

ENGINEERING PRACTICE STUDY

PROJECT NUMBER: 5961-2013-002

TITLE: SURVEY TO ESTABLISH REVISED PENETRANT DYE GROSS LEAK TEST
REQUIREMENTS FOR TRANSPARENT GLASS ENCASED DEVICES
AND DESTRUCTIVE VERIFICATION OF OPAQUE DEVICES
(MIL-STD-750-1, TEST METHOD 1071, CONDITION E)

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FINAL REPORT

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I. OBJECTIVES: The objective of this study was to conduct a survey for the purpose of gathering the specific conditions being used by military users for performing penetrant gross leak testing of transparent glass encased devices and destructive verification of opaque devices in accordance with MIL-STD-750-1, Test Method 1071, Condition E.

II. BACKGROUND: MIL-STD-750-1, Test Method 1071, Condition E allows for the use of a multitude of different penetrants, many of which have different sensitivity ratings and viscosities. A recent survey of our currently qualified 5961 suppliers and certified MIL-STD-750 laboratories found that four different penetrants are currently being used. DLA Land and Maritime sought to standardize the penetrant, sample pressurization pressure and time, and ultraviolet light source distance.

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. The commenting period which is normally 45 days was extended to 90 days to allow adequate time for review and response. No completed surveys, nor requests for additional review time were received.

IV. CONCLUSIONS: The results of this EP Study were insufficient to support the revision of MIL-STD-750-1, Test Method 1071, Condition E at this time.

V. RECOMMENDATIONS: Continue to monitor the user community and readdress the subject at a future date if any users express interest in the subject.