

METRIC

MIL-B-29595(AS)
AMENDMENT 1
29 June 2000

MILITARY SPECIFICATION

BATTERIES AND CELLS, LITHIUM, AIRCRAFT, GENERAL SPECIFICATION FOR

The amendment forms a part of MIL-B-29595(AS), dated 1 June 1994, and is approved for use by the Naval Air Systems Command, Department of the Navy and is available for use by all Departments and Agencies of the Department of Defense.

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2.1.1: Under Military Specifications: Delete MIL-P-6063. Delete MIL-W-6858 and substitute SAE-AMS-W-6858.

2.1.1: Under Military Standards: Delete MIL-STD-105 and substitute ASQC-Z1.4. Delete MIL-STD-129.

Delete MIL-STD-454 and MIL-STD-882.

Delete MIL-STD-1360 and substitute SAE-ARP1199. Delete MIL-STD-2000 and substitute J-STD-001.

Delete MIL-STD-5400. Delete MIL-STD-46652 and substitute ANSI-Z540.1.

PAGE 3

2.1.1: Under Military Handbooks: Add MIL-HDBK-454 "General Guidelines for Electronic Equipment."

2.1.2: Delete 40 CFR, 49 CFR, 55 FR, and OPNAVINST 5090.1. Delete the parenthetical statement and substitute with "(Copies of NAVAIRINST 5100.7 and S9310-AQ-SAF-010 are available from the Naval Inventory Control Point, 700 Robbins Ave., Philadelphia, PA 19111.)"

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2.2: Add the following:

“2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the document 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 NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI-Z540.1 - Laboratories, Calibration, and Measuring and Test Equipment (DoD Adopted).

(Application for copies should be addressed to the American National Standards Institute, Inc. 11 West 42nd Street, New York, NY 10036.)

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ASQC-Z1.4 - Sampling Procedures and Tables for Inspection by Attributes (DoD Adopted).

(Application for copies should be addressed to the American Society for Quality Control, 611 East Wisconsin Avenue, P.O. Box 3005, Milwaukee, WI 53201-3005.)

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE-AMS-W-6858 - Welding, Resistance: Spot and Seam (DoD Adopted).
SAE-ARP1199 - Devices, Electric Overcurrent Protective, Selection, Application, and Inspection of (DoD Adopted).

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001.)

THE INSTITUTE FOR INTERCONNECTING AND PACKING ELECTRONIC CIRCUITS

J-STD-001 - Requirements for Soldered Electrical and Electronic Assemblies.

(Application for copies should be addressed to the Institute for Interconnecting and Packaging Electronic Circuits (IPC, Inc.), 2215 Sanders Road, Suite 200 South, Northbrook, IL 60062-6126.)”

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Renumber existing 2.2 as 2.3.

PAGE 4

3.2: Delete and substitute:

“3.2 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.2.”

3.4: Delete and substitute:

“3.4 Materials, processes, and parts. Materials, processes, and parts shall conform to the requirements specified herein (see 6.13.2).”

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3.4.2.2: Delete first sentence and substitute: “The cell or battery shall be made from either fungus-inert materials and parts or from materials and parts treated before use so overall spraying of the cell or battery with a fungicide is unnecessary (see 6.13.3).”

3.4.2.3: Delete MIL-W-6858 and substitute SAE-AMS-W-6858.

3.4.2.4: Delete MIL-STD-2000 and substitute J-STD-001.

PAGE 6

3.5.5.5: Delete first sentence and substitute: “The date and lot code shall indicate the year and day of manufacture along with a lot number (see 6.7.3.1) of the cell.

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3.5.6: Delete last sentence and add to the end of the paragraph: “(see 6.13.4).”

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3.7.2.1: Add to the end of the first sentence: “(see 6.13.5).” Delete second sentence.

PAGE 10

3.7.5: Delete: “The resistor to be used in the complete discharge device shall be sufficient to provide a C/24 discharge rate and shall conform to requirement 33 of MIL-STD-454.”
Substitute: “The resistor to be used in the complete discharge device shall provide a C/24 discharge rate (see 6.13.6).”

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4.1: Delete and substitute:

“4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2.1).
- b. Conformance inspection (see 4.2.2 and 4.2.3).”

4.1.1: Delete.

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4.2: Delete.

4.2.1: Delete and substitute:

“4.2.1 First article inspection. First article inspection shall be performed on the number of samples of cells or batteries specified in table I using the inspections specified in table I. First article inspection shall be performed by the Government on samples furnished by the contractor. The samples shall be representative of the cells or batteries proposed to be furnished to the Government under the contract and shall not be produced with the use of any equipment or procedure not used in production (see 6.2).”

4.2.1.1: Delete and substitute:

“4.2.1.1 Inspection of cells or batteries. Samples of complete cells or batteries shall be furnished for inspection in accordance with table I and shall be tested in the sequence specified. One unassembled cell or battery with all of its parts shall be supplied and will be retained at the Government agency which did the testing.”

4.2.1.2: Delete and substitute:

“4.2.1.2 Retention of samples. If the manufacturer’s samples pass first article inspection, the sample batteries on which first article approval is based will be retained at the Government Activity which did the testing. The sample batteries on which first article approval is based shall become the property of the Government.”

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4.2.1.3: Delete and substitute:

“4.2.1.3 Failure and retest. A first article sample that fails any of the examinations or tests specified herein shall be cause for the Government to refuse to conduct additional testing until the defects revealed by the inspection have been corrected (see 6.13.1).”

4.2.2: Delete and substitute:

“4.2.2 Group A conformance inspection. Each cell or battery shall be subjected to the examination and tests (Group A tests) in table I.”

4.2.2.1: First sentence, delete and substitute: “The contractor shall perform the inspections for conformance (Group A) inspection.”

4.2.2.2: Delete.

4.2.3: Delete and substitute:

“4.2.3 Groups B and C conformance inspection. The Government shall conduct groups B and C inspection for first article verification. The examination and tests of groups B and C inspection shall be those listed in table I and shall be performed in the sequence shown.

4.2.3.1: Delete first sentence and substitute: “The Government inspector shall select samples at random from inspected lots representative of all cells or batteries that have passed group A conformance inspections.” Delete last sentence.

PAGE 16

4.2.3.2 and 4.2.3.3: Delete.

4.3.4: Delete MIL-STD-45662 and substitute ANSI-Z540.1.

PAGE 19

4.9: Delete second sentence. Add at the end of the last sentence: “(see 6.13.2).”

PAGE 24

5.1, 5.2, 5.3, and 5.4: Delete and substitute:

“5.1 Packaging. 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

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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."

PAGE 26

6.2: Add the following new subparagraph after "h":

"i. First article and conformance inspection, if required (see 4.2, 4.2.2, and 4.2.3).

j. Test report, if required (see 4.2.1)."

6.4: Delete.

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6.5: Delete title and substitute: "Conformance to first article sample." Delete last sentence.

6.7.3.1: Add the following:

"6.7.3.1 Inspection lot. An inspection lot is defined as the quantity of cells or batteries of any one type chosen from a completed production run of cells or batteries that are fully assembled and identified in accordance with 3.5.5, produced at any one place of manufacture on any one contract, submitted at one time for conformance inspection. Cells or batteries with no more than two consecutive date codes should appear in a particular inspection lot (see 6.7.4). A specific date and lot code should be found in no more than one inspection lot."

PAGE 30

6.13.1: Add the following:

"6.13.1 Retesting of samples. The retesting of samples that have failed must acquire Government approval. When approved, retesting of samples may require an increase in the number of samples."

6.13.2: Add the following:

"6.13.2 Materials, parts, processes, and environmental tests. MIL-HDBK-5400 should be used as a guide for materials, parts, and processes. MIL-HDBK-5400, class 1 equipment, should also be used for environmental tests for cells and batteries."

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6.13.3: Add the following:

“6.13.3 Fungus treatment. MIL-HDBK-454, Guideline 4, “Fungus-Inert Materials,” should be used for guidance in treatment of parts or materials to make them fungus-inert.”

6.13.4: Add the following:

“6.13.4 Workmanship. Use MIL-HDBK-454, Guideline 9, “Workmanship,” for guidance.”

6.13.5: Add the following:

“6.13.5 Diodes. Use MIL-HDBK-454, Guideline 30, “Semiconductor Devices,” for guidance.”

6.13.6: Add the following:

“6.13.6 Resistors. Use MIL-HDBK-454, Guideline 33, “Resistors,” for guidance.”

6.14: From the subject term (key word) list delete: “Qualified Products List.”

PAGE 32 and 33

Table I: Third column heading from the left, delete and substitute: “First article inspection sample size.” Sixth column heading, delete and substitute: “Conformance inspection group.”

Table II: Delete MIL-STD-105 and substitute: ASQC-Z1.4.

CONCLUDING MATERIAL

Preparing activity:
Navy – AS

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