



# FY2023 Defense Standardization Program Achievement Awards

These awards honor personnel and organizations of the military departments and defense agencies for outstanding performance in the implementation of the Defense Standardization Program. The recipients have made singular improvements in technical performance, greatly enhanced safety for DoD personnel, and avoided billions of dollars in costs.



## Distinguished Award Winner

### **Defense Logistics Agency (DLA), Land and Maritime, Defense Supply Center Columbus (DSCC), Engineering and Technical Support Directorate (V), Document Standardization Division (VA), Active Devices Branch (VAC)**

*Development of a New Radiation Hardened Plastic Encapsulated Microcircuit (PEM) device class (Class P) for Military and Space Applications for Military Performance Specification MIL-PRF-38535*

Mr. Rodney Chambers demonstrated outstanding leadership and made significant contributions to the development and addition of a new Class P plastic encapsulated microcircuit (PEM) for military and space applications in MIL-PRF-38535, Integrated Circuits (Microcircuits) Manufacturing, General Specification. The new Class P devices with radiation hardness assurance will allow original equipment manufacturers (OEMs) to use state of the art PEM products that were not previously documented by MIL-PRF-38535. As a result, Class P devices will be smaller, lighter, and significantly more cost effective than ceramic hermetic devices and will allow the Air Force, Space Force, and NASA satellite programs to develop the highest quality military weapons and space system platforms, thereby ensuring successful mission outcomes.

Mr. Chambers conducted numerous meetings, telephone conference, and emails with relevant stakeholders of the space community (e.g., NASA Jet Propulsion Laboratory, Aerospace Corporation), device manufacturers, OEM manufacturers, and other government agencies to discuss issues and necessary changes and to resolve differences in requirements. Mr. Chambers' subject matter expertise concerning microcircuits enabled the rapid development of the new specification. He played a key role in determining critical screening and quality conformance inspection testing requirements for these devices and in assembling industry partner teams to resolve issues.



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## Achievement Award Winners

### U.S. Army Combat Capabilities Development Command (DEVCOM)/ Ground Vehicle Systems Center (GVSC)

#### *Hexavalent Chromium and Cadmium Abatement in Ground Combat Vehicle System Fasteners*

The team researched reducing the use of carcinogenic hexavalent chromium and cadmium plating as corrosion inhibitors for fasteners. The research indicated that zinc-nickel plating costs less, resists abrasion and corrosion as well as or better than cadmium coatings, eliminates the environmental and health risks associated with hexavalent chromium and cadmium compounds, lengthens fastener and end item lifecycles, reduces thermal stress in high-temperature applications, eliminates almost all hydrogen deposition in fasteners, and complies with technical manual torque requirements. Based on this research, the team helped create MIL-PRF-32647, Zinc-Nickel Electroplating for Fasteners, and is working to replace hexavalent chromium and cadmium plating with non-hazardous zinc-nickel plating in fastener specifications.

Mr. Norkus led the review, revision, and writing of specifications and the development of commercial item descriptions and met with external agency representatives to address revisions to non-government documents. Dr. Sanders served as the corrosion and coatings SME, helping draft and revise the performance specification for zinc-nickel plating, reviewing updated part specifications, and liaising with program managers and original equipment manufacturers. Since 2020, 145 specifications have been revised or rewritten and published, with 35 more due for completion by July 2025.

*Team members: Jeffrey L. Norkus, Thomas Sanders, and Aleksandar Zlateski*





## Naval Air Systems Command, Naval Air Warfare Center Aircraft Division Lakehurst (NAWCAD LKE), Mission Operations and Integration Department, Systems Standardization and Packaging, Handling, Storage, and Transportation Branch (PHS&T)

*MIL-STD-1568, Materials and Processes for Corrosion Prevention and Control in Aerospace Weapons Systems*

Corrosion costs DoD approximately \$20 billion annually, and corrosion maintenance creates significant downtime. Historically, DoD did not consider corrosion prevention during the acquisition process, avoiding the initial procurement cost of selecting materials, processes, and aerospace weapons systems designs that prevent corrosion. As a result, DoD instead spent on corrosion control, detecting and treating corrosion after it had already affected weapons systems.

To better address corrosion during acquisition, a tri-service team comprising Kathryn Jimerson, Chad Hunter, Jeffrey Calcaterra, Matthew Hartshorne, Katrina Petro, William Alvarez, Gerard Tamez, and Rade Savija prepared Revision E of MIL-STD-1568, Materials and Processes for Corrosion Prevention and Control in Aerospace Weapons Systems. They added state-of-the-art corrosion control technologies and practices and formally coordinated the revision draft to DoD and industry. MIL-STD-1568, Rev. E, now comprehensively describes corrosion prevention and control materials, processes, and procedures that provide optimal performance, reliability, interoperability, environmental protection, and lifecycle cost. The revised standard also defines technical requirements for establishing DoD-mandated corrosion prevention and control plans and the accompanying finish specification. Meeting or exceeding the requirements of MIL-STD-1568 will facilitate an optimum balance between acquisition and sustainment costs for DoD aerospace weapons systems, and will ultimately enhance system safety, reliability, quality, interoperability, and materials compatibility.

*Team members: Kathryn Jimerson, Chad Hunter, Jeffrey Calcaterra, William Alvarez, and Rade Savija*



# The Defense Standardization Program



## PURPOSE

We champion standardization throughout the Department of Defense to reduce costs and improve operational effectiveness.



## MISSION

We identify, influence, develop, manage, and provide access to standardization processes, products, and services for warfighters, the acquisition community, and the logistics community to promote interoperability, reduce total ownership cost, and sustain readiness.



## VISION

The Defense Standardization Program is a comprehensive, integrated standardization program linking Department of Defense acquisition, operational, sustainment, and related military and civil communities. It is universally recognized for advancing the Department of Defense's joint interoperability, acquisition, and sustainment goals.



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