



DEFENSE LOGISTICS AGENCY
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ENGINEERING PRACTICE STUDY

TITLE:

EP Study is to examine replacing the MIL-DTL-17 Weathering test with the MIL-STD-1678-3 test method.

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Project Number:
6145-2018-008

FINAL REPORT

Study Conducted and
Prepared by

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Introduction:

The purpose of this EP Study is to examine replacing the MIL-DTL-17 Weathering test with the MIL-STD-1678-3 test method.

Background:

The MIL-DTL-17 Weathering qualification test is a qualification-only test using irradiance. It was suggested by DLA Qualification's team to replace the M17 Weathering test with MIL-STD-1678-3 M3306. The 1678-3 M3306 has slight differences in the test method as compared to the M17: 1200 hours vs. 1000 hours (M17) and black panel temp: 50 degrees C (M17) vs. 63 degrees C. The M17/196 uses a cross linked polyolefin for the jacket and the M85045/20 indicates a cross linked polymer jacket material. The M85045 is a shipboard cable and the M17/196 is also a shipboard cable. Based on similar uses and similar jacket material it was recommended that the M85045 test method (M1678-3, M3306) be used instead of the M17 test method.

Results:

The cable assembly 6145-01-384-0431 correlates with the Re-entry System Test Set organized in rack assemblies and utilized in closed shelters. Based on this usage the reduced 0.35W/m^2 irradiance specified in MIL-STD-1678-3 is sufficient to test M17/196 cables.

Conclusion:

The MIL-DTL-17/196 specification Weathering test will be changed to the MIL-STD-1678-3 requirements due to the specified end use of the cable.

Recommendations:

The MIL-DTL-17/196 specification Weathering test will be changed to the MIL-STD-1678-3 requirements.