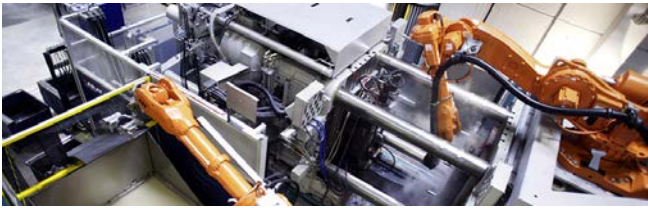
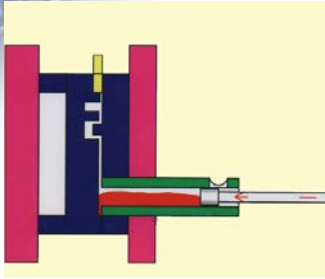


Die Casting of High-Temperature Alloys

DLA - POC: Dean Hutchins



Problem

- Low-cost methods for producing near-net shape components from high melting temperature alloys need to be expanded

Objectives

- Improve the production of casting high melting temperature alloys by leveraging the latest on-demand melting technology
- Improve processes for high melting temperature alloy casting
- Explore alloy and process modifications to improve castability

Benefits to DoD / Warfighter

- Expanded supply chain for net-shape high melting temperature alloy components
- Lower cost high melting temperature components
- Reduced component weight due to near-net shape casting

Description of Project:

This project will expand the supply chain for net-shape components produced from high melting temperature alloys by development of high volume, low cost, efficient melting and casting methods.

Team:

University of Alabama, Colorado School of Mines,
North American Die Casting Association
Purdue University, University of Alabama-Birmingham

Milestones / Deliverables

- Identify on-demand melting process improvements needed for melting high melting temperature alloys
- Identify high-temperature resistant mold materials and coatings for casting
- Demonstrate on-demand casting of high temperature alloys
- Improve high temperature alloy compositions for castability and improved processes

