

AEROSPACE STANDARD AMENDMENT

SAE AS39029-A1

Issued 2005-02

Contacts, Electrical Connector, General Specification For

1. Present Requirement: Table 1 Contact Types, Page 2

As specified

Change Requirement: Table 1 Contact Types, on Page 2

TABLE 1. Contact types.

Type	Material	Application
A	Copper alloy	General purpose
B	Ferrous alloy	Hermetic
C	Nickel-Chromium (formerly Chromel)	ASTM E230 type E Thermocouple ASTM E230 type K Thermocouple
	Nickel-Aluminum/Silicon (formerly Alumel)	ASTM E230 type K Thermocouple
	Copper-Nickel Alloy (formerly Constantan)	ASTM E230 type E Thermocouple ASTM E230 type J Thermocouple ASTM E230 type T Thermocouple
	Iron	ASTM E230 type J Thermocouple
	Copper	ASTM E230 type T Thermocouple
D	Copper alloy	Shielded (including coaxial, twinaxial, and triaxial)

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2. Present Requirement: 2.1.1 STANDARDS, Page 8

MIL-C-45662 Calibration System Requirements
MIL-STD-105 Sampling Procedures & Tables for Inspection Attributes

Change Requirement: 2.1 2.1.1 STANDARDS, Page 8

Delete MIL-STD-105, and MIL-C-45662 references

Rationale for Change: Incorporate Department of the Navy Engineering Position Letter Ser: 456300C60-BS50.93 dated SEP 29 1995, and Ser: 456300C60-50.111 dated 1 October 1995

3. Present requirement: 2.1.1 STANDARDS after "(Copies --- officer)", Page 8

Not specified

Change requirement: 2.1.1 STANDARDS after "(Copies --- officer)", Page 8

STANDARDIZATION DOCUMENT

SD-6 Provisions Governing Qualification

(Application for copies should be addressed to the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

Rationale for Change: to include Qualification Activity requirement

4. Present Requirement: 2.2 Other publications, Page 8

ANSI MC96.1 Temperature Measurement Thermocouple

Change Requirement: 2.2 Other publications, Page 8

Delete

Rationale for change: NAVAIR EPL 10380 air-4.4.4.3/2217 004000001.AA of 08 May 2003

5. Present Requirement: 2.2 Other publications, Page 8

Unspecified

Change Requirement: 2.2 Other publications, Page 8 after ANSI B46.1

ANSI/ISO 10012-1 Quality Assurance Requirements for Measuring Equipment

Rationale for Change: Incorporate Department of the Navy Engineering Position Letter Ser: 456300C60-50.111 dated 1 October 1995

6. Present Requirement: 2.2 Other publications, Page 8

Not specified

Change Requirement: 2.2 Other publications, Page 8 add after "(Applications ---- 18018)."

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E230 Standard Specification and Temperature-Electromotive Force (EMF) Tables for Standardized Thermocouples

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

AMERICAN SOCIETY FOR QUALITY CONTROL

ASQC Z1.4, SAMPLING PROCEDURES AND TABLES FOR INSPECTION BY ATTRIBUTES

(Application for copies should be addressed to the American Society of Quality Control, PO Box 3005, 611 East Wisconsin Ave, Milwaukee, WI 53201-46004)

Rationale for change: NAVAIR EPL 10380 air-4.4.4.3/2217 004000001.AA of 08 May 2003 and 456300C60-BS50.93 dated SEP 29 1995

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7. Present Requirement: 2.2 Other publications, Page 8

Not specified

Change requirement: 2.2 Other publications, Page 8 after "(Applications --- 20006)

NATIONAL CONFERENCE OF STANDARDS LABORATORIES

NCSL Z540-1, -General Requirements for Calibration Laboratories and Measuring and Test Equipment

(Application for copies should be addressed to the National Conference of Standards Laboratories, 1800 30 th Street, 305B, Boulder, CO 80301-1032)

Rationale for change: NAVAIR EPL 456300C60-BS50.93 dated SEP 29 1995

8. Present requirement 3.1.1 Specification sheets, Page 9

Not specified

Change requirement: 3.1.1 Specification sheets: Page 9

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3.1.2 Specification sheet exceptions:

3.1.2.1 Specification sheets AS39029/9, /10, /31, /32, and / 85-/89: In the materials or design characteristics table for each slash sheet, the materials requirement should be changed as follows:

Constantan should be replaced with Jn
Alumel should be replaced with Kn
Chromel should be replaced with Kp
Iron should be replaced with Jp

A footnote should be added to the materials tables as follows:

Jn=Type J negative (formerly Constantan)
Kn=Type K negative (formerly Alumel)
Kp=Type K positive (formerly Chromel)
Jp=Type J positive (formerly Iron)

Note-Not all BIN codes are impacted by this change on specification sheets /31 and /32.

3.1.1.2 Specification sheets AS39029/4, and /5: Delete the “Localized Finish Option” and “Porosity Test, Localized Finish” requirements from each specification sheet.

3.1.1.3 Specifications sheets AS39029/1-/5, /9-/12, /16-/18, /29-/33, /44-/47, and /106-/107: For the sited specification sheets an alternate design of the wire barrel lead in angle is as follows

Size	Blend Radius
22	0.010 +/- .005 inches
20	0.015 +/- .005 inches
16	0.020 +/- .005 inches

3.1.1.4 Specification sheets AS39029/69 and /70: The low signal contact resistance on nickel plated conductor does not consistently meet requirements after Table XII Group III conditioning. The requirement is waved for Qualification.

Rationale for change: NAVAIR EPL 10380 air-4.4.4.3/2217 004000001.AA of 08 May 2003 and 10380 444-JRM/M04.42 of AUG 01 1991, Ser456300C60-MRS/M04.58 of 22 October 1996, and 10380 444-JRM/m04.29 of OCT 24 1991

9. Present requirement: 3.3.1.1 Dissimilar metals, Page 10

Not specified

Change requirement: after 3.3.1.1 Dissimilar metals, Page 10

3.3.1.2 Thermocouple Material: All thermocouple materials shall conform to ASTM E230 for standard limits of error.

Rationale for change: NAVAIR EPL 10380 air-4.4.4.3/2217 004000001.AA of 08 May 2003

10. Present requirement: 3.5.16 Plating porosity (overall gold-finished contacts only) (types A and D), Page 25

When ----- plating porosity.

Change requirement: 3.5.16 Plating porosity (overall gold-finished contacts only) (types A and D), Page 25

3.5.16 Plating porosity (gold-finished contacts only) (types A and D)

3.5.16.1 Over all gold finish contacts: When tested as specified in 4.7.17, there shall be no bubbling during the observation period when gold-finished contacts are examined for plating porosity.

3.5.16.2 Localized gold finish contacts: The average corrosion count for the sample lot of localized gold finish contacts shall be 1.0 or less.

Rationale for change: NAVAIR EPL 10380 444-JRM/M04.42 of AUG 01 1991

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11. Present Requirement: Section 4. QUALITY ASSURANCE PROVISIONS, 4.1.1 "Test equipment and inspection facility", last sentence on Page 27

"The ---- calibration ---- MIL-STD-45662."

Change Requirement: Section 4. QUALITY ASSURANCE PROVISIONS, 4.1.1 "Test equipment and inspection facility", last sentence on Page 27

"The ---- calibration: ---- ANSI/NCSL Z540-1 or ISO 10012-1."

Rationale for Change: Incorporate Department of the Navy Engineering Position Letter Ser: 456300C60-50.111 dated 1 October 1995.

12. Present requirement: Table XIII Qualification and group B inspection (type C contacts), Page 32

Not specified

Change requirement: Table XIII Qualification and group B inspection (type C contacts), Page 32 add footnote to bottom of table

1/ Vibration and shock shall be performed for initial qualification only

DSCC-VQC-98-0321 (Mr. Peppas/614-692-7108/mtp) letter of January 14, 1998

13. Present Requirement: 4.6.2.1 Sampling plan, Page 36

Statistical --- with MIL-STD-105 ---- maintained.

Change Requirement: 4.6.2.1 Sampling plan, Page 36

Statistical --- ANSI/ASQC Z1.4 ---- maintained. Major and minor defects shall be as defined herein (see 6.7).

Rationale for Change: Incorporate Department of the Navy Engineering Position Letter Ser: 456300C60-BS50.93 dated SEP 29 1995

14. Present requirement: Table XV footnote 2, Page 37

MIL-STD-105

Change requirement: Table XV footnote 2, Page 37

ANSI/ASQC Z1.4

Rationale for Change: Incorporate Department of the Navy Engineering Position Letter Ser: 456300C60-BS50.93 dated SEP 29 1995

15. Present requirement: 4.7.17 Overall gold-finish porosity (types A and D overall gold-plated finish only) (see 3.5.16), Page 42

Contacts shall ---- for 30 seconds.

Change requirement: 4.7.17 Overall gold-finish porosity (types A and D overall gold-plated finish only) (see 3.5.16), Page 42

4.7.17 Gold finish porosity (types A and D) (see 3.5.16)

4.7.17.1 Overall gold finish contacts: Contacts shall be placed in containers and covered with nitric acid (specific gravity 1.316 at 15.6 °C) at 25 +/-3°C so that all contacts may be observed during the test. The contacts shall be observed for 30 seconds for plating porosity.

4.7.17.2 Localized gold finish contacts: Porosity shall be tested in accordance with method 1017 of MIL-STD-1344. Immersion in nitric acid is not applicable.