

MIL-S-83490

30 October 1968

MILITARY SPECIFICATION

SPECIFICATIONS, TYPES AND FORMS

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

1. SCOPE

1.1 Scope. This specification prescribes general requirements for the preparation of specifications for the Departments and Agencies of the Department of Defense. It applies to specifications acquired from industry by contract or order and to equivalent acquisition from Government sources.

1.2 Classification. Specifications shall be of the following types and forms as specified (see 6.2). Normal usage of the various types of specifications is shown in Table I.

1.2.1 Types

- Type A - System Specification
- Type B - Development Specifications
 - Type B1 - Prime Item
 - Type B2 - Critical Item
 - Type B3 - Non Complex Item
 - Type B4 - Facility or Ship
 - Type B5 - Computer Program
- Type C - Product Specifications
 - Type C1a - Prime Item Function
 - Type C1b - Prime Item Fabrication
 - Type C2a - Critical Item Function
 - Type C2b - Critical Item Fabrication
 - Type C3 - Non-Complex Item Fabrication
- Type C4 - Inventory Item
- Type C5 - Computer Program
- Type D - Process Specification
- Type E - Material Specification

1.2.2 Forms

- Form 1 - Specifications to Military Standards.
 - Form 1a - With maximum format control.
 - Form 1b - With limited format control.
- Form 2 - Specifications to Commercial Practices, with Supplemental Military Requirements.
- Form 3 - Specifications to Commercial Practices.

2. APPLICABLE DOCUMENTS

2.1 Referenced Documents. The following documents of the issue in effect on the date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

STANDARDS

Military

- MIL-STD-490 Specification Practices.
- MIL-STD-480 Configuration Control-Engineering Changes, Deviations and Waivers.

2.2 Other Publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

- DOD Manual 4120.3-M Standardization Policies, Procedures, and Instructions.

MISC

MIL-S-83490

TABLE I - SPECIFICATION TYPES VERSUS PROGRAM PHASES

Types	Program Phases (Usage)		
	Definition	Development	Production
A. System Specification	X	X	
B. Development Specifications			
B1. Prime Item		X	
B2. Critical Item		X	
B3. Non-Complex Item		X	
B4. Facility or Ship		X	
B5. Computer Program		X	
C. Product Specifications			
C1a. Prime Item Function			X
C1b. Prime Item Fabrication			X
C2a. Critical Item Function			X
C2b. Critical Item Fabrication			X
C3. Non-Complex Item Fabrication			X
C4. Inventory Item		X	
C5. Computer Program			X
D. Process Specification			X
E. Material Specification			X

DOD Index of Specifications and Standards (DODISS).

(When requesting referenced documents, refer to both title and number. Copies of unclassified documents may be obtained from the Commanding Officer, Naval Publications and Forms Center (NPFC 1032) 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120).

3. REQUIREMENTS

3.1 *General.* The contract or order shall identify type(s) and form(s) of specifications to be prepared. When existing specifications meet the requirements, new specifications shall not be prepared, but existing specifications shall be used and acquired as necessary (e.g. specifications listed in the DODISS, commercial specifications, etc.).

3.2 *Types of specifications.* Each specification shall be prepared in conformance with one of the following types as specified in the contract or order.

3.2.1 *Type A - System.* Type A specifications shall state all necessary requirements in terms of performance, including test provisions to assure that all requirements are achieved. Essential physical constraints shall be included. Type A specifications shall state the technical and mission requirements of the system as an entity. Specifications shall include requirements for specific functional areas, interfaces between functional areas, interfaces with other systems, and application of any known specific existing equipment.

3.2.2 *Type B - Development.* Type B specifications shall state all necessary requirements in terms of performance. Essential physical constraints shall be included. Type B specifications shall state requirements for the development of items, other than systems. Specifications shall specify all of the required item functional characteristics and the tests required to demonstrate achievement of those characteristics. Requirements included in each sub-type specification shall be adequate for development of the configuration item as determined by its engineering/logistics considerations. Sub-types for Form 1a specifications are defined in MIL-STD-490.

3.2.3 Type C - Product. Type C specifications shall state functional requirements and physical characteristics as necessary to procure either items requiring "form, fit, and function" interchangeability or identical items within specification tolerances. Physical characteristics may be included by reference to other documents such as drawings or standards, or may be included in the specification. When identical items are required, the specifications shall provide the necessary design, engineering and manufacturing information to enable the procurement of an item that duplicates the physical and performance characteristics of the original design, including repair parts down to the desired level of control specified by the Government procuring activity. The specifications shall also specify all the quality assurance provisions necessary to adequately demonstrate achievement of the specified requirements and characteristics. Requirements included in each sub-type specification shall be adequate for procurement of the configuration item as determined by its engineering/logistics considerations. Sub-types for Form 1a specifications are defined in MIL-STD-490. Product specifications for facilities or ships shall be prepared in accordance with normal industry oriented practices and are not within the scope of this document.

3.2.4 Type D - Process Specification. Type D specifications shall specify techniques and procedural requirements for processes applicable to materials, items or fabrication. Requirements shall be specified in sufficient detail to satisfy the intended use.

3.2.5 Type E - Material Specification. Type E specifications shall state the requirements for materials, either basic or semi-fabricated.

3.3 Forms of Specifications. Each specification shall be prepared in accordance with one of the following forms as specified in the contract or order. Specification practices, such as style, format, changes and revisions, of MIL-STD-490 or DOD Manual 4120.3-M are mandatory for use for all Form 1 specifications and are encouraged for use in Forms 2 and 3 specifications. Where such practices are desired for Forms 2 and 3 specifications, appropriate statements in the contract or order are required.

3.3.1 Form 1 - Specifications to Military Standards. Specifications of this form shall conform to MIL-STD-490 to the extent specified below.

3.3.1.1 Form 1a. Form 1a specifications shall conform to MIL-STD-490 in all details, including specific text structure, paragraph numbering, and paragraph titling, specified in the Appendixes of MIL-STD-490.

3.3.1.2 Form 1b. Form 1b specifications shall conform to Defense Standardization Manual 4120.3-M or to MIL-STD-490 except that specific paragraph sequencing, numbering, and titling specified in the Appendixes of MIL-STD-490 need not apply. However, the section numbers and titles are mandatory.

3.3.2 Form 2 - Specifications to Commercial Practices with Supplemental Military Requirements. Specifications of this form shall be in accordance with technical society, industry association, contractor standards, or may conform to the requirements of MIL-STD-490 or DOD Manual 4120.3-M, and shall meet the requirements listed below. Unless otherwise specified, selection of the applicable standard is at the contractor's option. Form 2 specifications shall:

(a) Specify requirements to the degree necessary to insure the procurement and delivery of materials, products, or services adequate for the type specified.

(b) Specify quality assurance provisions that include all the examinations and tests (by reference when applicable) to be performed in order to assure that the product, material, or service to be offered for acceptance conforms to the specified requirements.

(c) Include a cross-reference to the Government or industry standard in the specification or in a document furnished to the Government when contractor specifications are referenced. If a Government or nationally recognized industry standard is not applicable, the contractor referenced documents shall be furnished to the Government.

(d) Use of symbols, reference designations, codes, abbreviations, etc., defined in Government, industry, or technical societies' standards, as applicable, and the defining standard shall be referenced in the specification. If non-standard notations are used and are undefined in a Government, industry association, or technical society document, such notations shall be explained either in the specification or in a prepared document referenced therein. A copy of the

MIL-S-83490

contractor's standard or new document defining the notations used shall be furnished the Government.

3.3.3 Form 3 - Specifications to Commercial Practices. Specifications of this form shall be prepared in accordance with the contractor's normal practices. They shall satisfy the intended use for the type specified.

3.4 Numbering of Specifications. Specification numbers shall be assigned as specified by the procuring activity. (See 6.2).

3.5 Material. Material (bond paper, tissue, vellum, microfilm, etc.) used for the specifications to be delivered to the Government shall be as specified in the contract or order. (See 6.2).

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection. The contractor shall be responsible for the performance of all inspections specified herein. The Government reserves the right to perform any of the inspections specified in this specification where such inspections are deemed necessary to assure that specifications developed under this specification conform to specified requirements.

4.2 General Inspection. Each specification shall be subjected to the following inspections:

(a) Requirements, characteristics, and tests are adequately, and properly included for the type specified. (See 3.2).

(b) Format conforms to the requirements for the form specified in the contract or order. (See 3.3).

(c) Numbers have been properly applied. (See 3.4).

(d) Materials are as specified in the contract or order. (See 3.5).

(e) Proper cross-references and copies of referenced contractor documents are furnished. (See 3.3.2(c) and 3.3.2(d)).

4.3 Examination and Auditing. When an item is being produced in conjunction with the preparation

of a specification, the specification shall be audited against the corresponding item to assure that specification coverage is adequate and accurate. Examination and audit of specifications may be achieved as a result of the audits accomplished for establishment of baselines.

5. PREPARATION FOR DELIVERY

5.1 Requirements. Preparation for delivery shall be as specified in the contract or order. (See 6.2).

6. NOTES

6.1 Intended Use. Specifications acquired under this specification are intended for use by Departments and Agencies of the Department of Defense and by Defense contractors in the design, development, production, or procurement of items, materials, processes, and computer programs. They are intended for original and repetitive use during the definition, development, or production phases as shown in Table I.

6.1.1 Types. The intended use of each type of specification is as follows:

6.1.1.1 Type A - System Specification. Type A specifications (see 3.2.1) are intended to be used as the functional configuration identification. They are generally intended for use only for systems of significant size or complexity. This type will normally be Form 1a.

6.1.1.2 Type B - Development Specification. Type B specifications (see 3.2.2) are intended to be used for the procurement of engineering development of items, including assemblies, facilities, ships, computer programs, etc. The allocated configuration identification for CIs of a system will consist of Type B specifications. The functional configuration identification of an item developed independently of a system also will be a Type B specification.

6.1.1.3 Type C - Product Specification. Type C specifications (see 3.2.3) are intended to be used for the procurement of items including computer programs. These specifications are most frequently used as, or part of, the product configuration identification.

6.1.1.4 *Type D - Process Specification.* Type D specifications (see 3.2.4) are intended for use in describing a wide variety of processes and procedures, such as fabrication, packaging, inspection, and rendering of services. These specifications are most frequently used as part of the product configuration identification.

6.1.1.5 *Type E - Material Specification.* Type E specifications (see 3.2.5) are intended for use in describing specific materials. Materials may be basic or semifabricated, such as paint, cloth and leather, which have not been fabricated into finished parts or items. These specifications are most frequently used as part of the product configuration identification.

6.1.2 *Forms.* The intended use of each form of specification is as follows:

6.1.2.1 *Form 1.* (See 3.3.1). Form 1 specifications are intended for use where government control of content and format is required and may be prepared as Federal, Military, procuring activity or contractor specifications described in MIL-STD-490 and Defense Standardization Manual 4120.3-M.

6.1.2.1.1 *Form 1a.* (See 3.3.1.1). Form 1a specifications are prepared to rigid Military Standards and will normally be ordered when the Government's intended use requires controls inherent to such standards including extensive control of paragraph content and format. For example, this form is intended for use where computer programs require strict uniformity of paragraph numbering and specification structure.

6.1.2.1.2 *Form 1b.* (See 3.3.1.2). Form 1b specifications are prepared to Military Standards and will normally be ordered when the Government's intended use requires maximum control of the specification content with limited format control. For example, this form is used for Federal and Military specifications and other specifications when the rigid paragraph numbering and specification structure are not required.

6.1.2.2 *Form 2.* (See 3.3.2). Form 2 specifications are prepared in accordance with commercial practices with supplemental military requirements. They may

be ordered when such specifications will be acceptable for the Government's intended use (possibly with minor change or amendment) and offer a price or delivery advantage to the Government over Form 1 specifications.

6.1.2.3 *Form 3.* (See 3.3.3). Form 3 specifications are prepared without military or other specific controls and will normally be ordered when these specifications will be acceptable for the Government's intended use and offer a price or delivery advantage to the Government over both Forms 1 and 2 specifications. Form 3 specifications will normally be used in those instances where the Government requires a minimum of definition and control. Form 3 specifications are not intended for use in competitive procurement.

6.2 *Ordering Data.* Procurement documents should specify the following:

(a) Title, number, and date of this specification.

(b) Types and forms of specification(s) required (see 1.2).

(c) Applicable standard.

(1) Form 1a. Specify MIL-STD-490 and applicable Appendix(es).

(2) Form 1b. Specify DOD Manual 4120.3-M or MIL-STD-490.

(3) Form 2. Applicable industry standard, if desired.

(d) Specification number, if any, to be applied (Government or commercial). (See 3.4).

(e) Number of copies required.

(f) Material (see 3.5).

(g) Requirements for preparation for delivery including delivery schedule (see 5.1).

6.3 *Definitions.* For definition of terms used in this specification, see MIL-STD-480, Appendix E.

MIL-S-83490

Custodians:

**Army—MU
Navy—OS
Air Force—10**

**Preparing Activity:
Air Force -10**

Project No. MISC-0487

Review Activities

**Army —MU, MO, MI, EL, WC
Navy—AS, SH, YD, OS, SA, CG
Air Force -10, 11, 26 DSA—DH
Marine Corps—MC NSA—**

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION <i>(Mark one)</i> <input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER <i>(Specify):</i> _____
5. ADDRESS <i>(Street, City, State, ZIP Code)</i>	
5. PROBLEM AREAS	
a. Paragraph Number and Wording:	
b. Recommended Wording:	
c. Reason/Rationale for Recommendation:	
6. REMARKS	
7a. NAME OF SUBMITTER <i>(Last, First, MI) - Optional</i>	8. WORK TELEPHONE NUMBER <i>(Include Area Code) - Optional</i>
c. MAILING ADDRESS <i>(Street, City, State, ZIP Code) - Optional</i>	9. DATE OF SUBMISSION (YYMMDD)