



DEFENSE LOGISTICS AGENCY
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12 February 2013

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Final Report; Engineering Practices Study (EPS), Specification replacement for the cancelled SAE-AMS-C-26074, "Electroless Nickel Coatings", in Circular Electrical Connector Documents, including MIL-DTL-26482 and MIL-DTL-83723. Replacement Document: ASTM B733, "Standard Specification for Autocatalytic (Electroless) Nickel-Phosphorus Coatings on Metal".
Project number: 5935-2012-073.

The final report for the subject Engineering Practice Study is attached. The EPS reviewed two different possible specifications to replace the above-referenced SAE-AMS-C-26074. Based upon the responses from interested parties, the cancelled SAE-AMS-C-26074 will be replaced with ASTM B733 in the above-listed circular connector military specifications. The rationale for the change is based on the fact that ASTM B733 has been referenced as the electroless nickel finish requirement in MIL-DTL-38999 for over 10 years.

The final report of this document is available for viewing or downloading from our website at the following internet link: <http://www.landandmaritime.dla.mil/programs/milspec/DocSearch.aspx>. If you have any questions, please contact Mrs. Lisa Hoffer at the following phone numbers or email address: 614-692-7702, fax: 614-692-6939, e-mail: Lisa.Hoffer@dla.mil.

Sincerely,

/ SIGNED /

ABDONASSER M. ABDOUNI
Chief
Interconnection Branch

Attachment

ENGINEERING PRACTICE STUDY

**SUBJECT: REPLACEMENT FOR THE CANCELLED
SAE-AMS-C-26074, "ELECTROLESS NICKEL COATINGS",
IN ELECTRICAL CIRCULAR CONNECTOR DOCUMENTS
MIL-DTL-26482 AND MIL-DTL-83723. SPECIFICATIONS
UNDER CONSIDERATION INCLUDED SAE-AMS2404
OR ASTM B733.**

12 FEBRUARY 2013

FINAL REPORT

Prepared by:

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DLA Land and Maritime - VAI

EPS Project Number:
5935-2012-073

ENGINEERING PRACTICE STUDY

Review of the electroless nickel plating requirements for MIL-DTL-26482 and MIL-DTL-83723, and selection of a plating specification to replace the cancelled SAE-AMS-C-26074.

Reference: DLA Land and Maritime-VAI letter dated 12 January 2012;
Subject: Initial Draft; Engineering Practice Study (EPS), Request for Comments on Electroless Nickel Plating requirement for MIL-DTL-83723, class R, and MIL-DTL-26482, class L. Proposed replacements for the cancelled SAE-AMS-C-26074 included AMS2404 and ASTM B733.

- I. **OBJECTIVES:** This office solicited and obtained feedback from qualified manufacturers, military users and other interested parties to develop a consensus on a replacement specification for the cancelled SAE-AMS-C-26074.
- II. **BACKGROUND:** SAE-AMS-C-26074, "Electroless Nickel Coatings", was cancelled in July 2011. The document was superseded with AMS2404, "Plating, Electroless Nickel".

At the time of the above-referenced cancellation, both MIL-DTL-26482, "Connectors, Electrical, Circular, Miniature, Quick Disconnect, Environment Resisting, Receptacles and Plugs, General Specification for", and MIL-DTL-83723, "Connectors, Electrical, Circular, Environmental Resisting, Receptacles and Plugs, General Specification for", were undergoing revisions. Both documents specify electroless nickel plating (Class L for MIL-DTL-26482 and Class R for MIL-DTL-83723), however, a document undergoing revision may not specify a cancelled document (see MIL-STD-961, "Defense and Program Unique Specifications Format and Content", paragraph 4.19.b). This office's recommendation was to reference ASTM B733, "Standard Specification for Autocatalytic (Electroless) Nickel-Phosphorus Coatings on Metal", rather than SAE-AMS2404. This change would align MIL-DTL-26492 and MIL-DTL-83723 with the requirements specified in MIL-DTL-38999, "Connectors, Electrical, Circular, Miniature, High Density, Quick Disconnect, Environment Resistant, Removable Crimp and Hermetic Solder Contacts, General Specification for". Note: During the coordination period for this EP Study, there were efforts to work with SAE to reinstate SAE-AMS-C-26074, but these efforts were unsuccessful.

- III. **METHODOLOGY:** Feedback from connector manufacturers and original equipment manufacturers has been unanimously in favor of replacing the cancelled document with ASTM B733. This feedback will be used to move forward with standardization actions for MIL-DTL-26482 and MIL-DTL-83723.
- IV. **RESULTS:** The subject EPS was distributed by electronic mail message to the entire circular connector distribution list and the SAE-8C1 connector committee. All response supported this office's recommendation to use ASTM B733 in place of SAE-AMS-C-26074.
- V. **CONCLUSIONS:** ASTM B733 is a suitable replacement for the cancelled SAE electroless nickel spec, and its proposed use as the electroless nickel specification to cite in both MIL-DTL-26482 and MIL-DTL-83723 is expected to better align the requirements of these circular connector military specifications with the requirements of MIL-DTL-38999.