations and the methods and procedures for assigning them in a category of items or equipment.

- 4.7 <u>Contractual and administrative requirements</u>. A specification shall not include contractual requirements which are properly a part of the contract, such as cost, quantity required, time or place of delivery, methods of payment, liquidated damages, rework, repair, resubmittal, contract quality requirements, packaging, requirements for preparation, submission, delivery, approval, and distribution of data, record keeping, and actions to be taken by the Government for accepting nonconforming material. Contractual, administrative, and warranty provisions shall not be made part of the requirements in the specification. Contractual and administrative provisions considered essential for acquisition may be included in section 6 of the specification for information. The specification also shall not prescribe mandatory requirements or instructions for the Government Contract Administration Office. These include directions relating to quality assurance functions such as inspections, audits, reviews, certifications, and technical approvals.
- 4.8 <u>Classified material</u>. Specifications are working documents and shall be designed to avoid unnecessary restrictions in their dissemination. Specifications containing classified information shall be appropriately marked and handled in accordance with security regulations. The title of standardization documents shall not be classified.
- 4.9 <u>Text</u>. The text shall be written in clear and simple language, free of vague terms or those subject to misinterpretation. Unfamiliar words, words having more than one meaning, and unusual technical and trade expressions shall be avoided. Sentences shall be short. Punctuation shall be used to aid in reading and prevent misreading. Well-planned word order requires a minimum of punctuation. When extensive punctuation appears necessary for clarity, consideration should be given to revising the sentence, since misplaced or omitted punctuation marks can sometimes change the meaning of the sentence completely. To avoid this possibility, consideration should be given to converting clauses of a compound sentence into separate sentences. All sentences shall be completed and in accordance with the rules of grammar.
- 4.9.1 <u>Grammar and style</u>. Except where Department of Defense requirements differ, the United States Government Printing Office Style Manual shall be used as a guide for capitalization, spelling, punctuation, syllabification, compounding words, tabular work, and other elements of grammar and style.
- 4.9.2 <u>Abbreviations</u>. Abbreviations shall be in accordance with MIL-STD-12, where applicable. Abbreviations not covered by MIL-STD-12 shall be in accordance with the GPO Style Manual. The first time an abbreviation is used in text, it shall be placed in parentheses and shall be preceded by the word or term spelled out in full: for example, circuit (ckt), frequency converter (freq conv), maximum working pressure (mwp). The rule shall not apply to abbreviations used for the first time in tables and equations. Abbreviations used in figures and tables, but not referenced in the text or in any other portion of the specification, shall be spelled out in a footnote to the applicable figure or table.
- 4.9.3 <u>Acronyms</u>. The first time an acronym is used in text, it shall be placed in parentheses and shall be preceded by the word or term spelled out in full: for example, North Atlantic Treaty Organization (NATO). The rule does not apply to acronyms used for the first time in tables and equations. Acronyms used in figures and tables, but not referenced in the text or in any other portion of the specification, shall be

spelled out in a footnote to the applicable figure or table. A complete list of acronyms may also be included in section 6 of the specification.

- 4.9.4 <u>Symbols</u>. The only symbols normally used in text are "+", "-", "±", to express ranges or tolerances, the degree symbol " o", and metric symbols, such as "mm" and "mg". Other symbols may be used in equations and tables and shall be in accordance with IEEE 260. Graphic symbols, when used in figures, shall be in accordance with DoD adopted or accepted standards. Any symbol formed by a single character should be avoided if practicable, since an error destroys the intended meaning. Metric symbols need not be spelled out. The symbols for physical quantities (both metric and inch-pounds), often thought of as abbreviations, may be used in accordance with FED-STD-376.
- 4.9.5 <u>Proprietary names</u>. Trade names, copyrighted names, or other proprietary names applying exclusively to the product of one company shall not be used unless the item(s) cannot be adequately described because of the technical involvement, construction, or composition. In such instances, one, and if possible, several commercial products shall be included, followed by the words "or equal" and a description of required salient features or particular characteristics to ensure wider competition and that bidding will not be limited to the particular make specified. The same applies to manufacturer's part numbers or drawing numbers for minor parts when it is impracticable to specify the exact requirements in the specification. The salient features or particular characteristics required to define "or equal" shall be included. The use of "brand name or equal" is discouraged but, when determined to be necessary, shall be supported by written justification and retained in the permanent document file.
- 4.9.6 <u>Commonly used words and phrases</u>. Certain words and phrases are frequently used in a specification. The following rules shall be applied:
  - a. Referenced documents shall be cited thus:
    - (1) "conforming to ..."
    - (2) "as specified in ..."
    - (3) "in accordance with ..."

In any case, use the same wording throughout a given document and a series of directly related documents.

- b. "Unless otherwise specified" shall be used to indicate an alternative course of action. The phrase shall always come at the beginning of the sentence, and, if possible, at the beginning of the paragraph. This phrase shall be used only when it is possible to clarify its meaning by providing a reference, such as to section 6 of the specification, for further clarification in the contract or reference to another paragraph in the specification.
- c. When making reference to a requirement in the s pecification and the requirement referenced is rather obvious or not difficult to locate, the simple phrase "as specified herein" is sufficient and may be used.

- d. The phrase "to determine compliance with" or "to determine conformance to" should be used in place of "to determine compliance to." In any case, use the same wording throughout.
- e. In stating limitation, the phrase shall be stated thus: "The diameter shall be not greater than ..." for the upper limit, or "The diameter shall be not less than ..." for the lower limit.
- f. Capitalize the words "drawing" and "bulletin" only when they are used immediately preceding the document identifier. However, specifications, standards, and handbooks shall be identified in the text only by their document identifier; thus, MIL-E-000 (not: "specification MIL-E-000").
  - g. Use the following prepositional phrases when referencing figure and table information: "on a figure" or "in a table".
  - h. "Shall", the emphatic form of the verb, shall be used throughout sections 3, 4, and 5 of the specification whenever a requirement is intended to express a provision that is binding. For example, in the requirements section, state that "The gauge shall indicate . . . " and in the test section, "The indicator shall be turned to zero, and 220 volts of alternating current shall be applied." For specific test procedures, the imperative form may be used, provided the entire method is preceded by "The following test shall be performed" or similar wording. Thus, "Turn the indicator to zero and apply 220 volts of alternating current." "Shall" shall not appear in sections 1, 2, or 6 of the specification.
  - i. "Will" may be used to express a declaration of purpose on the part of the Government. It may be necessary to use "will" in cases when simple futurity is required.
    - j. Use "should" and "may" whenever it is necessary to express nonmandatory provisions.
    - k. "Must" shall not be used to express a mandatory provision. Use the term "shall."
  - l. Indefinite terms, such as "and/or," "suitable," "adequate," "first rate," and "best possible shall not be used. Use of "e.g.," "etc.," and "i.e.," should be avoided.
  - m. The term "flammable" shall be used in lieu of "inflammable," and "nonflammable" shall be used in lieu of "unflammable" and "noninflammable."
  - 4.10 <u>Use of decimals</u>. Decimals shall be used in documents instead of fractions wherever possible.
  - 4.11 <u>Metric practices</u>. Metric practices shall conform to IEEE 268. When an existing inchpound (or non-SI metric) standardization document is revised, a decision shall be made as to whether metrication is appropriate, and if so, how to metricate such a document. In general, the following methods shall be used:

- a. New parallel document. For complex documents filled with many conversion-susceptible measurements, the logical method is to issue a new SI metric standardization document following the guidance herein. Great care shall be used to ensure that the new document is hard metric, and that equivalents are carefully selected. After that, the basic document and the metric document would be revised concurrently, until such time as the inch-pound document is no longer required and is canceled.
- b. Metric appendix. For less complex documents, or for very complex documents where retention of the original document number is considered necessary, a hard metric appendix may be prepared. The basic document would remain in inch-pound units and refer to the appendix for metric information. The appendix shall refer to the basic document for technical features and cite only the metric equivalents, exercising care to ensure that equivalents are carefully selected.
- c. Metric notes. For relatively simple documents with only a few measurement units, metrication may be handled by appropriate notes or by one or more footnotes.
- 4.11.1 <u>Metric Units</u>. The metric units for commonly used quantities shall be in accordance with FED-STD-376. Optimum rationalization shall be achieved in the preparation of standardization documents. Metric sizes will generally be expressed in whole numbers. There shall be no soft conversion of units merely for the sake of conversion. In those instances where an inchpound item is the primary item in the international marketplace, a document with soft conversion of units can be prepared.
- 4.11.2 <u>Dual dimensions</u>. The use of both metric and inch-pound measurements on drawings or other pictorial illustrations to be used in a standardization document should be avoided. The use of tables to translate the specific inch-pound units used to metric equivalents is acceptable. For text material, when preference is given in the standardization document to inch-pound units, acceptable metric units may be shown in parentheses. When preference is given to metric units, inch-pound units may be omitted or included in parentheses. In general, where it has long been standard practice to cite metric units alone (such as citing temperatures only in degrees Celsius), inch-pound equivalents may be omitted. A specific repetitive equivalent, for example 1.00 inch (25.4 mm), need be inserted only the first time it appears in a paragraph of a standardization document.
- 4.12 <u>Underlining</u>. Portions of paragraphs shall not be underlined and words or phrases shall not be capitalized for the sake of emphasis with the exceptions noted in 4.13.1. All of the requirements are important in obtaining the desired product or service. Preambles and acquisition notes shall not be underlined. Table and figure titles may be underlined (see 4.15.1 and 4.16.1).

4.13 <u>Paragraph numbering</u>. Each paragraph and subparagraph shall be numbered consecutively within each section of the specification, using a period to separate the number representing each breakdown.

Example for section 3 of commodities specification:

Requirements		3
First paragraph	3.1	
First subparagraph		3.1.1
Second paragraph	3.2	
First subparagraph		3.2.1
Second subparagraph	3.2.2	

Itemization within a paragraph or subparagraph shall be identified by lower-case letters followed by a period to avoid confusion with paragraph numbers. For clarity of text, paragraph numbering should be limited to three sublevels, unless additional sublevels are unavoidable.

- 4.13.1 <u>Paragraph identification</u>. Each paragraph and subparagraph shall be given a subject identification. The first letter of the first word in the paragraph and subparagraph identification shall be capitalized. Paragraph and subparagraph identifications shall be either underlined, italicized, or bold type.
- 4.14 <u>Specification identifier and page number</u>. The specification identifier shall be placed on each page, at the upper right corner of the first page and at the upper center of each successive page. On all specifications, except specification sheets, all pages except the first page shall be numbered with consecutive Arabic numbers at the bottom center of each page. On fold-out pages and other pages which must unavoidably be left blank, the page before the blank page shall be numbered with both page numbers, for example, 23/24. Information for page numbering specification sheets is shown in 5.12.7; for amendments in 5.9.13; and for supplements in 5.8.7.
- 4.15 <u>Tables</u>. A table shall be used when information can thus be presented more clearly than in text. Elaborate or complicated tables shall be avoided. References in the text shall be sufficiently detailed to make the purpose of the table clear. The table shall be restricted to information pertinent to the associated text. The tables shall be placed immediately following or within the paragraph containing the first reference. If space does not permit, the table may be placed on the following page. If tables are numerous or their location would interfere with correct sequencing of paragraphs and cause difficulty in understanding or interpretation, they may be placed in numerical order at the end of the specification and before any figures, appendix, or index. Information included in tables shall not be repeated in the text.

- 4.15.1 <u>Table numbering and title</u>. All tables shall be numbered consecutively throughout the document with Roman numerals in the order of their reference in the text, even if only one table appears in the document, and shall be titled. The word "TABLE" shall be in full capitalization, followed by the Roman numeral and a period followed by the underlined, italicized, or bold faced title. The first letter of the title shall be capitalized. Table titles shall be centered above the table and shall be on the same line with the table number. If the title is too long to be typed on one line, the second line shall be aligned with the first letter of the title. If a listing or tabulation appears within a paragraph as an integral part of that paragraph, and obviously does not require a title, the listing or tabulation need not be titled.
- 4.15.2 <u>Table format</u>. Tables shall be boxed in and ruled horizontally and vertically as necessary to ensure clarity of the table contents. Lines may be typed or drawn. The contents of a table shall be organized and arranged to show clearly the significance and relationship of the information. If a table is of such width that it would be impractical to place it in its normal vertical position, it may be rotated counterclockwise 90 degrees. Large tables may be divided and, if possible, printed on facing pages.
- 4.15.3 <u>Continuation of tables</u>. If a table is continued to additional page(s), a horizontal line shall not be drawn at the end of the page, unless the table is a group or method type that requires a line of separation between the groups. When lengthy group testing is being documented, the group shall not be split and carried to the next page. The entire group shall be completed on one page. When the table is continued to the next page, the title shall be repeated and a dash followed by the word "Continued" at the end of the title; for example, "TABLE II. <u>Qualification inspection</u> Continued." The entire heading shall be repeated at the top of the page on which the continuation is presented. The table shall be closed with a horizontal line when all information has been entered.
- 4.16 Figures. A figure shall be clearly related to, and consistent with, the text of the associated paragraph. Dimensioning practices for outline drawings shall comply with ASME Y14.5M. (Figures should not be confused with numbered and dated drawings which are discussed in 5.3.2.1.) The figures should be placed immediately following or within the paragraph containing the first reference to the figure. If figures are numerous or their location would interfere with correct sequencing of paragraphs and cause difficulty in understanding or interpretation, they may be placed in numerical order at the end of the specification following any tables and before any appendix or index. If the figure is of such width that it would be impracticable to place it in its normal vertical position, it should be rotated counterclockwise 90 degrees.
- 4.16.1 Figure numbering and title. Figures shall be numbered consecutively throughout the document with Arabic numerals in the order of their reference in the text, even if only one figure is referenced in the document, and shall be titled. Figures added after the highest numbered figure are assigned the next higher Arabic numeral. The word "FIGURE" shall be in full capitalization, followed by the Arabic numeral, a period, and the underlined, italicized, or bold-faced title. Only the first letter of the title shall be capitalized. Figure titles shall be centered below the graphic and, if possible, shall be on the same line with the figure number. If the title of the figure is too long to be typed on one line, the second line shall be aligned with the first letter of the title.

- 4.16.2 <u>Continuation of figures</u>. Large figures may be broken and, if possible, printed on facing pages. When a figure is continued on the next page, the number and title shall be repeated below the figure with a dash followed by the word "Continued" at the end of the title.
  - 4.17 <u>Footnotes and notes</u>. Footnotes and notes may be used as indicated below.
- 4.17.1 <u>Footnotes to text</u>. Footnotes to the text should be avoided. Their purpose is to convey additional information that is not properly a part of the text. A footnote to the text shall be placed at the bottom of the page containing the reference to it. Footnotes shall be consecutively numbered throughout the specification with Arabic numerals. The Arabic numeral shall also be used to identify the reference in the text.
- 4.17.2 <u>Footnotes to tables</u>. Footnotes may contain mandatory information that cannot be presented as data within a table. Number footnotes separately for each table as they appear in the table. Footnote numbers or symbols shall be placed immediately following a word and preceding a numeral requiring the footnote. Numbered footnotes are listed in order immediately below the table. Where numerals will lead to ambiguity (for example, in connection with a chemical formula), superscript letters, daggers, and other symbols may be used.
- 4.17.3 <u>Notes to figures</u>. Notes to figures are numbered separately from textual footnotes within the document. Drafting or dimensional notes are numbered consecutively and placed below the figure and above the title. The word "NOTES:" is typed in the left margin of the figure and the explanatory information is typed in Arabic number sequence under "NOTES." For example:

### "NOTES:

- 1. Dimensions are in millimeters.
- 2. Inch-pound equivalents are given for information only."
- 4.18 <u>Foldouts</u>. Foldouts should be avoided since their use will require special printing and handling procedures, and distribution will be delayed. Whenever possible, lengthy tables should be reformatted as multiple, single page tables. When foldouts are required, they shall be grouped in one place, preferably at the end of the document (in the same location as figures) and suitable reference to their location shall be included in the text.
- 4.19 <u>Definitions in specifications</u>. Definitions shall be listed in alphabetical order in section 6. When this is done, a parenthetical phrase reference to the applicable paragraph in section 6 shall follow the terms to indicate the existence of a definition, for example, "(see 6.\_.\_)". Where standard definitions exist in DoD documents, the definition should be quoted word for word with a reference to the source.
- 4.20 <u>Cross-reference</u>. Cross-reference shall be used only to clarify the relationship of requirements within the specification and to avoid inconsistencies and unnecessary repetition. When the cross-reference is to a paragraph or subparagraph within the specification, the cross-

reference shall be only to the specific paragraph number. The word "paragraph" shall not appear, for example, "(see 3.1.1)".

- 4.21 <u>References to other documents</u>. Judicious referencing of other documents in specifications is a valuable tool that eliminates the repetition of requirements and tests adequately set forth elsewhere. However, unnecessary or untailored referencing of other documents can lead to increased costs, excessive tiering, ambiguities, and compliance with unneeded requirements. The following rules shall apply when referencing another document as a requirement in a specification and listing it in section 2 as an applicable document:
- a. If the information is less than a page and if it is not a violation of copyright provisions (see 4.3.4), it should be included directly into the specification without referencing another document.
- b. Referenced documents shall be current (not canceled or superseded), approved for use (not drafts), and readily available.
- c. Unless the entire referenced document applies, it shall not be cited in total, but shall be tailored by citing the appropriate sections of the document, such as specific types, grades, or classes; test methods; or definitive descriptions (for example, "the painting requirements of MIL-STD-000"). Do not reference specific paragraph, table, or figure numbers from other documents since revisions to these documents often result in renumbering.
  - d. References shall not be made to the following types of documents:
- (1) Directives, instructions, regulations, and other types of policy documents, except in section 6 for information only.
  - (2) Data Item Descriptions, except as allow by 4.3 and 5.3.6.5.
- (3) Management, manufacturing, and process type documents that should be cited in contracts or program peculiar documents. A known list of these documents is identified in the SD-1, and these documents shall not be referenced. However, such a list can never be totally complete. Document preparers shall not reference any documents that do not comply with the intent of this restriction.
- (4) Specifications, standards, drawings, or other documents that contain proprietary or unique design solutions that would restrict competition, or that would not be readily available to competing contractors because they are owned by a particular company.
- 4.22 <u>Preparation of manuscripts for reproduction</u>. Manuscripts shall be prepared for reproduction. The standardization document manuscript shall be typed, single spaced on one side only, on 8-1/2 x 11-inch plain white paper, with a margin of 1 inch at the sides, top, and bottom of the page. Bond paper (which has a watermark) shall not be used.

# 5. DETAILED REQUIREMENTS

- 5.1 <u>General</u>. This section contains detailed format requirements for preparing the sections of a specification as well as the associated documents, namely supplement, amendment, notice, associated specification, and specification sheet.
- 5.2 <u>First page information</u>. Drafts of proposed specifications shall carry one of the following notes at the top of the first page, as ap plicable:

"NOTE: This draft, dated (date) prepared by (preparing ac tivity), has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES. (Project )"

"NOTE: This draft, dated (date) prepared by (name of agent), as agent for (preparing activity), has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION PURPOSES. (Project )"

This note shall be removed from the camera ready master after approval and prior to reproduction.

- 5.2.1 Heading. Specifications shall have one of the following headings centered above the title:
- a. "PERFORMANCE SPECIFICATION" if the document meets the criteria specified in 5.3.3.3.
- b. "DETAIL SPECIF ICATION" if the document meets the criteria specified in 5.3.3.4.
- 5.2.2 <u>Specification titles</u>. A specification title shall consist of a basic item name, Government type designator (when applicable), and sufficient modifiers to differentiate between similar specifications listed in the DoDISS. Duplication of specification titles is not permissible. Reference to major assemblies or end items shall be included in the title only to the extent necessary to distinguish between similar items.
- 5.2.2.1 <u>Item names</u>. Item names shall conform to Cataloging Handbook H6. Use of other than an approved item name in Cataloging Handbook H6 shall be on an agreed-upon basis between the cataloging organizations and the specification preparing activity.
  - 5.2.2.2 <u>General rules</u>. The following rules shall apply to specification titles:
- a. Specification titles may be in two parts. The first part shall be an item name in accordance with 5.2.2.1. When required, the second part shall consist of those modifiers and Government type designators necessary to complete the item identification (see 5.2.2.4). The first part of the title shall be separated from the second part of the title by a dash. For example:

"SPRING, HELICAL COMPRESSION - RECOIL ADAPTER"
{First part of title}
{Second part of title}

- b. Abbreviations shall not be used in the first part of the title. Abbreviations may be used in the second part of the title, and shall be in accordance with MIL-STD-12.
  - c. Specification titles shall not begin with numbers.
- d. Specification titles shall be brief as possible, but constructed in such a way as to distinguish between similar items.
- e. For general specifications, the word "GENERAL SPECIFICATION FOR" shall be the closing phrase of the title.
  - f. Trade mark or copyrighted names shall not be used in specification titles.
- g. No word(s), symbol(s), or combination thereof that would disclose sensitive or classified information shall be used in specification titles.
- 5.2.2.3 <u>First part of title</u>. The first part of the title shall be one of the following in the listed order of preference.
  - a. An approved item name selected from Cataloging Handbook H6.
  - b. If an approved item name does not exist, the following procedures shall be followed:
- (1) The basic name shall be a noun or noun phrase. Modifiers shall be included as required by 5.2.2.3.b.(8).
- (2) This noun or noun phrase shall establish a basic concept of an item. A compound noun or noun phrase shall be used only when a single noun is not adequate to establish a basic concept of an item.
- (3) The noun or noun phrase shall describe the part and the usage of the part, and not the material or method of fabrication.
  - (4) The noun or noun phrase shall be used in the singular form, except as follows:
    - (a) Where the only form of the noun is plural, such as in "TONGS."
    - (b) Where the nature of the item requires the plural form, such as in "GLOVES."
- (c) When more than one product is covered by different classes, grades, types, sizes, or other classifications.

(5) An ambiguous noun, or one that designates several classes of items, shall not be used alone, but shall be used as part of a noun phrase. For example:

<u>Acceptable</u> <u>Unacceptable</u>

SLIDE RULE RULE, SLIDE

SOLDERING IRON IRON, SOLDERING

CIRCUIT CARD ASSEMBLY ASSEMBLY, CIRCUIT CARD

PRINTED WIRING BOARD BOARD, PRINTED WIRING

PRINTED CIRCUIT CARD CARD, PRINTED CIRCUIT

(6) When an item i s not a container or material, but its name involves the use of a noun that ordinarily designates a container or material, a noun phrase shall be used as the basic name. For example:

<u>Acceptable</u> <u>Unacceptable</u>

JUNCTION BOX
CABLE DRUM
SOLDERING IRON
BOX, JUNCTION
DRUM, CABLE
IRON, SOLDERING

(7) The following words shall never be used alone, but may be the last word of a noun phrase:

Apparatus Equipment Plant Assembly Group Ship

Assortment Installation Subassembly

Attachment Kit Tackle
Compound Machine Tool
Device Mechanism Unit
Element Outfit Vehicle

EXCEPTION: In certain instances, some of the listed words may be used as the first word in a basic noun phrase, such as in "MACHINE SHOP" or "TOOL KIT."

- (8) When the noun or noun phrase represents an item for which types, grades, or varieties are applicable, the remainder of the first part of the title shall consist of one or more modifiers.
- (a) A modifier may be a single word or qualifying phrase . The first modifier shall serve to narrow the area of concept established by the basic name and succeeding modifiers must continue a narrowing of the item concept by expressing a different type of characteristic. A word directly qualifying a modifying word shall precede the word it qualifies, thereby forming a modifying phrase. For example, "BRACKET, UTILITY LIGHT." The word "UTILITY" qualifies the word "LIGHT" and precedes it in the modifying phrase.

- (b) A modifier shall be separated from the noun or noun phrase by a comma and from any preceding modifier by a comma.
  - (c) The conjunction "or" and preposition "for" shall not be used.
- 5.2.2.4 <u>Second part of title</u>. The second part of the title shall consist of such additional modifiers, modifying phrases, or Government type designators as are required. Modifiers indicating what an item is (its shape, structure, or form) or what the item does (its function) are preferable to modifiers indicating the application (what it is used for) or location of the item (where it is used).
- 5.2.3 <u>Identification of specifications</u>. Specifications shall be identified and dated as specified in the following paragraphs.
- 5.2.3.1 <u>Identification of coordinated specifications</u>. Coordinated specifications shall be identified by a specification identifier composed of the letters "MIL" followed by a hyphen; the letters "PRF" if it is a performance specification or "DTL" if it is a detail specification followed by a hyphen; and an Arabic number (see 4.14). This number is assigned by the preparing activity in accordance with departmental procedures from blocks of numbers allocated to the departments. For example, "MIL-PRF-123" for a coordinated performance specification, or "MIL-DTL-123" for a coordinated detail specification.
- 5.2.3.1.1 <u>Identification of associated specification and specification sheets</u>. Each associated specification or specification sheet shall be identified by the general specification identifier (less revision letter or suffix), followed by a slash and an additional number serially assigned to indicate its position in order of development. For example, "MIL -PRF-18/25" or "MIL-DTL-18/25."
- 5.2.3.1.2 <u>Date of specification</u>. The date of approval shall appear under the specification identifier on the first page only. Drafts shall not have a date in this location. The space shall be blank until the document is approved.
- 5.2.3.2 <u>Identification of limited coordination specifications</u>. Limited coordination specifications shall be identified in the same manner as coordinated specifications, except that a parenthetical suffix to the specification identifier containing the symbol designation of the prepar ing activity or service shall be added consistent with the degree of coordination of the document. Dates shall be assigned as for fully coordinated documents.

Examples: MIL-PRF-12345(ER) MIL-DTL-16878E(NAVY)

23 April 1995 10 August 1995

- 5.2.3.3 <u>Identification of interim specifications</u>. An interim limited coordination specification bears the same title as the coordinated specification on which it is based (see 5.2.2). No more than one interim specification shall be outstanding for any coordinated specification. In addition, such a specification shall be clearly identified through four indicators as follows:
  - a. The specification number shall be prefixed with two zeros.
  - b. After the specification number, the next revision letter and the symbol designation of the preparing activity for the interim specification (see 5.7.4).
  - c. The notation "USED IN LIEU OF" shall be used instead of "SUPERSEDING" in the supersession information (see example below).
  - d. The preamble set forth on the first page of the specification, under the title (see 5.2.5.3).

Example: MIL-PRF-0015280C(SH)

23 December 1995 USED IN LIEU OF MIL-PRF-15280B 19 August 1995

5.2.3.4 Measurement system identification . Metric specifications shall be identified by the word "METRIC" placed in a rectangular box above the specification identifier on the first page. Inch-pound specifications shall be identified in a similar manner, except the term "INCH-POUND" shall be used. Similarly, those specifications which can be used in either the metric or inch-pound systems shall be identified by "NOT MEASUREMENT SENSITIVE." Hybrid documents which include a mixture of metric and inch-pound units shall be identified by "INCH-POUND." The "DoD" symbol shall no longer be used to identify specifications which are metric or capable of being used in either measurement system. Those specifications presently identified as "DoD" shall be changed to the "MIL" identifier at the time of next revision.

Examples:

METRIC	NOT MEASUREMENT SENSITIVE	INCH-POUND _
MIL-PRF-123	MIL-PRF-123	MIL-PRF-123

5.2.4 <u>Supersession</u>. A coordinated standardization document supersedes all prior issues, revisions, and amendments of that document. With concurrence of the military or federal agencies concerned, other documents may also be super seded by a coordinated document which incorporates essential require ments. Thus, the superseding document reflects a degree or range of coordination equal to or greater than any document which it supersedes. An interim specification shall not include the term "SUPERSEDING" with respect to an existing coordinated specification, since coordinated documents remain in effect until canceled or revised with the concurrence of the agencies concerned. A line shall separate the number and date of the superseding document from the supersession data. The word "SUPER SEDING" shall be entered below the separation line, followed by the number and date of the superseded document, indicating that all activities concerned are to use the superseding document.

For example:

MIL-DTL-12345B 11 August 1995 SUPERSEDING MIL-DTL-0012345A(SH) 6 June 1995 MIL-C-12345 16 March 1966 MIL-E-56789B 20 January 1970

When more than three documents are superseded, or when a specification is superseded in part, or when it is desirable to present special information for clarity, the supersession data and special information shall be placed in section 6 of the specification. The following notation shall then appear under or in lieu of supersession:

## Example:

Superseding more than Superseding in

three documents: part:

MIL-DTL-123C MIL-PRF-120C 20 August 1972 20 August 1995

**SUPERSEDING** 

(See 6. ) MIL-A-12345C (IN PART)

4 January 1970

(See 6.\_)

When a specification supersedes a document of a different number, the cancellation notice for the superseded document should be processed for issuance simulataneously with the superseding document. The approval dates of the superseding specification and of the cancellation notice should be the same.

SUPERSEDING

5.2.4.1 "Inactive for new design" note . When specifications are made inactive for new design concurrent with a revision action, the following note shall appear below the title and above the preamble on the first page and be boxed for emphasis. Superseding documents for new design shall be noted in the box when applicable.

Inactive for new design a fter (date)
For new design use MIL -PRF-000.

- 5.2.5 Preambles.
- 5.2.5.1 <u>Preamble for coordinated specifications</u>. For coordinated specifications, the following preamble shall appear immediately under the title to show promulgation by the Department of Defense:

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

5.2.5.2 <u>Preambles for limited coordination specifications</u>. For limited coordination specifications, one of the following preambles, as appropriate, shall appear immediately under the title:

"This specification is approved for use by the (Preparing Activity), Depart ment of the ( ), and is available for use by all Depart ments and Agencies of the Department of Defense."

"This specification is approved for use by the Department of the ( ) and is available for use by all Departments and Agencies of the Depart ment of Defense."

5.2.5.3 <u>Preamble for interim specifications</u>. For interim specifications, the following preamble shall appear immediately under the title:

"This specification is approved for interim use by the (Preparing Activity) in lieu of the coordinated issue of (document identi fier)."

5.2.5.4 <u>Preamble for specifications with restricted distribution</u>. When a specification is marked with other than "DISTRIBUTION STATEMENT A" (see 5.2.9), the following shall be added at the end of the appropriate preamble: "within the distribution limitations noted at the bottom of the page."

5.2.6 <u>DD Form 1426 note</u>. Specifications in six -section format shall include the following note on the bottom center of the first page immediately above the FSC designation. The note shall be boxed for emphasis.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: (insert name and address of the preparing activity) by using the self-addressed Standar dization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

- 5.2.7 <u>Designation of federal supply class (FSC)</u>, group (FSG), or area assignment \_\_\_. The specification shall be assigned a FSC or FSG as defined in the Cataloging Handbook H2 \_\_-1, Part 1, or a standardization area as defined in the SD -1. The applicable FSC, FSG, or area assignment shall appear in the lower right corner of the first page of the specification below the beneficial comments box. The symbol "GP" shall follow the FSG number, (for example, 59GP) when the FSG number identifies the assignment or project. Specifications covering more than one FSC shall be designated with the applicable FSG or with the appropriate standardization area if more than one FSG is covered. Dual or multiple FSC, FSG, or standardization area designations shall not be used.
- 5.2.8 <u>AMSC number</u>. All standardization documents shall reflect either an AMSC number or "AMSC N/A" at the bottom left of the first page, below the beneficial comments box. The following indicates which documents require an AMSC number and which ones require "AMSC N/A."
  - a. With the exceptions noted in b. and c. below, specifications shall be marked "AMSC N/A."
  - b. Data product specifications require assignment of an AMSC number (see 4.3.1).
  - c. Technical manual specifications require assignment of an AMSC number (see 4.3.2).
  - d. Amendments require either the same AMSC number or "AMSC N/A" as shown on the document being amended. While amendments do not require clearance, a copy of all amendments bearing an AMSC number shall be sent to the AMSDL Clearance Office concurrent with submittal of the manuscript to the DoDSSP for printing.
  - e. Validation notices, cancellation notices, reinstatement notices, inactive for new design notices, and supplements require "AMSC N/A."

5.2.9 <u>Distribution statement</u>. All standardization documents prepared by the DoD will cite the appropriate distribution statement in accordance with MIL-STD-1806 on the line immediately below the FSC, FSG, or area designation flush with the left hand margin. The distribution statement shall be placed on all coordination drafts, as well as the camera ready copy of the document. Since most specifications do not contain sensitive technical information, the following distribution statement is the one that will usually be used:

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

- 5.3 <u>Sectional arrangement of specifications</u>. Except for specification sheets (see 5.12), specifications shall contain six numbered sections, titled and numbered as shown below. A table of contents and cover sheet shall not be used. For lengthy documents, an alphabetical index may be used (see 5.6).
  - 1. SCOPE
  - 2. APPLICABLE DOCUMENTS
  - 3. REQUIREMENTS
  - 4. VERIFICATION
  - 5. PACKAGING
  - 6. NOTES

Subject matter shall be kept within the scope of the sections so that the same kind of requirements or information will always appear in the same section of every specification. If there is no information pertinent to a section, the following shall appear below the section heading:

"This section is not applicable to this specification."

## 5.3.1 <u>SECTION 1.</u>

5.3.1.1 <u>Scope</u>. The statement of the scope shall repeat the item name and its modifiers and consist of a clear, concise abstract of the coverage of the specification and may include, whenever necessary, information as to the use of the item other than specific detailed applications covered under "Intended use" (section 6). This brief statement shall be the beginning paragraph in section 1 of the six -section specification. As applicable, reference may be made to information contained in section 6 (see figure 3). The scope shall not contain requirements. Figures shall not be included in the scope.

- 5.3.1.2 Classification. Designation of classification such as types, grades, and classes, when applicable, shall be listed under this heading in section 1 and shall be in accordance with accepted industry practice. The same designation shall be used throughout the specification. When more than one type, grade, class, or other classification is listed, each shall be briefly defined. When only one classification is covered, a statement to this effect shall be included in the scope paragraph, and the classification paragraph omitted. The classification shall remain constant from revision to revision of the specification unless a change is necessitated by a valid reason, such as a change in industry practice. Where the characteristics of an item change enough to affect interchangeability, delete the original designation and add a new classification. Whenever it becomes necessary to change the designation without changing the characteristics of the item, a cross reference shall be included in section 6 of the same specification indicating the relationship between the old and new designations. This cross -reference shall remain in section 6 in all successive revisions identifying designations in all revisions since the original designation change. Since such changes require cataloging and other record changes, such changes shall be kept to a minimum.
- 5.3.1.2.1 Other classifications. If the terms, types, grades, and classes do not serve accurately to classify the differences as indicated above, other terms such as color, form, weight, size, power supply, temperature rating, condition, unit, enclosure, rating, duty, insulation, kind, and variety may be used.
- 5.3.1.2.2 <u>Classification for reliability level identification</u>. When a specification contains a multilevel reliability requirement, section 1 of the specification shall identify the levels covered.
- 5.3.1.2.3 <u>Use of international standardization agreement code numbers</u>. In designating the classification, the appropriate NATO or other international standardization agreement code numbers shall be included in section 1 whenever the specification requirements are consistent with such an agreement.

## 5.3.2 SECTION 2.

5.3.2.1 <u>Listing of applicable documents</u>. Section 2 shall list only those documents referenced in sections 3 or 4 of the specification that are needed to meet requirements or provide useful information for meeting requirements (see figure 4). If a document is only cited as an example or for background information, it does not have to be listed in section 2. For the types of documents that may be referenced in specifications, see 4.21. Figures bound integrally with the specification shall not be listed in section 2 unless they are reduced -size copies of drawings provided in the specification for information only and use of the full size drawings is normally required with the specification. The first paragraph in section 2 shall be as follows:

- "2.1 <u>General</u>. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed."
- 5.3.2.1.1 Government documents. Referenced Government specifications, standards, and handbooks shall be listed by document title and identifier, excluding revision letters, suffix (preparing activity symbols), and the "OO" designation for interim documents. Titles shall be taken from the documents rather than an index. Government specifications, standards, handbooks, drawings, and publications as applicable shall be listed numerically (except federal specifications which shall be listed alpha—numerically) under headings in individual groups such as federal, Department of Defense, and departmental activity (such as Naval Air Systems Command). These listings shall be included under the following subparagraphs:
  - "2.2 Government documents.
- "2.2.1 <u>Specifications, standards, and handbooks</u>. 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 Depart ment of Defense Index of Specific ations and Standards (DoDISS) and supplement thereto, cited in the solicita tion (see 6.2)."

The following types of publications shall be listed (as applicable) in the order shown after 2.2.1:

Federal Specifications (list CIDs under this heading)
Department of Defense Specifications
Federal Standards
Federal Information Processing Standards
Department of Defense Standards
Department of Defense Handbooks

If a general specification has associated specifications or specification sheets (including MS sheets) not exceeding five in number, these specifications shall be listed by exact title in numerical sequence. For specifications having six or more associated specifications, specification sheets, or MS sheets, the supplement shall be identified by one of the following notes in 2.2.1 following the Department of Defense specification listing (see 5.8).

"(See supplement 1 for list of associated specifications.)"

"(See supplement 1 for list of specification sheets.)"

The following parenthetical source statement shall follow the listing of Govern ment specifications, standards, and handbooks:

"(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D , Philadelphia, PA 19111-5094.)"

If Federal Information Processing Standards (FIPS) are listed under 2.2.1, the following parenthetical source statement shall also appear:

"(Copies of the Federal Information Processing Standards (FIPS) are available to Department of Defense activities from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. Others must request copies of FIPS from the National Technical Information Service, 5285 Port Royal Road, Spring field, VA 22161-2171.)"

The following paragraph shall be used to list Government drawings, publications, or other Government documents not listed under 2.2.1:

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

The following types of publications shall be listed (as applicable) in the order shown after 2.2.2:

Other Government Documents (for example, Department of Transporta tion Specifications, U.S. Department of Agriculture Specifications, etc.)

**Drawings** 

**Publications** 

Where detailed drawings referred to in a specification are listed in an assembly drawing, it is only necessary to list the assembly drawing.

A parenthetical source statement shall follow each individual document or each group of related documents providing the name and address of the source.

- 5.3.2.1.2 Non-Government standards and other publications . Non-Government standards and other publications not normally furnished by the Government shall be listed in appropriate order (numerically or alpha-numeric) under the headings of the respective non -Government standards bodies. The document(s) shall be listed by title and identifier, if applicable. Titles shall be taken from the document rather than from an index. If the non -Government standard has been adopted by the DoD and listed in the DoDISS, the specific issue date or other revision indicator shall not be given. After the title of each non-Government standard adopted by the DoD, add "(DoD adopted)." If the non -Government standard has not been adopted by the DoD, the specific issue date or other revision indicator may be given, but it is not required. This listing shall be included under the following subparagraph:
- "2.3 <u>Non-Government publications</u>. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise speci fied, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2)."

In addition, the following parenthetical source statement shall follow each individual publication or each group of related publications which may be obtained from a common source:

"(Application for copies should be addressed to the (name and address of the source).)"

- 5.3.2.1.3 Order of precedence. In order to avoid confusion in the possible conflict between the requirements of the specification and the documents refer enced therein, the following statement shall be included:
- "2.4 <u>Order of precedence</u>. In the event of a conflict between the text of this document and the references cited herein (except for related as sociated specifications or specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained."

The parenthetical phrase "(except for related associated specifications, specification sheets, or MS standards)" shall be omitted from the above paragraph for specifications which do not have related associated specifications or specification sheets.

## 5.3.3. <u>Section 3</u>

- 5.3.3.1 <u>Requirements</u>. Section 3 of the specification shall state the necessary requirements for the product for which the specification is prepared. Figure 1 lists some possible requirements to be considered when preparing a specification.
- 5.3.3.2 <u>General principles</u>. The following general principles shall govern requirements for performance specifications and detail specifications:
  - a. Requirements shall represent the actual essential needs of the Government.
  - b. Requirements shall be described in a manner to encourage competition.
- c. Requirements shall be clear and provide a definite basis for rejection or firm criteria for acceptance based on testing or examination.
- 5.3.3.3 <u>Performance specifications</u>. Requirements in performance specifications shall describe what is required or the item's form, fit, or function. Performance specifications shall not describe how a requirement is to be achieved, require the use of specific materials or parts, or give detailed design or construction requirements beyond those needed to ensure interchangeability with existing items. For a general specification to be designated as a "Performance Specification," the requirements in its associated specifications, specification sheets, or MS sheets shall also be stated as performance requirements. See figure 5 for an example of the types of requirements found in performance specifications.
- 5.3.3.4 <u>Detail specifications</u>. Detail specifications may consist of all detail requirements or a blend of performance and detail requirements. To the greatest extent possible, requirements in detail specifications shall be in terms of performance. Detail specifications shall specify materials, design or construction requirements, or "how to" requirements only to the extent necessary to ensure the adequacy, safety, and interchangeability of the item being acquired. See figure 6 for an example of the types of requirements found in detail specifications.
- 5.3.3.5 <u>General specifications</u>. When preparing a general specification, section 3 shall contain all the requirements that are common to the item being specified. Where specification sheets are to be prepared, the applicable general specific ation shall include the following paragraph in section 3:
- "3.1 Specification sheets. The individual item requirements shall be as specified herein and in accordance with the applicable specification sheet. In the event of any conflict between the requirements of this specification and the specification sheet, the latter shall govern." (If a specific requirement specified herein is not required for an item, it shall be so indicated on the specification sheet; for example, "Shock N/A.").

Use the terms "Associated specifications" or "MS sheets" in place of "Specification sheets" when applicable.

5.3.3.6 <u>Qualification</u>. For specifications where inclusion of a qualification requirement has been properly authorized, one of the following statements shall be included in section 3, as appropriate:

### For OPLs:

"3. <u>Qualification</u>. <u>(Item)</u> furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable qualified products list before contract award (see 4. and 6.)."

## For QMLs:

- "3. <u>Qualification</u>. <u>(Item)</u> furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturers list before contract award (see 4. and 6.)."
- 5.3.3.7 <u>First article</u>. First article includes pre-production models, initial production samples, test samples, first lots, pilot models, and pilot lots. If it may be necessary to test a first article for conformance with specification requirements prior to regular production on a contract, the following statement shall appear in section 3:
- "3. <u>First article</u>. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.\_."
- 5.3.3.8 Standard sample. Use of standard samples shall be kept to a minimum, since their use can create problems in determining the acceptability of items subsequently produced. Adequate inspection requires that all requirements be made available such as the approved tolerances of dimensions or performance. A standard sample does not provide all this information but must be supported by specification requirements and draw ings. The use of the standard sample shall be limited to the illustration of qualities and characteristics that cannot be readily described because detailed test procedures or design data are not available, or because certain qualities and characteristics cannot be definitively expressed, such as the texture of fur, the color of cloth, or the grain of wood. Further, the specification should state the specific characteristics and the degree to which these characteristics are to be observed in the standard sample. When a standard sample is to be furnished, it shall be so stated in section 3. Standard samples are either on view or the means of obtaining standard samples shall be specified in section 6.
- 5.3.3.9 Toxic chemicals, hazardous substances, and ozone depleting chemicals (ODCs). The use of toxic chemicals, hazardous substances, or ODCs shall be avoided, whenever feasible. The SD-14 provides a readily accessible list of toxic chemicals, hazardous substances, and ODCs. (NOTE: The list of toxic chemicals and hazardous substances changes. Any updates to the list will be reflected first in the EPA Title III List of Lists (EPA 560/4-92-011).) The desired performance requirements should be specified rather than the specific chemical or substance. If a toxic chemical, hazardous substance, or ODC must be specified, it shall be listed as a key word in section 6 (see 5.3.6.13).

- 5.3.3.10 <u>Recycled, recovered, or environmentally preferable materials</u>. Where applicable, specifications shall include the following paragraph to encourage procurement and usage of products made from recycled, recovered, or environmentally preferable materials.
- "3.X Recycled, recovered, or environmentally preferable materials . Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs."
- 5.3.3.11 <u>JAN and J marking</u>. The following paragraph shall be included when JAN marking is required:

"The United States Government has adopted, and is exercising legitimate control over the certification marks "JAN" and "J", respective ly, to indicate that items so marked or identified are manufactured to, and meet all the requirements of specifications. Accordingly, items acquired to, and meeting all of the criteria specified herein and in applicable specifications shall bear the certification mark "JAN" except that items too small to bear the certification mark "JAN" shall bear the letter "J". The "JAN" or "J" shall be placed immediately before the part number except that if such location would place a hardship on the manu in connection with such marking, the "JAN" or "J" may be located on the first line above or below the part number. Items furnished under contracts or orders which either permit or require deviation from the conditions or requirements specified herein or in applicable specifications shall not bear "JAN" or "J". In the event an item fails to meet the requirements of this specification and the applicable specification sheets or associated specifica tions, the manufacturer shall remove completely the military part number and the "JAN" or the "J" from the sample tested and also from all items represented by the sample. The "JAN" or "J" certification mark shall not be used on products acquired to contractor drawings or specifications. The United States Government has obtained Certificate of Registration Number 504,860 for the certifi cation mark "JAN" and Registration Number 1,586,261 for the certification mark "J"."

- 5.3.3.12 Government-furnished property. All property to be furnished by the Government as part of the specification shall be listed and identified by part or identifying number, or stock number. The quantity of each item required for one complete unit shall be listed. Each item entry shall be numbered in order to provide ready reference. The specifications or drawings covering Government-furnished property need not be listed in section 2. Documents listed in section 2 of a specification are not considered Government-furnished property (see 5.3.6.10).
- 5.3.3.13 <u>Government-loaned property</u>. Property that the Government loans to the contractor for testing or any other purpose and which does not lose its identity by becoming part of the commodity shall be listed under this heading (see 5.3.6.10).

## 5.3.4 <u>SECTION 4.</u>

- 5.3.4.1 <u>Verification</u>. Section 4 shall include all inspections to be performed to deter mine that the item to be offered for acceptance conforms to the requirements in section 3 of the specification (see figure 7). This section shall not include quality requirements that belong in the contract, such as responsibility for inspection, establishment of quality or inspection program requirements, warranties, instructions for nonconforming items, and contractor liability for nonconformance.
- 5.3.4.2 <u>Classification of inspections</u>. Where section 4 of the specification includes inspections applicable to such requirements as qualification or first article, a classification of inspections shall be included as the first paragraph of section 4 as illustrated in the following examples:

## Example A:

- "4.1 <u>Classification of inspections</u>. The inspection requirements specified herein are classified as follows:
  - a. Qualification inspection (see 4.2).
  - b. Conformance inspection (see 4.3)."

## Example B:

- "4.1 <u>Classification of inspections</u>. The inspection requirements specified herein are classified as follows:
  - a. First article inspection (see 4.2).
  - b. Conformance inspection (see 4.3)."
- 5.3.4.3 <u>Inspection conditions</u>. When applicable, the environmental conditions under which all inspections are performed shall be specified as follows:
- "4.X <u>Inspection conditions</u>. Unless otherwise specified, all inspections shall be performed in accordance with the test conditions specified in (applicable test method document or applicable para graph(s) in the specification)."

- 5.3.4.4 <u>First article inspection</u>. When section 3 identifies a possible need for first article inspection, section 4 shall include a descrip tion of the inspection procedure, sequence of the inspections, number of units to be inspected, and the criteria for determining conformance to the requirement specified. It is recommended that a table be included that cross-references the requirements with the appropriate first article examinations and tests.
- 5.3.4.5 <u>Qualification inspection</u>. When section 3 of the specification specifies a qualification requirement, section 4 shall include a description of the inspection procedure, sequence of inspections, number of units to be inspected, and the criteria for determining conformance to the qualification requirement. It is recommended that a table be included that cross-references the requirements with the appropriate qualification examinations and tests.
- 5.3.4.6 <u>Conformance inspection</u>. Conformance inspection shall consist of examinations and tests necessary to ensure that production items meet specification requirements. Conformance inspection shall include a description of the inspection procedure, sequence of inspections, number of units to be inspected, and the criteria for determining conformance to the requirement specified. Conformance examinations and tests may be the same as those specified for first article inspection, but they shall not duplicate any long term or special tests that were used to justify inclusion of qualification in a specification. It is recommended that a table be included that cross-references requirements with the appropriate quality conformance examinations and tests.
- 5.3.4.6.1 <u>Sampling for conformance inspection</u>. Sampling is a valuable tool for ver ification of compliance with specification requirements. Specifications may include sampling, but shall not include any fixed acceptable quality levels, lot tolerance percent defectives, or other types of fixed levels of defects. Such provisions may be included in the quality assurance section of the contract, but shall not be in the specification.
- 5.3.4.7 <u>Classification of defects</u>. When applicable, classification of defects shall be included in section 4. When required for reference purposes in reporting inspection results, the defects in a classification shall be numbered only in accordance with the following:

1 through 99 - critical defects 101 through 199 - major defects 201 through 299 - minor defects

If additional groupings are required, they shall be numbered in the 301, 401, 501, etc., series. If the number of defects in any group exceeds 100, the series should start over with a letter suffix; such as, 101a, 102a, 103a.

5.3.5 <u>SECTION 5.</u> Packaging requirements are specified in the contract or order. The following standard requirement shall be used in all specifications where packaging of an item will be required.

## "5. PACKAGING

"5.1 <u>Packaging</u>. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 5.3.6 <u>SECTION 6.</u>

- 5.3.6.1 Notes. Section 6 is not contractually binding. It shall only contain information of a general or explanatory nature, and no requirements shall appear therein (see figure 8). It shall contain information designed to assist in determining the applicability of the specification and the selection of appropriate type, grade, or class of the commodity, additional supersession data, changes in product designation such as grades or class, standard sample (if required), and other information deemed appropriate. This section shall include the following in the order listed, as applicable:
  - a. Parenthetical note.
  - b. Intended use.
  - c. Acquisition requirements.
  - d. Associated DIDs (may only be listed for data product specifications only).
  - e. Technical manual specification information.
  - f. Standard sample.
  - g. Qualification.
  - h. Supersession data (see 5.2.4).
  - i. Definitions (see 4.19).
  - j. Cross-reference of classifications and substitutability data.

- k. Government -furnished and Government -loaned property.
- 1. Patent notice.
- m. Part or identifying number (PIN) structure.
- n. Subject term (key word) listing.
- o. International interest.
- p. Identification of changes.
- 5.3.6.2 <u>Parenthetical note</u>. The following parenthetical note shall appear immediately below "6. NOTES":

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

- 5.3.6.3 <u>Intended use</u>. Information relative to the use of the item covered by the specification shall be included under this heading as 6.1. The difference among types, grades, and classes in the specification shall be explained herein. If there are any particular applications for which the item or material is not well adapted, this information shall also be included.
- 5.3.6.4 <u>Acquisition requirements</u>. Under this paragraph shall be listed all the options that must be exercised by the procuring activity in invitations for bids, contracts, or other purchasing documents. Options shall be listed in the sequence in which they appear in the specification. Acquisition requirements shall appear as 6.2 and shall include the following information as a minimum:
  - "6.2 Acquisition requirements . Acquisition documents must specify the following:
  - a. Title, number, and date of the specification.
  - b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2. \_).
  - c. Packaging requirements (see 5.1)."
- 5.3.6.5 <u>Associated DIDs</u>. A data product specification shall list the DIDs, for which it serves as the source document, in section 6 using the following paragraph:
- "6.X <u>Associated Data Item Descriptions (DIDs)</u>. This specification is cited in DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), as the source document for the following DIDs. When it is necessary to obtain the data, the applicable DIDs must be listed on the

Contract Data Requirements List (DD Form 1423), except where the DoD Federal Acquisition Regulation Supplement exempts the requirement for a DD Form 1423.

## DID Number

## DID Title

The above DIDs were current as of the date of this specification. The current issue of the AMSDL must be researched to ensure that only current and approved DIDs are cited on the DD Form 1423."

- 5.3.6.6 <u>Technical manual specifications</u>. When a specification is prepared to address technical manuals for the installation, operation, maintenance, training, and support of weapon systems, weapon system components, and support equipment, the following shall be inserted in section 6 of that specification:
- "6.X <u>Technical manuals</u>. The requirement for technical manuals should be considered when this specification is applied on a contract. If technical manuals are required, specifications and standards that have been cleared and listed in DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL) must be listed on a separate Contract Data Requirements List (DD Form 1423), which is included as an exhibit to the contract. The technical manuals must be acquired under separate contract line item in the contract."
- 5.3.6.7 <u>Standard sample</u>. If section 3 of the specification specifies a standard sample in accordance with 5.3.3.9, information for obtaining and examining the standard sample shall be stated under this paragraph identification.
- 5.3.6.8 <u>Qualification</u>. Where qualification of a product (QPL) or a manufacturer's capabilities (QML) is a requirement of the specification, information concerning such qualification shall be stated in this section as follows:
- "6.X Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Products List QPL No.\_\_\_ whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from (insert name and address of qualifying activity)."

When applicable, substitute the words "Qualified Manufacturers List" for "Qualified Products List" and "manufacturers" for "products" in the paragraph above.

5.3.6.9 <u>Cross-reference</u>. A cross-reference of old to new military classification or PIN made by specification revision showing sub-stitutability relationship shall be included. The extent to which new items may be binned with or substituted for prior items shall be stated here.

- 5.3.6.10 <u>Government-furnished and Government -loaned property</u>. When Government -furnished or Government -loaned property is listed in the specification, the following paragraphs shall be added to section 6:
- "6.X <u>Government-furnished property</u>. The contracting officer should arrange to furnish the property listed in 3.\_.."
- "6.X Government-loaned property . The contracting officer should arrange to loan the property listed in 3..."
- 5.3.6.11 <u>Patent notice</u>. When a specification is prepared to cover a patented item, the specification shall list the patents involved and include the following paragraph.
- "6.X <u>Patent notice</u>. The Government has a royalty -free license under the following listed patents for the benefit of manufacturers of the item either for the Government or for use in equipment to be delivered to the Government.

## US patent number "

If royalty-free licenses are not obtainable, the specification shall list the patents together with their expiration date and the statement that the Govern ment does not have a royalty -free license.

- 5.3.6.12 <u>Part or Identifying Number (PIN)</u>. When a specification requires a PIN (see 4.4), section 6 shall include a paragraph entitled "Part or Identifying Number" which will either describe how the PIN is constructed or refer to the appropriate associated document or appendix that describes the PIN construction.
- 5.3.6.13 <u>Subject term (key word) listing</u>. Specifications shall contain a listing of subject terms (key words) which would allow identification of the document during retrieval searches. Subject terms may be descriptors, keywords, posting terms, identifiers, open -ended terms, subject headings, acronyms, code words, or any words or phrases that identify the principal subjects covered in the report, and that conform to standard terminology and are exact enough to be used as subject index entries. If the specification requires the use of any toxic chemicals, hazardous substances, or ODCs listed in SD-14, these should be included in the key word listing. The subject terms shall not repeat words found in the title of the document. The subject terms are to be listed alphabetically in a single column with the main noun or word first, followed by sequential modifiers separated by commas. Word groups considered to be proper or recognized nouns such as "printed circuit board" should not be separated. The number of subject terms listed shall not exceed 25.
- 5.3.6.14 <u>International standardization agreements</u>. The preparing activity is responsible for implementation of international standardization agreements as they relate to its responsibilities. When specifications reference international standardization agreements as part of their requirements, the following statement shall be added:

"Certain provisions of this specification (identified by paragraph number or similar manner, if appropriate) are the subject of international standardization agreement (insert appropriate document reference). When amendment, revision, or cancellation of this specification is proposed which will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations."

- 5.3.6.15 <u>Identification of changes from previous issue</u>. Revisions of specifications shall include asterisks or vertical lines at the margins of the pages to indicate where changes have been made with respect to the previous issue. The following note shall be included as the last paragraph in section 6 of the specification:
- "6.X <u>Changes from previous issue</u>. The margins of this specifi cation are marked with asterisks (or vertical lines) to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue."

If the changes are extensive and too numerous to an notate, the following note shall be included in section 6 of the specification, but every effort should be made to annotate the changes:

- "6.X <u>Changes from previous issue</u>. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes."
- 5.4 <u>Concluding Material.</u> The following concluding material shall be provided at the end of the document following any tables, figures, appendixes, or indexes, and before the DD Form 1426.
  - a. Preparing activity.
  - b. Custodians (applies to coordinated specifications).
  - c. Review activities (applies to single department or fully coordinated specifications).
  - d. Industry association interest (if any).
  - e. Civil agency coordinating activities (if any).
  - f. Agent, if assigned.
  - g. Project number (required for all standardization documents, except for supplements and validation notices).

5.4.1. <u>Activity symbols</u>. The symbols used to identify the preparing activity, custodians, review activities, and other interested activities shall be in accordance with the current issue of SD -1. In addition, acronyms for interested industry associations (includes Non-Government Standards Bodies) that were included in the coordination process may be listed.

"Custodians: (where appropriate)
Army - AR
Navy - OS
Air Force - 16

Preparing activity: Navy - OS (Project 9110-1234)

Review activities: (where appropriate)

Army - AT, CR, ME Navy - EC, SH, YD Air Force - 11, 26, 85 DLA - GS

Industry associations: (where appropriate) AIA, ASTM, EIA, SAE

Civil Agency Coordinating Activities: (where appropriate)

AGR - APS HHS - FEC"

The preparing activity shall list potential custodians and review activities during specification development from interest as registered in the FSC DoDISS and its cumulative bimonthly supplement, catalog ing data, project history files, and other sources. The prepar ing activity shall confirm the selected level of interest with these activities during coordination. A preparing activity or custodian shall not be listed as a review activity. If a military depart ment has no interested activity, the department shall be omitted from its sequential order of listing. The listing of review activities shall be in alphabetical or numerical order, as applicable.

5.4.2. <u>Standardization Document Improvement Proposal (DD Form 1426)</u>. Preparing activities shall include this form as the last sheet of all specifications in six-section format. It is not required on specification sheets, amendments, supplements, and notices. The preparing activity shall fill in the information for blocks 1, 2, 3, and 8 of the form. This form is not required on classified specifications; however, if used, security regulations shall apply (see 4.8). (For an example, see the DD Form 1426 at the end of this standard.)

- 5.5 Appendix.
- 5.5.1 <u>General</u>. When required, an appendix as set forth in this section shall be included as an integral part of a specification. Table of contents and cover shall not be used.
- 5.5.2 <u>Purpose</u>. The appendix is supplementary information at the end of the specification and bound integrally with it (see figure 9).
- 5.5.3 <u>Numbering and titling</u>. The appendix shall begin on the next page following the specification. The upper center of each page shall be marked with the specification identifier and the word "APPENDIX" two lines below the identifier. When it is essential to include more than one appendix, identification shall be alphabetical (A, B, etc.). The title shall be located two lines below the word "APPENDIX" on the beginning page only.
- 5.5.4 <u>Section and paragraph numbering</u>. The sections in the appendix shall be designated by a letter corresponding to the appendix letter, followed by a period and an Arabic number. For example, the first section in Appendix A would be "A.1" and the second section in Appendix B would be "B.2." Paragraphs and subparagraphs shall be numbered consecutively within each section of the appendix. For example:

Requirements section of Appendix D.... D.3
First paragraph..... D.3.1
First subparagraph.... D.3.1.1
Second paragraph... D.3.2

- 5.5.5 <u>Page numbering</u>. Page numbers shall be numbered consecutively following the last page of the specification.
- 5.5.6 <u>Scope</u>. An appendix shall have a statement of scope as its first paragraph to indicate the coverage and limitations of the appendix to ensure its proper application and use. The following shall be included: "This Appendix (is or is not) a mandatory part of the specification. The information contained herein is intended for (compliance or guidance only)".
- 5.5.7 <u>References</u>. References which may be required and which relate only to the appendix shall be listed in the appendix under the heading "APPLICABLE DOCUMENTS" and shall not be referenced in section 2 of the specification. The references shall be listed as specified for section 2 (see 5.3.2).

5.6 <u>Index.</u> An alphabetical index may be placed at the end of a specification to permit ready reference to contents. Its use shall be limited to lengthy specifications. If used, an index follows the basic specification and any appendix. The pages are numbered continuously following the last page of the basic specification or appendix, as applicable. The document identifier shall appear in the upper center of each page.

## 5.7 Revisions.

- 5.7.1 <u>Specification revision</u>. A revision shall be prepared and processed in the same manner as a new document. When a revision is made, the entire contents of the specification shall be analyzed, and brought up-to-date and into compliance with the requirements of this standard. Revisions can also include inactivation (see 5.2.4.1).
- 5.7.2 Format. Revisions shall be prepared in the format of a new specification. All paragraphs, figures, tables, and pages shall be renumbered, as necessary, to eliminate all number suffixes and deletions and to establish correct sequence of requirements that were added by amendment.
- 5.7.3 <u>Notation of revisions</u>. When specifications are revised, and if the changes are not too extensive, asterisks or vertical lines shall be placed at the margin of the page to indicate where changes (additions, modifications, corrections, deletions) have been made with respect to the previous issue. See 5.3.6.15 for note to be included in section 6 of the specification explaining the use or absence of the asterisk or vertical line.
- 5.7.3.1 <u>Summary sheet for proposed coordinated specification</u>. A summary sheet shall be prepared for a proposed coordinated specification indicating the significant additions, deletions, corrections, or modifications. When prac ticable, supporting background information concerning the changes shall be included. The summary sheet shall accompany the proposed draft when it is circulated for coordination.
- 5.7.4 Revision indicators. Revisions of specifications shall be indicated by a capital Gothic letter following the number and preceding any suffix. Example: MIL -PRF-17A. The first revision shall be marked with the letter "A" and succeeding revisions shall be indicated by the other letters in alphabetical sequence, except that the letters I, O, Q, S, and Z shall not be used. When a coordinated specification supersedes a limited coordination specification having the same number, the first issue of the coordinated specification shall be considered a revision of the limited coordination specification, thus taking the next appropriate Gothic letter.

Example: The first coordinated revis ion superseding MIL -PRF-865(SH) would be identified as MIL-PRF-865A.

If the coordinated revision supersedes an interim specification of the same number, the two zeros in front of the number and activity symbol following the number shall be dropped and the next appropriate capital Gothic letter shall be added.

Example: MIL-DTL-005237A(GL) when superseded shall appear as MIL -DTL-5237B.

5.7.5 <u>PIN revisions</u>. Specification revisions that modify the requirements for items covered to the extent that they are not both physically and function ally interchangeable with those covered by the specification being superseded, shall assign new PINs to the items. A cross—reference of new PINs which are substitutable for the preceding part numbers shall be included in the specification. Each generation of substitution data will be retained in the specification for traceability. Revisions which do not affect the interchangeability characteristics of the items covered shall retain the existing part numbers, but the part numbers shall be designated as PINs (see 4.4).

## 5.8 Supplement.

- 5.8.1 <u>General</u>. A supplement to a specification shall be a separately issued document, associated with the applicable specification (see figure 10) and shall be issued only when the number of associated documents exceeds five in number, in lieu of listing in section 2 of the basic document (see 5.3.2.1.1).
- 5.8.2 <u>Contents</u>. A supplement shall be prepared to list associated specifications, specification sheets, or MS sheets. It may also include guidance information to assist users with the proper selection or application of the listed documents.
- 5.8.3 Format. Supplements shall carry the same headings, titles, symbols, specification number, and revision, as the general specifications with which they are associated. The word "SUPPLEMENT" followed by the Arabic number "1" and date of issue shall also be included beneath the document identifier. Supplement revisions shall be marked with a capital revision letter in alphabetical sequence to identify successive issues of the supplement. For example, "SUPPLEMENT 1A" would supersede "SUPPLEMENT 1." Each time the basic specification is revised, the supplement is revised and reverts to "Supplement 1".
- 5.8.4 <u>Preamble</u>. The following preamble shall be on supplements under the title: "This supplement forms a part of MIL -PRF-000, dated \_\_\_\_\_."
- 5.8.5 <u>Captions for supplements</u>. Captions such as "ASSOCIATED SPECIFICATIONS," "SPECIFICATION SHEETS," and "MS SHEETS" shall head each group of associated documents listed on the supplement.

- 5.8.6 <u>Concluding material</u>. Supplements shall show the preparing activity symbol, FSC designation, and agent, if applicable. The custodian and review activity symbols may be omitted (see figure 10).
- 5.8.7 Page numbering and document identification of supplements. The first page shall indicate the total number of pages in the supplement and the page number (for example, 1 of 6) at the bottom center of the page and shall have the document identifier and date in the upper right corner of the page. Page 2 and all succeeding pages shall be successively numbered with Arabic numbers at the bottom center of the page. The document identifier shall be placed on the second and succeeding pages in the upper center of the page. The word "SUPPLEMENT" and number shall be placed below the document identifier (for example, SUPPLEMENT 1, 1A, 1B, etc.).
- 5.8.8 FSC, FSG, or area designation. The FSC, FSG, or area designation shall be the same as for the basic specification, and shall be shown in the lower right hand corner of the first page.
- 5.8.9 <u>Distribution statement</u>. The appropriate distribution statement shall be placed on the first page on the line immediately below the FSC, FSG, or area designation as shown on figure 10.

## 5.9 Amendments.

5.9.1 <u>Purpose</u>. An amendment shall be prepared to make brief or minor changes and to correct errors in specifications, associated specifications, and specification sheets (see figures 11 and 12). Lengthy changes to specifications shall be accomplished as revisions (see 5.7). When the number of pages in the amendment exceeds 25 percent of the pages of the specification, or when the security classification is changed, the document shall be revised.

- 5.9.2 <u>Document identifiers for amendments to specifications</u>. The document identifier of the amendment shall be the same as the specific ation with which it is associated. The word "AMENDMENT" followed by a sequen tially assigned Arabic serial number, and the date of approval shall appear under the document identifier. Amendments shall be numbered consecutively for each specification. Amendment numbers, including those for interim amendments, will be assigned by the preparing activity for the specification. A line shall be placed between the approval date and the supersession data shown. Identification of specification amendments shall be in the following formats:
  - a. Amendment to coordinated specification:

MIL-PRF-39029/79	or	MIL-DTL-54224C
AMENDMENT 1		AMENDMENT 2
10 March 1995		15 April 1995
		SUPERSEDING
		AMENDMENT 1
		8 February 1993

b. Amendment to limited coordination specification:

MIL-PRF-6106/7B(USAF) AMENDMENT 2 1 May 1995 SUPERSEDING AMENDMENT 1 12 June 1991

c. Interim amendment to coordinated specification. (The symbol of the authorizing act ivity shall be placed immediately following the amendment number.):

MIL-PRF-19500/241D INT. AMENDMENT 1(USAF) 20 November 1995

d. Interim amendment superseding an interim amendment:

MIL-PRF-19500/158F INT. AMENDMENT 4(USAF) 15 May 1995 SUPERSEDING INT. AMENDMENT 3(USAF) 22 March 1977 USED IN LIEU OF AMENDMENT 2 11 October 1973

- 5.9.3 <u>Amendment headings and titles</u>. The headings and titles for specification amendments shall be the same as the specifications with which they are associated.
- 5.9.4 <u>Preambles</u>. All amendments to specifications shall have a preamble. One of the following preambles shall be used.
- 5.9.4.1 Amendments to coordinated specifications:

  "This amendment forms a part of \_\_\_\_\_\_, dated \_\_\_\_\_, and is approved for use by all Departments and Agencies of the Depart ment of Defense."

  5.9.4.2 Amendments to limited coordination specifications:

  "This amendment forms a part of \_\_\_\_\_\_, dated \_\_\_\_\_, and is approved for use by the (preparing activity), Department of the ( \_\_\_\_\_) and is available for use by all Departments and Agencies of the Department of Defense."

  "This amendment forms a part of \_\_\_\_\_\_, dated \_\_\_\_\_\_, and is approved for use by the Department of the ( ) and is available for use by all Departments and Agencies of the Department of Defense."

  5.9.4.3 Interim amendments to coordinated specifications:

  "This interim amendment is approved for use within (Military Depart ment or Activity), with MIL-PRF-0000 (dated) ."
- 5.9.4.4 <u>Amendments to specifications with restricted distribution</u>. When an amendment is marked with other than "DISTRIBUTION STATEMENT A" (see 5.2.9), the following shall be added at the end of the appropriate preamble: "within the distribution limitations noted at the bottom of the page."

- 5.9.5 <u>FSC, FSG, or area designation</u>. The FSC, FSG, or area designation shall be the same as for the basic specification and shall be shown in the lower right hand corner of the first page.
- 5.9.6 <u>Distribution statement</u>. The appropriate distribution statement shall be placed on the first page on the line immediately below the FSC, FSG, or area designation as shown on figures 11 and 12.
  - 5.9.7 Arrangement of text.
- 5.9.7.1 Replacement page method. Insertable replacement pages may form a portion of the amendment to a specification in addition to (or in place of) the sequential listing of individual corrections. Page 1 of a specification shall not be amended by a replacement page. Changes to page one shall only be accomplished as specified in 5.9.7.2 or by complete revision to the specification. In using the insertable replacement page method, both the page being changed and the applicable back—up page must be replaced so that the old page can be removed and the new page inserted. Back—up pages requiring corrections will be treated the same as an insertable replacement page and changes annotated in accordance with 5.9.13. All pages, including pages reprinted without change as back—up pages, shall bear the notation "AMENDMENT (amendment number)" beneath the document identifier at the top of the page. A note "Supersedes page (number) of (either the basic specification or the previous amendment, as applicable) of (date)" shall be placed in the lower left—hand corner of each revised page. Pages reprinted without change shall be marked "Reprinted without change" in the lower left—hand corner. The insert able replacement page es shall be appended to the amendment and shall bear the page numbers of the pages being replaced. The first page of the amendment shall carry a listing of the insertable replacement pages under the following heading:

"The attached insertable replacement pages listed below are replacements for stipulated pages. When the new pages have been entered in the document, insert the amendment as the cover sheet to the specification."

- 5.9.7.2 Text substitution method. Each individual correction shall be presented separately and the particular page, paragraph, line, table, or figure in which it occurs shall be identified. The page number identifying location of changes shall be centered on the page. The word "PAGE" shall be capitalized and followed by the number. A page number shall be shown only once and shall not be underlined. When changes continue on to another page of the amendment, the successive pages shall be typed as a continuous document. The "PAGE" number shall not be repeated on the following page of the amendment.
- 5.9.8 <u>Verb forms</u>. The imperative form of the verb shall be used in the amendment for indicating the changes to be made in the specification. For example: Delete "2.50" and substitute "2.00".
- 5.9.9 <u>Deletion of paragraphs</u>. When paragraphs of the specification are deleted by the amendment, the remaining paragraphs in the section need not be renumbered.

5.9.10 <u>Insertion of paragraphs, figures, and tables</u>. When new paragraphs, figures, or tables are added to the specification, they should be numbered in such a way that renumbering of existing paragraphs, figures, and tables is not necessary. For example:

<u>Existing</u>	<u>Added</u>	<u>Existing</u>
Table II	Table II-1	Table III
Figure 2	Figure 2A	Figure 3
Paragraph 5.11	Paragraph 5.11.1	Paragraph 5.12

- 5.9.11 <u>Successive (cumulative) amendments</u>. Amendments are cumulative and each successive amendment shall be written to completely supersede the previous amendment.
- 5.9.12 <u>Successive interim amendments</u>. Except for those requirements that are being changed, each successive interim amendment shall consolidate information contained in the previous interim amendment.
- 5.9.13 <u>Page numbering</u>. The first page shall indicate the total number of pages in the amendment and the page number (such as, 1 of 3 or 1 of 1) at the bottom center of page. All remaining pages of multi-page amendments shall be successively numbered with Arabic numerals at the bottom center of page. Insertable replacement pages shall carry the page number of the page being replaced and, for the purpose of page numbering only, shall not be counted as part of the amendment.
- 5.9.14 <u>Concluding material</u>. The concluding material of the specification shall be shown after the text of the amendment in the same manner as in the basic specification, including the project number for the amendment action. For interim amendments, the preparing activity, review activities, if any, of the limited coordination department, and project number shall be listed.
- 5.9.15 <u>Changes from the previous amendment</u>. An asterisk or vertical line shall be placed in the left margin opposite the change to denote a change from the previous amendment (on figures, the asterisk shall be placed as near the actual change as possible, so that it can be readily identified). The follow ing note shall be added at the end of the amendment preceding the concluding material:

"The margins of this amendment are marked with an asterisk (or vertical lines) to indicate where changes from the previous amendment were made. This was done as a convenience only and the Government assumes no liability what soever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment."

## 5.10 Notices

- 5.10.1 <u>Purpose</u>. Notices are used to inactivate for new design, cancel, reinstate, reactivate, or validate specifications. Notices shall not be used to transmit revisi ons or amendments. Notices completely supersede all previous notices.
- 5.10.2 <u>Validation notice</u>. A validation notice shall be prepared to indicate that a specification is technically valid without change. A validation notice shall be issued without a project number and without formal coordination. The notice is required at the time of the five year overage review if the document is determined to be valid and in compliance with defense acquisition and standardization policies. Technical changes shall not be made on the validation notice, but the preparing activity shall update the custodians, review activities, and other interested activities on the notice. The format of the notice shall be similar to that shown on figure 13, figure 14 for valida tion of inactive for new design documents, or figure 15 for a group validation. The actual wording may vary to indicate the reason for the notice, however, it shall include a definite state ment that the document as approved is still valid for acquisition without change.
- 5.10.3 <u>Inactive for new design notice</u>. An inactive for new design notice shall be prepared to indicate that an item or process is prohibited for use in new design and is used only in existing assemblies or units. Items or processes so designed may be used for new assemblies or units developed for existing design contracts where the inactive item or process is being used for existing designs in the same contract, or in assemblies for existing units or systems required under future contracts. Superseding documents for new design application shall be referenced in the notice when applicable and shall have a different specification number than that of the specification covered by the notice. When applicable, a precautionary note shall be included as follows: "CAUTION: The supersession information is valid as of the date of this notice and may be superseded by subsequent revisions of the superseding document." When a QPL is associated with the "inactive for new design" specification, the following sentence shall be included in the notice: "The Qualified Products List (QPL) associated with this inactive for new design specification will be maintained until acquisition of the product is no longer required whereupon the specification and QPL will be canceled" (see figure 16). Inactive status can also be accomplished in a revision (see 5.2.4.1).
- 5.10.4 <u>Cancellation notice</u>. A cancellation notice shall be prepared when a specification or specification sheet is no longer required (see figures 17 and 18). A group cancellation may also be done for a general specification and associated specifications or specification sheets (see figure 19). The cancellation notice shall indicate supersession information and classification cross-references, when applicable. Custodians and review activities shall be shown.

- 5.10.5 Reinstatement notice. A reinstatement notice shall be prepared to reinstate a canceled specification. The preparing activity, or with its permission, another activity, may reinstate a canceled specification by a notice of reinstatement (see figure 20). The notice of reinstatement, with a sequentially assigned Arabic number, will supersede the previous notice of cancellation. If the specification is coordinated, only the custodians and interested activities who have approved the reinstatement shall be shown on the reinstatement notice. If the coordinated document is reinstated for use by a single activity, the activity symbol shall be shown after the specification number and this information shall also be reflected in the text. The text for the reinstatement notice shall be as shown on figure 20. Reinstatement notices submitted to the DoDSSP for printing and distribution will be accompanied by a copy of the reinstated specification and if ap plicable, the amended or revised specification. Both shall be suitable for photo -offset reproduction. Reinstated documents will be distributed as attach ments to the reinstatement notice including a new DD Form 1426 (see 5.4.1.2).
- 5.10.6 Reactivation notice. A reactivation notice shall be prepared to reactivate an inactive for new design specification. The preparing activity, or with its permission, another activity, may reactivate an inactive for new design specification by a notice of reactivation (see figure 21). The notice of reactivation, with a sequentially assigned Arabic number, will supersede the notice of inactive for new design. If the specification is coordinated, only the custodians and interested activities who have approved the reactivation shall be shown on the reinstatement notice. If the coordinated document is reinstated for use by a single activity, the activity symbol shall be shown after the specification number and this information shall also be reflected in the text. The text for the reactivation notice shall be as shown on figure 21.
- 5.10.7 <u>Document identifier</u>. The document identifier of a notice shall be typed in the upper right corner of the first page. The following elements shall be included with the first letters in alignment (block form):
- a. The document identifier of the specification (associated specification or specification sheet) being inactivated, canceled, rein stated, or validated. The identification of limited coordination or interim specifications includes the activity code designation of the preparing activity.
- b. The word "NOTICE" followed by a sequentially assigned Arabic number shall be placed below the specification number on inactivations, cancellations, reinstatements, and validations.

c. The date of approval.

Example of sequential actions:

1. Inactive for new design notice:

MIL-PRF-82143(MC) NOTICE 1 18 October 1995

2. Cancellation notice:

MIL-PRF-82l43(MC) NOTICE 2 16 February 1995 SUPERSEDING NOTICE 1 18 October 1972

3. Reinstatement notice:

MIL-PRF-82143(MC) NOTICE 3 15 April 1995 SUPERSEDING NOTICE 2 16 February 1973

4. Validation notice:

MIL-PRF-82143(MC) NOTICE 4 13 May 1995 SUPERSEDING NOTICE 3 15 April 1976

- 5.10.8 <u>Heading and title</u>. A notice shall carry the same heading and title as the specification. The notice of cancellation, inactivation, reinstate ment, reactivation, or validation shall be enclosed in a box in the upper left -hand corner of the first page (see figures 13 through 21).
  - 5.10.9 Preamble. A preamble is not required.

- 5.10.10 <u>FSC, FSG, or area designation</u>. The FSC, FSG, or area designation shall be the same as for the basic specification and shall be shown in the lower right hand corner of the first page.
- 5.10.11 <u>Distribution statement</u>. The appropriate distribution statement shall be placed on the first page on the line immediately below the FSC, FSG, or area designation as shown on figures 13 through 21.
- 5.10.12 <u>Concluding material</u>. The concluding material for all notices shall be in accordance with 5.4.1, except that validation notices shall not require project numbers.
  - 5.11 <u>Associated specifications.</u>
- 5.11.1 <u>Purpose</u>. An associated specification is a six-section document associated with a general specification (see 3. 10), covering the unique technical requirements and tests for a single style, type, class, grade, or model of an item. An associated specification is similar in intent to a specification sheet (see 5.12), but differs in format and level of detail.
- 5.11.2 <u>Limitations</u>. Associated specifications shall not be prepared unless it is known that a family of items differing in style, type, class, grade, model, or similar variables will need individual coverage. An associated specification must be used together with its associated general specification to form a complete acquisition specification for the item(s) covered. Requirements in the general specification shall not be duplicated in associated specifications. All requirements cited in the general specification are applicable to the as sociated specifications unless otherwise indicated.
- 5.11.3 <u>Format and content</u>. The format and content requirements for associated specifications shall be the same as those requirements specified for six-section specifications, except as follows:
  - a. The document identifier shall be as specified in 5.2.3.1.1.
  - b. The document title shall be as specified in 5.12. 9.
  - c. The first paragraph in section 3 shall be as follows:
- "3.1 <u>General</u>. The requirements for acquiring the product described herein shall consist of this document and (fill in general specification number)."

- 5.12 Specification sheets.
- 5.12.1 <u>Purpose</u>. A specification sheet is a document associated with a general specification (see 3.10), covering the unique technical requirements—and inspections for a single style, type, class, grade, or model of an item (or series of items which vary only with respect to parameters such as value, size, tolerance, material, finish, failure rate) which are best presented in graphic or tabular form. See figure 22 for an example.
- 5.12.2 <u>Limitations</u>. Specification sheets shall not be prepared unless it is known that a family of items differing in style, type, class, grade, model, or similar variables will need individual coverage. Any single specification sheet together with its associated general specification, form a complete acquisition specification for the item(s) covered. Thus, specification sheets shall supplement the referenced general specification. Requirements in the general specification shall not be duplicated in specification sheets. All requirements cited in the general specification are applicable to the as sociated documents unless otherwise indicated.
- 5.12.3 <u>Document identifier</u>. The specification sheet shall be identified as specified in 5.2.3.1.1. The document identifier shall be placed in accordance with 4.14.
- 5.12.4 <u>Date and supersession data</u>. The date and supersession data shall be as specified in 5.2.3.1.2 and 5.2.4, respectively.
- 5.12.5 <u>FSC, FSG, or area designation</u>. The FSC, FSG, or area designation requirement shall be as specified in 5.2.7.
- 5.12.6 <u>Distribution statement</u>. The appropriate distribution statement shall be placed on the first page on the line immediately below the FSC, FSG, or area designation as shown on figure 22.
- 5.12.7 <u>Page number</u>. The first page only shall indicate the page number and total number of pages in the specification sheet at the bottom center of the page. Example: 1 of 7. The successive pages shall contain the page number only (2, 3, 4, etc.), at the bottom center of the page.
- 5.12.8 <u>Heading</u>. Each specification sheet shall have the heading "PERFORMANCE SPECIFICATION SHEET" or "DETAIL SPECIFICATION SHEET" two lines above the title (see figure 22). The criteria given in 5.3.3.3 and 5.3.3.4 shall determine whether a specification sheet is a performance specification or detail specification.

- 5.12.9 <u>Title</u>. Where the specification sheets are for similar items with minor differences from one item to another, the specification sheet titles shall be the same as that of the general specification (excluding the words "GENERAL SPECIFICATION FOR") with an identification of the style, type, class, grade, or model covered, as appropriate. Where it is determined that a specification sheet shall be prepared for components of an assembly which have different basic noun names than the general specification, the specification sheet titles shall reflect the basic noun name of the specific item associated with the general specification. In all cases, the title shall be determined in accordance with the detail instruction in 5.2.2.
  - 5.12.10 Preamble. The preamble shall be as specified in 5.2.5.
  - 5.12.11 <u>Acquisition note</u>. Under the preamble, the following shall be included:

"The requirements for acquiring the product described herein shall consist of this specification and (insert general specification number)."

- 5.12.12 <u>Content</u>. The specification sheet shall consist of dimensional data, and if applicable, requirements, tests, or examinations not covered in the general specification. The text shall in most instances cover a number of items differing only in one or two characteristics, such as length, diameter, resistance, capacitance, ohmic value, etc. Only one style, type, or model of an item (process) shall be covered by a specification sheet. The specification sheet shall contain the description, substitutability data, design features, characteristics, and performance data, as applicable.
- 5.12.13 Format. Presentation shall be in the form of figures, tables, and text on 8-1/2 by 11-inch plain white paper. The DD Form 672 shall not be used. Any figures shall normally be placed at the top of the first page and shall be numbered and titled. Requirements cited on a specification sheet should appear in the same sequence shown on the general specification. Requirements in the general specification that are not ap plicable to the specification sheet shall be noted (for example, shock N/A).
- 5.12.14 <u>PIN</u>. The PIN shall be placed in the specification sheet (see 4.4). National Stock Numbers (NSNs) shall not be included. There are two types of PINs used. The first type is a nonsignificant number as shown in the following example:

# a. Example of nonsignificant PIN.

"PIN: M12345/2 -(applicable dash number from table I).

TABLE I. <u>Dash number and operating characteristics</u>.

Dash no.	Fig.	Actuating flow increasing gal/min	Deactuating flow decreasing gal/min	Maximum allowable pressure drop
		max	minimum	•
01	1	0.45	0.3	4 lb <sub>f</sub> /in <sup>2</sup> at 0.3 gal/min
02	2	0.85	0.5	6 lb <sub>f</sub> /in <sup>2</sup> at 0.7 gal/min
03	3	0.55	0.45	5 lb <sub>f</sub> /in <sup>2</sup> at 0.5 gal/min
04	4	3.10	2.7	5 lb <sub>f</sub> /in <sup>2</sup> at 3.0 gal/min

b. Example of significant PIN (second type).

"PIN: Consists of the letter M, the basic number of the specification sheet, and a dash number compiled from the code.

Shield and shield clamp location or retaining plat	O Shell type  e PIN CODE:	L Jackscrews or guide pins	1A Contacts
Shield location	l clamp on or	<u>Shell</u>	<u>type</u>
2 - Sio 3 - To 4 - Sio 5 - To 6 - Sio	MS24132 pp MS24133 de MS24133 pp MS18193 de MS18193	0 - No	one
<u>pins</u> MS18194 MS18195	1A - 100 perc	cent size 16 -16	
	shield clamp location or retaining plat  Shield Shield location retain  1 - To 2 - Sid 3 - To 4 - Sid 5 - To 6 - Sid 0 - Note the same statements of the same st	Shield and Shell type shield clamp location or retaining plate  PIN CODE:  Shield and Shield clamp location or retaining plate  Shield  1 - Top MS24132  2 - Side MS24132  3 - Top MS24133  4 - Side MS24133  5 - Top MS18193  6 - Side MS18193  0 - None included  PIN CODE:  Shield  1 - Top MS24132  2 - Side MS24132  3 - Top MS18193  4 - Side MS18193  6 - Side MS18193  O - None included	Shield and Shell type shield clamp or guide pins retaining plate  PIN CODE:  Shield and Shield clamp location or retaining plate  Shield and Shield clamp location or retaining plate  Shield 0 - Note that the shield shield clamp location or retaining plate  Shield 0 - Note that the shield

- 5.12.15 <u>Revisions and amendments.</u> Revisions shall be prepared in accordance with 5.7, and amendments shall be in accordance with 5.9.
- 5.12.16 MS sheets. Existing MS Sheet Form Standards, as they are revised, shall be reformatted on 8-1/2 by 11 paper. The DD Form 672 has been discontinued and shall not be used. The existing MS number may be retained; however, it is preferred that existing MS numbers be converted to specification sheet numbers (see 5.2.3.1.1) if the renumbering does not adversely affect existing systems. If MS numbers are converted to specification sheet numbers, then substitution data shall be included to supersede every MS dash number. New specification sheets with the MS prefix shall not be prepared for any new specifications. MS specification sheets (formerly known as MS Sheet Form Standards) using the MS numbering system may continue to be used only with a specification where a series of MS numbered documents already exists.

#### 6. NOTES

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

- 6.1 <u>Intended use</u>. Specifications conforming to the requirements of this standard are intended for use as military standardization documents and are listed in the DoDISS. The general format described should also be considered for use in developing purchase descriptions and other non-DoDISS procurement specifications especially those which may be converted to a military standardization document at a later date.
- 6.2 <u>Issue of DoDISS</u>. When this standard is used in acquisition, the applicable issue of the DoDISS must be cited in the solicitation (see 2.2.1 and 2.3).
- 6.3 <u>Associated Data Item Descriptions (DIDs)</u>. This standard is cited in DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), as the source document for the following DIDs. When it is necessary to obtain the data, the applicable DIDs must be listed on the Contract Data Requirements List (DD Form 1423), except where the DoD Federal Acquisition Regulation Supplement exempts the requirement for a DD Form 1423.

DID Number DID Title

DI-SDMP-81465 Performance Specificat ion Documents

DI-SDMP-81464 Detail Specification Documents

The above DIDs were current as of the date of this standard. The current issue of the AMSDL must be researched to ensure that only current and approved DIDs are cited on the DD Form 1423.

6.4 <u>Tailoring guidance</u>. To ensure proper application of this standard, invitations for bids, requests for proposals, and contractual statements of work should tailor the requirements in sections 4 and 5 of this standard to exclude any unneces sary requirements. For example, if the statement of work requires a revision to a stand alone specification, then all the paragraphs in this standard related to amendments, notices, supplements, and specification sheets should be excluded.

## 6.5 Subject term (key word) listing.

Amendments

Cancellation notices

Data item descriptions

Detail specifications

Metric

MS sheets

Notices

Performance specifications

Reinstatement notices

Revisions

Specification sheets

Standardization documents

**Supplements** 

Validation notices

6.6 <u>Changes from previous issue</u>. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

The following checklist may be used in specifications covered by this standard. It is not all inclusive, nor must every item listed be included. This is only a guide and not a replacement for the instructions in this standard.

- 1. Security classification
- 2. Document identifier
- 3. Initial draft note
- 4. Heading
- 5. Title
- 6. Supersession data
- 7. Preamble
- 8. Beneficial comments
- 9. FSC, FSG, or area
- 10. AMSC number or AMSC N/A
- 11. Distribution statement

#### **SECTION 1: SCOPE**

- 1. Scope
- 2. Classification

#### **SECTION 2: APPLICABLE DOCUMENTS**

- 1. Required general paragraph
- 2. Correct document numbers and titles
- 3. Documents referenced in sections 3, 4, and 5
- only 4. Sources for documents
- 5. Order of precedence

### **SECTION 3: REQUIREMENTS**

- 1. Paragraph on associated specifications, MS sheets, or specification sheets
- 2. Qualification
- 3. First article
- 4. Standard sample
- 5. Materials

- 2. Qualification
- 3. First article
- 4. Standard sample
- 5. Materials
- 6. Environmental considerations
- 7. Recycled, reclaimed, recovered material
- 8. Design
- 9. Construction
- 10. Hardware
- 11. Reliability
- 12. Maintainability
- 13. Transportability
- 14. Performance characteristics
- 15. Energy efficiency
- 16. Human factors
- 17. Safety
- 18. Chemical and physical properties
- 19. Electromagnetic interference suppression
- 20. Dimensions
- 21 Weight
- 22. Color
- 23. Finish
- 24. Identification plate
- 25. Anti-counterfeiting
- 26. Government-furnished property
- 27. Government-loaned property
- 28. Workmanship
- 29. Requirements covered examinations and

tests in section 4

FIGURE 1. Checklist for drafting specifications

## **SECTION 4: VERIFICATION**

- 1. Classification of inspections
- 2. Inspection conditions
- 3. Qualification inspection
- 4. First article inspection
- 5. Conformance inspection
- 6. Examinations and tests for verifying requirements in section 3

#### **SECTION 5: PACKAGING**

1. Packaging paragraph

#### **SECTION 6: NOTES**

- 1. Parenthetical note
- 2. Intended use
- 3. Acquisition requirements
- 4. Associated DIDs
- 5. Technical manuals
- 6. Qualification note
- 7. Standard sample information
- 8. Definitions
- 9. Supersession information
- 10. Substitutability information
- 11. Cross-reference of classification
- 12. Government-furnished property
- 13. Government-loaned property
- 14. Patent notice
- 15. Part or identifying number
- 16. Subject term (key word) listing

- 17. International standardization agreements
- 18. Identification of changes

## APPENDIX(CES)

#### **INDEX**

#### **CONCLUDING MATERIAL**

- 1. Preparing activity, custodians, review activities, industry associations, civil coordinating activities, and agent
- 2. Project number
- 3. DD Form 1426, Standardization Document Improvement Proposal

FIGURE 1. Checklist for drafting specifications - Continued.

The following is a list of standard (boilerplate) paragraphs which are either required or are required when applicable. Except for those items marked with an asterisk, there shall be no deviation from the wording shown in the referenced paragraph. For those paragraphs marked with an asterisk, the referenced paragraph provides only an example of acceptable wording. The precise words will vary depending upon the situation.

## ALWAYS REQUIRED

Preamble (see 5.2.5)

Beneficial comments (see 5.2.6)

- \* Distribution statement (see 5.2.9)
- \* Subject term (key word) listing (see 5.3.6.13)

#### REQUIRED WHEN APPLICABLE

Draft note (see 5.2)

General applicable documents paragraph (see 5.3.2.1)

Government documents (see 5.3.2.1.1)

Non-Government documents (see 5.3.2.1.2)

Order of precedence (see 5.3.2.1.3)

Specification sheets (see 5.3.3.5)

Qualification requirement (see 5.3.3.6)

First article requirement (see 5.3.3.7)

Recycled, recovered, or environmentally preferable m aterials (see 5.3.3.10)

JAN marking (see 5.3.3.11)

- \* Classification of inspections (see 5.3.4.2)
- \* Inspection conditions (see 5.3.4.3)

Packaging (see 5.3.5)

Associated DIDs (see 5.3.6.5)

Oualification note (see 5.3.6.8)

Government -furnished and government -loaned property (see 5.3.6.10)

Patent notice (see 5.3.6.11)

International standardization agreement (see 5.3.6.14)

Changes from previous issue (see 5.3.6.15)

FIGURE 2. List of standard paragraphs.

- 1. SCOPE
- 1.1 <u>Scope</u>. This specification covers spring loaded pressure relief valves for steam service.
- 1.2 <u>Classification</u>. Pressure relief valves will be of the following types and compositions, as specified (see 6.2).
  - 1.2.1 <u>Types.</u> The types of pressure relief valves are as follows:
  - Type I Atmospheric outlet
  - Type II Pressure tight outlet
  - 1.2.2 <u>Compositions</u>. The compositions for pressure relief valves are as follows:

## Composition A:

Chromium - 2-1/4 percent Molybdenum - 1 percent

# Composition B:

Chromi um - 1-1/4 percent Molybdenum - 1/2 percent

## Composition D:

Carbon steel

FIGURE 3. Example of section 1.

#### 2. APPLICABLE DOCUMENTS

2.1 <u>General</u>. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

#### 2.2 Government documents.

2.2.1 <u>Specifications, standards, and handbooks</u>. 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).

#### **SPECIFICATIONS**

#### **FEDERAL**

TT-S-735 - Standard Test Fluids; Hydrocarbon. VV-F-800 - Fuel Oil, Diesel.

#### DEPARTMENT OF DEFENSE

MIL-H-5606 - Hydraulic Fluid, Petroleum Base, Aircraft, Missile, and

Ordnance.

MIL-PRF-5624 - Turbine Fuel, Aviation, Grades JP -4 and JP-5.

MIL-T-6081 - Lubricating Oil, Jet Engine.

MIL-DTL-7808 - Lubricating Oil, Aircraft Turbine Engine, Synthetic Base.

MIL-C-22520 - Crimping Tools, Terminal, Hand or Power Actuated, Wire

Termination, and Tool Kits.

(See supplement 1 for list of associated specifications)

FIGURE 4. Example of section 2.

#### **STANDARDS**

**FEDERAL** 

FED-STD-H28 - Screw Thread Standards For

#### DEPARTMENT OF DEFENSE

MIL-STD-454 - Standard and General Requirements for Electronic Eq uipment.

(Unless otherwise indicated, copies of the above specifica tions, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094).

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

#### **DRAWINGS**

NAVAIR 12345 - Jet Engine Design

(Copies of this drawing are available from the Naval Air Systems Command, Code 051, Washington, DC 20402.)

2.3 <u>Non-Government publications</u>. The following document forms a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 484 - Bars, Billets and Forgings, Stainless and Heat-Resist ing, General Requirement for (DoD adopted)

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## FIGURE 4. Example of section 2 - Continued.

## 3. REQUIREMENTS

- 3.1 <u>First article</u>. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.3.
- 3.2 <u>Materials</u>. The contractor shall select the materials, but the materials shall be capable of meeting all of the operational and environmental requirements specified herein. The materials specified in MIL-P-11268 are recommended, but are not mandatory. Recovered materials shall be used to the maximum extent possible.
- 3.3 <u>Design</u>. The biocular eyepiece shall conform to Drawing DLSM-B-805103 to ensure proper interface with the Tank Mounted Thermal Sight.
  - 3.4 Weight. The total weight of the biocular eyepiece shall not exceed 10 pounds.
  - 3.5 Performance characteristics .
- 3.5.1 <u>Field of view to the eye</u>. The field of view to the eye shall be not less than 39 degrees.
  - 3.5.2 <u>Magnification</u>. The on-axis magnification shall be not less than 4.5 times.
- 3.5.3 <u>Field overlap</u>. The biocular eyepiece shall provide at least 50 percent field overlap with field overlap calculated using the diameter and not the area of the overlapping images. These conditions shall be satisfied at the fixed diopter setting.
- 3.5.4 <u>Biocular focus</u>. The eyepiece shall be focused at minus 2.5 plus or minus 0.3 diopters.
- 3.5.5 <u>Field flatness</u>. The biocular eyepiece shall have a flat tangential field within plus or minus 1/2 diopter across the outer 50 percent of the 40-mm format and within plus or minus 1/4 diopter across the central 50 percent of the 40-mm format at the fixed diopter setting.
- 3.5.6 <u>Resolution</u>. The visual axial resolution (central 25 percent of the field of view) of the biocular eyepiece shall be not less than 35.9 line pairs per millimeter. The remaining field of view shall resolve 17.9 line pairs per millimeter.
- 3.5.7 <u>Transmission</u>. The transmission of the biocular eyepiece shall be at least 85 percent over the entire aperture for the region of spectral output of a P-20 phosphor.
  - 3.5.8 <u>Effective focal length</u>. The effective focal length shall be 1.733 plus or minus 0.017 inches.

# FIGURE 5. Example of requirements in performance specification .

3.5.9 <u>Modulation transfer function (MTF)</u>. With a single 5-mm exit pupil decentered plus or minus 27.5-mm from the optical axis and located at a 60-mm eye relief, the MTF shall be at least equal to the MTF given below when measured at the fixed diopter setting for an image placed at the center of the format.

## Frequency (1p/mm)MTF

20.97

40.94

60.91

80.85

100.78

- 3.5.10 <u>Linear distortion</u>. The linear distortion of the biocular eyepiece measured at the fixed diopter setting shall be 5.3 plus or minus 1 percent barrel distortion at the edge of the 40-mm format.
- 3.5.11 <u>Back focal distance</u>. The back focal distance shall not exceed 0.10 inch for an object projected 400 mm behind (towards the biocular) for the nominal 60-mm exit pupil.
  - 3.6 Environmental conditions.
- $3.6.1~\underline{Temperature~shock}$  . The biocular eyepiece shall not be damaged by sudden changes in temperature between -57m to +71m C.
- 3.6.2 <u>Shock</u>. The biocular eyepiece shall not be damaged when subjected to the shock tests specified in 4.4.2.
- 3.6.3 <u>Vibration</u>. The biocular eyepiece shall not be damaged when subjected to the vibration tests specified in 4.4.3.
  - 3.6.4 Altitude. The biocular eyepiece shall operate at altitudes up to 10,000 feet above sea level.
- 3.7 <u>Cleanliness</u>. The biocular eyepiece shall not contain foreign matter, such as dust, dirt, fingerprints, or moisture, that can be detected by visual examination.
  - 3.8 Color. The color of the biocular eyepiece shall be tank white, Number 17875 of FED-STD-595.
- 3.9 <u>Nameplate</u>. The eyepiece shall have a nameplate marked with the National Stock Number and the manufacturer's name and part number.

FIGURE 5. Example of requirements in performance specification - Continued.

#### 3. REQUIREMENTS

- 3.1 <u>First article</u>. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.3.
- 3.2 <u>Materials and components</u>. The materials and components shall conform to applicable specifications, standards, and patterns required herein. Unless otherwise specified (see 6.2), non-metallic materials used in construction of the inflation assembly shall not have been manufactured more than 24 months prior to the date of delivery, except for rubber products which shall have a cure date more than 12 months prior to the delivery date.
  - 3.2.1 <u>Vest</u>. The vest shall be constructed of the following materials:
- a. <u>Aramid mesh</u>. The back and sides shall be constructed of aramid raschel knit mesh conforming to MIL-C-43989.
- b. <u>Basic material</u>. The base fabric shall be plain weave, aramid cloth conforming to MIL-C-83429, type II, class 1.
- c. <u>Tape, woven binding</u>. The cloth binding for the mesh, casing, and pocket covers shall conform to MIL-T-5038, type III.
- d. <u>Fastener tapes</u>. The hook and pile fastener tape shall conform to MIL-F-21840, type II, class 1, and shall be attached as shown on the patterns.
- e. <u>Straps and side adjustment webbing</u>. Straps and webbing shall be nylon conforming to MIL-T-5038, type IV.
  - 3.2.2 Inflatable bladder. The inflatable bladder shall consist of the following:
- a. <u>Coated cloth</u>. The coated cloth shall be heat-sealable polyurethane coated nylon conforming to SAE AMS 3272, except that tear strengths shall be: 3.75 pounds for warp and 2.75 pounds for fill.
- b. <u>Bladder laces</u>. The cord used to lace the bladder to the casing shall be nylon conforming to MIL-C-5040, type III.
- c. <u>Adhesive</u>. The adhesive for securing the parts to the bladder shall be chloropene, 3M PN 2141PT, or equal.

#### FIGURE 6. Example of requirements in detail specification.

3.3 <u>Patterns</u>. Standard patterns to cut working patterns will be furnished by the Government (see 6.3). The working patterns shall be within plus or minus 1/16 inch of the Government patterns. The pattern parts shall be as specified in table I.

TABLE I. Patterns.

Pattern parts	Material	Cut parts
Pocket divider	Green woven material (MIL-C-83429)	2
Flap - right side	Green woven material (MIL-C-83429)	1
Flap - left side	Green woven material (MIL-C-83429)	1
Pocket	Green woven material (MIL-C-83429)	2
Bladder casing front	Green woven material (MIL-C-83429)	1
Bladder casing back	Green woven material (MIL-C-83429)	1
Hood casing	Green woven material (MIL-C-83429)	2
Bladder cylinder holder	Orange coated cloth (SAE AMS 3273)	1
Bladder lamp piece	Orange coated cloth (SAE AMS 3273)	1
Bladder	Orange coated cloth (SAE AMS 3273)	2
Back	Raschel knit material (MIL-C-43989)	1
Front	Raschel knit material (MIL-C-43989)	2
Shield	Plastic (L-P-375, type II, class 1)	1

## 3.4 Construction.

- 3.4.1 <u>Cut edges</u>. Cut edges of the uncoated nylon tapes, webbing, and cords shall be seared prior to fabrication of the life preserver to prevent fraying.
  - 3.4.2 Thread. Thread shall be an aramid thread conforming to MIL-T-83193.

FIGURE 6. Example of requirements in detail specification - Continued.

- 3.4.3 <u>Seams and stitching</u>. Sewing shall conform to FED-STD-751. Each row of stitching shall be straight and parallel to the seam edge. The straightness of the stitching in any row shall be maintained within a tolerance of 1/16 inch. The ends of the stitching shall be backstitched by overlapping on itself by a minimum of 1/2 inch. Thread breaks, skips, and run-offs shall be overstitched not less than 1 inch.
- 3.4.4 <u>Bartacking</u>. The number of stitches per bartack shall be based proportionally on 1/4 inch long bartack containing a minimum of 14 stitches.
- 3.4.5 <u>Heat sealing</u>. A radio frequency dielectric heat-sealing process shall be used in the construction of the bladder.
  - 3.5 Performance characteristics .
- 3.5.1 <u>Adhesion</u>. The adhesion, coated surface to coated surface, shall be 45 pounds per inch of width.
- 3.5.2 <u>Operation</u>. The life preserver shall inflate to design shape within 10 seconds. There shall be no leakage of carbon dioxide or hindrance to the flow of carbon dioxide from the inflation assembly.
- 3.5.3 <u>Buoyancy</u>. The inflated life preserver shall support a 32 pound solid steel or lead weight without the entire life preserver assembly sinking below the surface of the water.
- 3.5.4 <u>Pressure</u>. The pressure in the bladder shall be not less than 4.5 pounds per square inch when tested in accordance with 4.7.2.4.
- 3.6 <u>Workmanship</u>. Life preservers shall be free of all loose thread, lint, and foreign matter. Life preservers shall be uniform in quality and shall be free from irregularities or defects that could adversely affect performance or durability.

FIGURE 6. Example of requirements in detail specification - Continued.

#### 4. VERIFICATION

- 4.2 <u>Classification of inspections</u>. The inspection requirements specified herein are classified as follows:
  - a. First article inspection (see 4. 3).
  - b. Conformance inspection (see 4.4).
- 4.3 <u>First article inspection</u>. First article inspection shall be performed on one complete pumping assembly when a first article sample is required (see 3.1). This inspection shall include the examination of 4.5 and the tests of 4.6.1 through 4.6.6.
- 4.4 <u>Conformance inspection</u>. Conformance inspection shall include the examination of 4.5 and the tests of 4.6.1 and 4.6.4.
- 4.5 Examination. Each pumping assembly shall be examined for compliance with the requirements specified in 3.2 through 3.5. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet the specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessen in gmaximum efficiency shall constitute cause for rejection.
  - 4.6 Methods of inspection.
- 4.6.1 <u>Hydrostatic</u>. The pump and fittings shall be subjected to a hydro—static test gauge pressure of 300 lb/in<sup>2</sup>, for a period of 5 minutes to deter—mine conformance to 3.6.2.
  - 4.6.2 Performance.
- 4.6.2.1 <u>Test conditions</u>. All data shall be corrected to sea level conditions, barometric pressure 29.92 inches of mercury, for JP -5 and Navy special fuels at 60 °F at a specific gravity of 0.80 and 0.98 respectively. Water at a temperature of 60 °F to 80°F shall be used as a test fluid.

FIGURE 7. Example of section 4.

- 4.6.2.2 <u>Pumping</u>. The pump shall be operated as specified herein to deter mine pump brake horsepower required, pump efficiency, and the net positive suction head required, based on the data obtained. The resultant data shall be used to plot the corrected performance characteristics of the performance chart (see 3.8). The test shall be conducted in accordance with the Hydraulic Institute Standards of the HI, Centrifugal Pump Section. Performance at rates less than those specified in 3.6.1 shall constitute failure of this test.
- 4.6.3 Operational test. The pumping assembly shall be operated for 24 hours at the rated conditions specified in 3.6.1. The pump shall be examined at the end of each 8 hour interval during the 24 hours. Maintenance and minor adjust ments shall be permitted during the examination periods. The pump shall be examined during the operation for leakage through the pump casing or the shaft seals and for malfunction of any component. Any leakage attributes to defects in design, workmanship, materials, or to the malfunction of any component, or inability of the pump to deliver the minimum capacities specified herein shall constitute failure of this test.
- 4.6.4 <u>Functional test</u>. The pump shall be operated 1 hour at rated capacity under the conditions specified in 3.6.1 and shall be operated as required to verify the functional operation of the controls. The control functions shall be in accordance with the applicable requirements of 3.7.
- 4.6.5 <u>Tilted position</u>. The pumping assembly shall be operated for not less than 30 minutes while it is positioned 15 degrees from level along the longi tudinal centerline of the skid base. Evidence of malfunction or misalign ment of components shall constitute failure of this test.
- 4.6.6 <u>Cold starting</u>. The pumping assembly shall be placed in a cold chamber at 20 °F for 48 hours or until stabilization temperature is reached. The system shall demonstrate three successive starting cycles without the use of external power. Sufficient time shall be allowed so that components can return to 20 °F equilibrium.

FIGURE 7. Example of section 4 - Continued.

#### 6. NOTES

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

- 6.1 <u>Intended use</u>. The compressors covered by this specification are intended for use in shipboard fire fighting applications. They are not for use with potable water.
  - 6.2 Acquisition requirements . Acquisition documents should specify the following:
  - a. Title, number, and date of this specification.
  - b. Type and grade (see 1.2).
- c. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.2.2).
  - d. When first article is required (see 3.1).
  - e. Zinc plating, if required (see 3.2).
  - f. Whether lot A or B testing i s required (see 4.2.1).
- 6.3 <u>Supersession data</u>. This specification supersedes MIL-C-1567A dated 31 March 1969, MIL-C-4585D dated 1 June 1956, and class 3 of MIL-C-9631B dated 23 May 1969.
- 6.4 <u>Part or Identifying Number (PIN)</u>. The PIN to be used for compressors acquired to this specification are created as follows:

 $\underline{M}$   $\underline{Specification}$   $\underline{M}$   $\underline{M}$   $\underline{M}$   $\underline{M}$   $\underline{M}$  Prefix for military Specification  $\underline{M}$   $\underline{M$ 

6.5 Subject term (key word) listing.

Cadmium plating Compres sor Firefighting Pump

6.6 <u>Changes from previous issue</u>. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

FIGURE 8. Example of section 6.

## MIL-DTL-12345 APPENDIX A

# PROCEDURE FOR ULTRASONIC INSPECTION OF COMPOSITION 13 BAR STOCK

#### A.1 SCOPE

A.1.1 <u>Scope</u>. The appendix details the procedure for ultrasonic inspection of composition 13 bar stock selected for the manufacture of bearing balls. This appendix is a mandatory part of this specification.

# A.2 APPLICABLE DOCUMENTS (This section is not applicable to this appendix.)

#### A.3 PROCEDURE

- A.3.1 <u>Calibration standard</u>. Reference pieces for calibration shall be of the same material, metal travel distance, surface finish, and ultrasonic response as the bar stock being tested.
- A.3.1.1 <u>Reference test piece for bar stock 5/8-inch to 1-1/2-inch diameter</u>. The reference test piece shall be a bar of at least 3 feet in length. For near zone testing, metal travel shall be 4/10 the diameter and 9/10 the diameter of the test piece to flat bottom holes (FBHs) 0.02 inches in diameter. For far zone testing, metal travel shall be 6/10 the diameter and 1/10 the diameter of the test piece to FBHs 0.02 inches in diameter.
- A.3.1.2 <u>Reference test piece for bar stock 1/2-inch to 5/8-inch diameter</u>. The reference test piece shall be a bar of at least 3 feet in length. For near zone testing, metal travel shall be 4/10 the diameter and 9/10 the diameter of the test piece to FBHs 0.02 inches in diameter of 0.062-inch depth. For far zone testing, metal travel shall be 6/10 the diameter and 1/10 the diameter of the test piece with metal travel 0.06 inch to a FBH of 0.02 inch diameter.
- A.3.1.3 <u>Reference test piece for bar stock less than 1/2-inch diameter</u>. For bar stock less than 0.5-inch diameter, only one FBH providing 1/2 diameter travel shall be required.

FIGURE 9. Example of an appendix.

### MIL-DTL-12345 APPENDIX A

#### A.3.2 Test set-up.

- A.3.2.1 Longitudinal scan. While maintaining correct water path, obtain a 2-inch signal from the highest attenuated 0.02-inch FBH. Adjust sensitivity and distance amplitude control to bring near and far FBHs within 10 percent of a 2-inch amplitude indication. Compatibility between reference block and the material to be tested shall be established by comparing the first unsaturated back reflection from the block with the corresponding back reflection from the material to be tested. Gain shall be set to give an 80 percent of screen signal from the FBH with depth of 6/10 the diameter of the test piece. Compatibility shall be checked in at least three well-separated areas on the material to be tested. The gate width for near zone testing shall be set to include response from FBH with depth of 1/10 and 6/10 test piece diameter. The gate width for far zone testing shall be set to include response from FBH with depth of 4/10 and 9/10 test piece diameter. The alarm sensitivity shall be set to assure 100 percent of a 0.02-inch diameter FBH inspection level.
- A.3.2.2 <u>Loss of backface</u>. Set instrument so the first backface reflection from the full round reference block is 80 percent of screen saturation. The first backface reflection shall be gated and set alarm at 50 percent or less of loss in backface signal. Inspect and evaluate loss of backface areas.
- A.3.2.3 <u>Angle scan test</u>. Position transducer over angle reference notch area for maximum response. Rotate reference standard so center of standard block and notch are on a horizon tal plane. Adjust gain to obtain a 2-inch signal and adjust flaw alarm for a 1-inch signal. Gate width shall be set to include the area at which the signal from the reference notch is detected.

#### A.4 Acceptance levels.

- A.4.1 <u>Longitudinal scan</u>. Discontinuities in excess of the response from a 0.2-inch diameter FBH at the estimate discontinuity depth shall not be acceptable.
- A.4.2 <u>Loss of back reflection</u>. Any loss of back reflection in excess of 50 percent of full saturation of the screen shall be considered unacceptable with the instrument set so the first back reflection from the correct test block is at 80 percent of the screen adjusted for nonlinearity.

FIGURE 9. Example of an appendix - Continued.

**INCH-POUND** 

MIL-DTL-63540B SUPPLEMENT 1 29 June 1995

DETAIL SPECIFICATION
(use the heading "PERFORMANCE SPECIFICATION" if appropriate)

# STUD, SELF-LOCKING, GENERAL SPECIFICATION FOR

This supplement forms a part of MIL-DTL-63540B, dated 29 June 1995.

## SPECIFICATION SHEETS

MIL-DTL-63540/1 - Stud, Self-Locking, Flush Head, Ribbed Clinch Type MIL-DTL-63540/2 - Stud, Self-Locking, Flush and Protruding Head MIL-DTL-63540/3 - Stud, Self-Locking, Flush Head, Hex Clinch Type MIL-DTL-63540/4 - Stud, Self-Locking, Concealed Head, Knurled Clinch Type MIL-DTL-63540/5 - Stud, Self-Locking, Concealed Head, Hex Clinch Type MIL-DTL-63540/6 - Stud, Self-Locking, Non-Flush, Ribbed Clinch Type MIL-DTL-63540/7 - Stud, Self-Locking, Broaching Type

Preparing activity: Army - AR Agent: DLA - IS

AMSC N/A 1 of 1 FSC 5307

FIGURE 10. Example of a supplement.

INCH-POUND

MIL-PRF-28861 AMENDMENT 3 14 March 1995 SUPERSEDING AMENDMENT 2 4 August 1983

PERFORMANCE SPECIFICATION (use the heading "DETAIL SPECIFICATION" if approp riate)

# FILTERS AND CAPACITORS, RADIO FREQUENCY/ ELECTROMAGNETIC INTERFERENCE SUPPRESSION, GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-PRF-28861A, dated 17 December 1981, and is approved for use by all Departments and Agen cies of the Department of Defense.

#### PAGE 5

- \* 3.6.6: Delete and substitute:
- "3.6.6 <u>Capacitor elements (Class S filters only)</u>. Capacitor elements used in the construction of Class S filters shall be manufactured and tested to MIL-C-123 as follows:
  - a. Capacitors shall meet the applicable requirement of MIL-C-123, except for qualification.
- b. Capacitors shall be manufactured with lot control, in-process controls, and the groups A and B inspections of MIL-C-123. The group B thermal shock test and subsequent life test shall not be performed."

#### PAGE 19

4.6.3d, line 2: Delete "30mA minimum" and substitute "35 mA maximum."

AMSC N/A 1 of 2 FSC 59GP

<u>DISTRIBUTION STATEMENT A</u>. Approved for public release; distribu tion is unlimited.

# FIGURE 11. Example of an amendment.

## MIL-PRF-28861 AMENDMENT 3

#### PAGE 21

4.6.11: Add the following: "Lead wires specified in accordance with table VII shall be the smaller of the wire specified in table VII or the actual lead wire size of the filter terminal."

#### **PAGE 35**

- \* Add as new paragraph:
- "B.3.1.1 Optional qualification for Class S filters . The following option for Class S qualification is available to any manufacturer who has a product currently qualified under this specification. Products proposed for qualification under this procedure shall meet the following requirements:
  - a. Product shall pass the Class S audit.
  - b. Product shall meet Class S designated product control."

NOTE: The margins of this amendment are marked with asterisks to indicate where changes from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatso ever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

Custodians:

Army - ER

Navy - EC

Air Force - 85

DLA - ES

Preparing activity:

DLA - ES

(Project 5915-0303)

Review activities:

Army - AR, AT, AV, ME, MI

Navy - CG, MC, AS, OS, SH

Air Force - 11, 17, 19, 99

2

FIGURE 11. Example of an amendment - Continued.

**INCH-POUND** 

MIL-PRF-2819F INTERIM AME NDMENT 3 14 July 1995

PERFORMANCE SPECIFICATION (use the heading "DETAIL SPECIFICATION" if appropriate)

INSULATION BLOCK, THERMAL

This interim amendment is approved for use within the Naval Sea Systems Command, Department of the Navy,

with MIL-PRF-2819F, dated 17 December 1989.

PAGE 3

3.7, last line: Delete "1 hour" and substitute "2 hours".

PAGE 11

4.5.10: Delete.

Preparing activity: Navy - SH

(Project 5640-0047)

AMSC N/A 1 of 1 FSC 5640

FIGURE 12. Example of an interim amendment.

NOTICE OF VALIDATION

METRIC

MIL-DTL-12345C NOTICE 1 12 August 1995

# DETAIL SPECIFICATION (use the head "PERFORMANCE SPECIFICATION" if applicable)

#### **ALUMINUM ALLOYS**

MIL-DTL-12345C, dated 5 June 1980, has been reviewed and determined to be valid for use in acquisition.

**Custodians:** 

Army - MR

Navy - AS Air Force - 11 Preparing act ivity:

Army - MR

AMSC N/A FSC 9510

<u>DISTRIBUTION STATEMENT A</u>. Approved for public release; distribu tion is unlimited.

FIGURE 13. Example of a validation notice.

NOTICE OF VALIDATION

METRIC

MIL-DTL-12345C NOTICE 1 12 August 1995

# DETAIL SPECIFICATION (use the head "PERFORMANCE SPECIFICATION" if applicable)

#### **ALUMINUM ALLOYS**

MIL-DTL-12345C remains inactive for ne w design, however, the document is valid for acquisition when needed.

Custodians:

Army - MR

Navy - AS

Air Force - 11

Preparing activity:

Army - MR

AMSC N/A FSC 9510

<u>DISTRIBUTION STATEMENT A</u>. Approved for public release; distribu tion is unlimited.

FIGURE 14. Example of a validation notice for inactive for new design .

NOTICE OF GROUP VALIDATION		METRIC  MIL-DTL-54321  NOTICE 1  12 August 1995
(use the head	DETAIL SPECII I "PERFORMANCE SPE	FICATION ECIFICATION" if applicable)
I	RESISTORS, FIXED, FII GENERAL SPECIFI	
The following specific be valid for use in acquisition	cation sheets of MIL-DTL	2-54321 have been reviewed and are determined to
<u>Document</u>	<u>Date</u>	Inactive Status (DO NOT INCLUDE THIS COLUMN IF NOT APPLICABLE)
MIL-DTL-54321/6A MIL-DTL-54321/7A MIL-DTL-54321/8A MIL-DTL-54321/25 MIL-DTL-54321/33B MIL-DTL-54321/37B MIL-DTL-54321/38	15 June 1988 15 June 1988 15 June 1988 15 June 1977 25 July 1990 5 August 1988 5 August 1988	
		Preparing activity: Air Force - 11
AMSC N/A		FSC 5905

FIGURE 15. Example of a group validation notice .

NOTICE OF INACTIVATION FOR NEW DESIGN

INCH-POUND

MIL-DTL-22684/5A NOTICE 1 20 May 1995

DETAIL SPECIFICATION SHEET (use the heading "PERFORMANCE SPECIFICATION SHEET" if applicable)

# RESISTORS, FIXED, FILM, INSULATED, STYLE RL07

This notice should be filed in front of MIL-DTL-22684/5A, dated 7 September 1967.

MIL-DTL-22684/5A is inactive for new design and is no longer used, except for replacement purposes.

The Qualified Products List (QPL) associated with this inactive for new design specification will b maintained until acquisition of the product is no longer required, whereupon the specification and QPL will be canceled.

Preparing activity: Air Force - 11

(Project 5905-8620)

AMSC N/A FSC 5905

<u>DISTRIBUTION STATEMENT A</u>. Approved for public release; distribution is unlimited.

FIGURE 16. Example of an inactive for new design notice.

NOTICE OF CANCELLATION

**INCH-POUND** 

MIL-DTL-13701B NOTICE 1 12 August 1995

# DETAIL SPECIFICATION (use the head "PERFORMANCE SPECIFICATION" if applicable)

# COMPRESSORS, RECIPROCATING, POWER DRIVEN (FOR DIESEL ENGINE STARTING)

MIL-DTL-13701B, dated 31 August 1971, is hereby canceled without replacement.

Custodians: Preparing activity: Army - ME Army - ME

Navy - SH

Air Force - 99 (Project 4310-1234)

AMSC N/A FSC 4310

FIGURE 17. Example of a cancellation notice.

NOTICE OF CANCELLATION

**INCH-POUND** 

MIL-DTL-45207B NOTICE 1 12 August 1995

# DETAIL SPECIFICATION (use the heading "PERFORMANCE SPECIFICATION" if applicable)

# MAGNESIUM ALLOY (K1A), SAND CASTINGS

MIL-DTL-45207B, dated 25 May 1966, is hereby canceled. Future acquisition for this material should refer to the portions of ASTM B 80, "Magnesium Alloy Sand Castings," which pertain to alloy designation K1A (UNS M18010).

(Application for copies of ASTM publications should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

Custodians:

Army - MR

Navy - AS

Air Force - 99

Preparing activity:

Army - MR

(Project MECA-0008)

Review Activities:

Navy - SH

Air Force - 11

AMSC N/A AREA MECA

<u>DISTRIBUTION STATEMENT A</u>. Approved for public release; distribution is unlimited.

FIGURE 18. Example of a cancellation notice with superseding document.

NOTICE OF GROUP CANCELLATION

INCH-POUND

MIL-DTL-54321 NOTICE 1 12 August 1995

# DETAIL SPECIFICATION (use the heading "PERFORMANCE SPECIFICATION" if applicable)

# RESISTORS, FIXED, FILM, INSULATED GENERAL SPECIFICATION FOR

The following specification sheets of MIL-DTL-54321 are hereby canceled:

<u>Document</u>	<u>Date</u>	Replacement
MIL-DTL-54321/6A	15 June 1988	None
MIL-DTL-54321/7A	15 June 1988	None
MIL-DTL-54321/8A	15 June 1988	None
MIL-DTL-54321/25	15 June 1977	MIL-DTL-67890/4
MIL-DTL-54321/33B	25 July 1990	None
MIL-DTL-54321/37B	5 August 1988	None
MIL-DTL-54321/38	5 August 1988	None
Custodians:		Preparing activity:
Army - ER		Air Force - 11
Navy - EC		
Air Force - 11		(Project 5905-B620)
Review Activities:		
Navy - AS, SH		
DLA - ES		
AMCC N/A		FGG 5005

AMSC N/A FSC 5905

FIGURE 19. Example of a group cancellation notice.

NOTICE OF REINSTATEMENT INCH-POUND

MIL-DTL-28719 NOTICE 2 13 August 1995 SUPERSEDING NOTICE 1 3 June 1976

DETAIL SPECIFICATION (use the heading "PERFORMANCE SPECIFICATION" if applicable)

## HEADERS, HERMETICALLY SEALED

MIL-DTL-28719, dated 31 March 1970, is hereby reinstated and may be used for acquisition.

Custodians: Preparing activity:

Army - ER Navy - OS

Navy - OS

Air Force - 85 (Project 5940-1120)

AMSC N/A FSC 5940

FIGURE 20. Example of a reinstatement notice.

NOTICE OF REACTIVATION

**INCH-POUND** 

MIL-DTL-55302/54B NOTICE 2 29 May 1995 SUPERSEDING NOTICE 1 17 October 1991

DETAIL SPECIFICATION SHEET (use the heading "PERFORMANCE SPECIFICATION SHEET" i f applicable)

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES: PLUG, STRAIGHT-THRU, HERMAPHRODITIC CONTACT FOR PRINTED WIRING BOARDS (0.100 SPACING)

MIL-DTL-55302/54B, dated 19 March 1981, is hereby reactivat ed and may be used for either new or existing design acquisition.

Custodians: Preparing activity:

Army - CR DLA - ES

Navy - EC

Air Force - 17 (Project 5935-1120)

DLA - ES

AMSC N/A FSC 5935

FIGURE 21. Example of a reactivation notice.

# INCH-POUND

MIL-DTL-915/21E 18 June 1995 SUPERSEDING MIL-C-915/21D 5 April 1973

Require ments

# DETAIL SPECIFICATION SHEET (use the heading "PERFORMANCE SPECIFICATION SHEET" if applicable)

## CABLE, ELECTRICAL, 125 VOLTS, TYPE TRXF

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

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-DTL-915 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicita tion.

#### REQUIREMENTS:

Qualification not required.

### Construction (non-watertight)

First - Copper conductor, uncoated, class M stranding Second - Separator Fifth - Polychloroprene jacket

#### **EXAMINATION AND TESTS:**

	require ments
Basic electrical:	
Voltage withst and - conductor to ground,	
volts, root mean square, minimum	1200
Insulation resistance 1 - megohms/1000	
feet, minimum conductor to water	350

AMSC N/A 1 of 2 FSC 6145

<u>DISTRIBUTION STATEMENT A</u>. Approved for public release; distribution is unlimited.

# FIGURE 22. Example of a specification sheet.

#### MIL-DTL-915/21E

**EXAMINATION AND TESTS: (continued)** 

Require ments

Group A:

Group B:

Cold bending, ca ble - at minus 2 °C,

two turns around mandrel with

diameter twice that of specimen.... No damage

Jacket (cable)

Elongation - percent, minimum..... 300 Set - inch, maximum...... 3/8

Group C:

#### UNIT ORDERING LENGTH:

All sizes 1000 feet (nominal)

CHANGES FROM PREVIOUS ISSUE: The margins of this specification are marked with asterisks to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians: Preparing activity:

Army - MI Navy - SH

Navy - SH

Air Force - 85 (Project 6145-0885)

Review activities:

Army - CR, ER

Navy - EC

Air Force - 99

DLA - IS

2 of 2

FIGURE 22. Example of a specification sheet - Continued.

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S.5.3			
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