

ENGINEERING PRACTICE STUDY

TITLE:

The purpose of this EPS is to determine the market viability of cadmium alternatives in wire and cable.

25 June 2021

Project Number:
6145-2021-026

FINAL REPORT

Study Conducted and
Prepared by

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Introduction:

EP Study to determine the market viability of cadmium alternatives in wire and cable.

Background:

Due to the potential negative environment and health effects of cadmium, there is a shift in industry away from cadmium usage. However, several wire and cable military specifications that DLA Land and Maritime is currently the Preparing Activity for still require cadmium copper alloys. This primarily is used in the conductors but also in drain wires and shielding. In a discussion with the Navy about potential cadmium alternatives, we decided upon the potential solution of putting in verbiage that references SAE AS29606.

Results:

Only two manufacturers responded. One responded with a number of conditional requirements that would need to be implemented in order for the specifications to reference SAE AS29606 and suggested simply replacing any references to cadmium with references to "Environmentally Safe Copper or Copper Alloy." The other manufacturer responded that they have been using a magnesium copper alloy instead of cadmium copper for the past fifteen years.

Conclusion:

It is clear that industry is moving away from cadmium, and DLA will need to adapt their specifications but also in a way that works with what industry is already doing.

Recommendations:

DLA Land and Maritime intends to amend / revise their current wire and cable specifications that reference cadmium by replacing references to cadmium with verbiage stating that cadmium should not be used, but the conductor should meet specification requirements.