



DLA

DEFENSE LOGISTICS AGENCY
Established 1961



The Nation's Combat Logistics Support Agency



Research & Development FORGING



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OBJECTIVE

The DLA R&D Forging program includes work to develop new and improved forging capabilities in the areas of inspection, design, modeling and manufacturing processes. The implementation of these capabilities will support the forging industry, where the technologies will be tested, implemented, and in turn, benefit the DLA and the DoD.

Lines of Effort in alignment with DLA Strategic Plan

- **“Warfighter Always,”** improved end-to-end readiness and cost-effectiveness.
- **“Modernize Acquisition Supply Chain Management,”** to expand industry engagement and generate innovative and efficient manufacturing solutions
- **“Future of Work,”** build skillsets of the future

INNOVATION & TECHNOLOGY

- **Laser cladding additive** technologies to extend the life of forging dies.
- **Ceramic coatings** for forging furnaces, and electrodes.
- **Die and material coatings** to extend the life of manufacturing tooling and reduce waste.
- **Workforce development** to provide education on processes and safety.
- **Sensors and machine learning** methodology to automate forging processes.



Before
Ceramic
Coating

After
Ceramic
Coating



STRATEGIC THRUSTS

- Materials
 - Billet Coatings
 - Improved Die Materials
- Workforce Development
- Manufacturing Processes
 - Die Coatings
 - Automation & Robotics
 - Additive Manufacturing
 - Ceramic Coatings for Furnaces and Electrodes



DLA RESEARCH & DEVELOPMENT FORGING PROGRAM

THE CHALLENGE

- Ensure the DoD continues to have viable sources for the procurement of quality parts with forged content
- Decrease material cost by improving the manufacturing process and material
- Improve customer service by expanding and strengthening our collaboration with suppliers



Deck Lashing Gear Assembly, Hook



MK80 Series Bomb Lug

WARFIGHTER READINESS THE BENEFITS

- Improved mission readiness and cost effectiveness
- Decreased cost and lead times
- Improved material availability and quality
- Improved manufacturing and sources of supply
- Higher strength forged components
- Workforce development / education

WHOLE OF GOVERNMENT AND INDUSTRY PARTNERSHIPS

- Forging Industry Association
- Forging Industry
- Research Universities
- JDMTP
- DLA Land & Maritime
- DLA Aviation



<https://www.dla.mil/Information-Operations/Research-And-Development/>

ACCOMPLISHMENTS & ONGOING EFFORTS

- Developed manufacturing methods and design resources to aid in the production of forged components supporting the Warfighter.
- FORGE-IT Team provides valuable resources to DLA and suppliers; assistance requests, should costs, and workforce development seminars.
- Ceramic coating of forging furnaces resulting in energy savings of 42% and part quality improvements.