

**INCH-POUND**  
**MIL-R-39008C**  
**AMENDMENT 2**  
**21 March 1996**  
**SUPERSEDING**  
**AMENDMENT 1**  
**5 May 1993**

**MILITARY SPECIFICATION**

**RESISTOR, FIXED, COMPOSITION (INSULATED),  
ESTABLISHED RELIABILITY  
GENERAL SPECIFICATION FOR**

This amendment forms a part of MIL-R-39008C, dated 10 August 1990, and is approved for use by all Departments and Agencies of the Department of Defense.

**PAGE 2**

- \* 1.2.1.3, last sentence, delete "MS90178" and substitute "EIA-RS-385".

**PAGE 3**

- \* 2.1.1, SPECIFICATION, MILITARY, delete "MIL-R-39032" and its corresponding title.
- \* 2.1.1, SPECIFICATION, STANDARDS, delete "MS90178" and its corresponding title.

**PAGE 4**

- \* 2.2, before Electronic Industries Association add:

**\*AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)**

**ANSI/NCSL Z540-1 - Calibration Laboratory and Measuring and Test Equipment, General Requirements for.**

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

**\*AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)**

**ASTM B545 - Standard Specification for Electrodeposited Coating of Tin.**

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

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"INTERNATIONAL ORGANIZATION for STANDARDS (ISO)

ISO 10012-1 - Quality Assurance Requirements for Measuring Equipment, Part 1:  
Meteorological Confirmation System for Measuring Equipment.

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

\* 2.2 ELECTRONIC INDUSTRIES ASSOCIATION, add:

"EIA-RS-385 - Preferred Values (DOD Adopted)."

PAGE 6

Add the following new paragraph:

"3.5.1.4 Tin plated finishes. Use of tin plating is prohibited as a final finish and as an undercoat (see  
6.6.1). Use of tin-lead (Sn-Pb) finishes are acceptable are provided that the minimum lead content is 3  
percent."

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4.6.1.1, delete and substitute:

"4.6.1.1 Inspection and production lot.

"4.6.1.1.1 Inspection lot. An inspection lot shall consist of all the resistors of the same style,  
characteristic, and protective enclosure or coating manufactured under essentially the same process and  
conditions during a manufacturing period of one month, maximum.

"4.6.1.1.2 Production lot. A production lot shall consist of all resistors of the same style, nominal  
resistance value, resistance tolerance and terminal type. Manufacture of all parts in the lot shall have  
been started, processed, assembled, and tested as a group. Lot identity shall be maintained throughout  
the manufacturing cycle."

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4.6.1.2.4.2b, last sentence, delete and substitute: "If the lot fails this solderability test the lot may be  
reworked a second time and retested. If the lot fails the second rework, the lot shall be considered  
rejected and shall not be furnished against the requirements of this specification."

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\* 4.7.2a, delete and substitute:

- "a. **Measuring apparatus:** Different types of measuring test equipment (multimeter, bridges, or equivalent) are permitted to be used on the initial and final readings of this test, provided the equipment is the same style, model, or if it can be shown that the performance of the equipment is equivalent. The supplier shall establish and maintain a calibration system in accordance with ANSI/NCSL Z540-1, ISO 10012-1, or equivalent system as approved by the qualifying activity."

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\* 4.7.15f, delete and substitute:

- "f. **Measurement during test:** Measurement shall be made as near as possible to the specified time but may be adjusted so that measurements need not be made during other than normal weekdays.

1. **Qualification inspection table VI:**

- (a) **Group VI (100 percent rated wattage):** DC resistance shall be measured at the end of the 0.5 hour "off" periods after 250 +72, -24; 500 +72, -24; and 1,000 +72, -24 hours have elapsed.
- (b) **Group VIII (50 percent rated wattage):** DC resistance shall be measured at the end of the 0.5 hour "off" periods after 250 +72, -24; 500 +72, -24; 1,000 +72, -24; and 2,000 +96, -24 hours have elapsed. Every 2,000 +96, -24, hours thereafter for the continuation phase until 10,000 +120, -0 hours have elapsed.

2. **Quality conformance inspection, group B, table XI:**

- (a) **Monthly subgroup 1 (50 percent rated wattage):** DC resistance shall be measured at the end of the 0.5 hour period "off" periods 250 +72, -2; 500 +72, -24; 1,000 +72, -24; 2,000 +96, -24; and every 2,000 +96, -24 hours thereafter until 10,000 +120, -0 hours have elapsed.
- (b) **Semiannually subgroup 4 (100 percent rated wattage):** DC resistance shall be measured after 250 +72, -24; 500 +72, -24; and 1,00 +72, -24 hours have elapsed.

3. **Examination after test:** Resistors shall be examined for evidence of mechanical damage."

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\*5, delete and substitute:

\*5. PACKAGING

"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 material 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."

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Add new paragraph:

"6.6.1 Tin plated finishes. Tin plating is prohibited (see 3.5.1.4) since it may result in tin whisker growth. Tin whisker growth could adversely affect the operation of electronic equipment systems. For additional information on this matter, refer to ASTM B545 (Standard Specification for Electrodeposited Coating of Tin)."

The margins of this amendment are marked with an asterisk to indicate where changes from the previous amendment 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.

CONCLUDING MATERIAL

Custodians:

Army - ER  
Navy - EC  
Air Force - 85  
NASA - NA

Preparing activity:

Army - ER

Agent:

DLA -ES

Review activities:

Army - AR, AT, AV, ME, MI  
Navy - AS, MC, OS  
Air Force - 19, 99

(Project 5905-1424)