



DEFENSE LOGISTICS AGENCY
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IN REPLY
REFER TO

10 April 2015

DLA Land and Maritime-VAC (Mr. Carpenter/DSN 850-7078/(614) 692-7078)

Memorandum for VSS (LSA)

SUBJECT: Dated Engineering Practices Study (EPS) to solicit user input to determine whether the proposed methodology for detecting non-hermetic devices should be adopted by MIL-STD-750. Project Number 5961-2015-031.

Findings and recommendations on Engineering Practices Study, dated 10 April 2015, are enclosed.

/signed/
Thomas M. Hess
Chief
Active Devices Team

ENGINEERING PRACTICE STUDY

PROJECT NUMBER: 5961-2015-031

TITLE: MIL-STD-750, COMBINED HE/O2 GROSS/FINE LEAK TEST CONDITION

10 APRIL 2015

FINAL REPORT

Prepared by:
Kyle Carpenter
DLA-VAC

I. OBJECTIVES: The objective of this EP study was to solicit user input to determine whether the proposed procedure for determining the hermeticity of semiconductor devices with designed internal cavities, should be added to MIL-STD-750, test method 1071.

II. BACKGROUND: A new hermetic seal test condition was developed and submitted to DLA Land and Maritime for consideration. This new condition is a combined gross leak and fine leak test. It is designed to identify non-hermetic devices by monitoring chamber pressure changes and the qualitative helium and oxygen levels emitted from the test device.

Three separate studies supporting the acceptance of the proposed test condition were submitted for review and comment.

III. RESULTS: The EP Study project was opened and an initial draft was posted on the DLA Land and Maritime website. Inputs were solicited from all interested parties using our entire 5961 stock class email distribution list, which included military services, manufacturers, original equipment manufacturers, and user communities. DLA received no negative feedback regarding the addition of the proposed procedure.

IV. CONCLUSIONS: The results of this EP Study are sufficient to support the addition of the proposed "Combined He/O₂ Gross/Fine Leak Test Condition" to MIL-STD-750, test method 1071.

V. RECOMMENDATIONS: Revise MIL-STD-750, test method 1071 to include the proposed "Combined He/O₂ Gross/Fine Leak Test Condition".