



DEFENSE LOGISTICS AGENCY  
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IN REPLY  
REFER TO

17 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 evaluating surface sorption requirements should be added to MIL-STD-750-1, Test Method 1071. Project Number 5961-2015-032.

Findings and recommendations on Engineering Practices Study, dated 17 April 2015, are enclosed.

/signed/  
Thomas M. Hess  
Chief  
Active Devices Team

ENGINEERING PRACTICE STUDY  
PROJECT NUMBER: 5961-2015-032

TITLE: MIL-STD-750-1, TEST METHOD 1071, EVALUATION OF SURFACE SORPTION

17 APRIL 2015

FINAL REPORT

Prepared by:  
Kyle Carpenter  
DLA-VAC

I. OBJECTIVES: The objective of this EP study was to solicit user input to establish revised surface sorption requirements for helium and cumulative helium hermeticity test conditions of MIL-STD-750-1, test method 1071.

II. BACKGROUND: The current surface sorption requirements of test method 1071 (paragraph 10.2.1) require the opening/disassembly of test specimens to determine the minimum usable dwell time. An alternate procedure has been developed and submitted to DLA Land and Maritime for consideration.

During helium pressurization (bombing) the exterior and interior of a test specimen may absorb helium. This absorbed helium will contribute to the measured leak rate of the test specimen, possibly affecting the acceptance of the test specimen. An effective procedure for mitigating absorbed helium is crucial to attaining accurate hermeticity test results.

This alternate procedure along with a questionnaire soliciting input on current surface mitigation techniques 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 FSC 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 surface sorption requirements to MIL-STD-750-1, test method 1071.

V. RECOMMENDATIONS: Revise MIL-STD-750-1, test method 1071 to include the proposed procedure for surface sorption evaluation.