

What We Can Offer You

With over 20 years of experience in coating testing and optimization for both the aerospace and industrial markets, the partnership between Sauer Engineering, IMR Test Labs and Aero Prep, LLC will help you quickly move into full scale industrial implementation of cold spray technology.

We are an experience and multi-functional team which can assist in all phases of process development, from the initial qualification process, to implementation and quality control.

Before Cold Spray



After Cold Spray

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Coming in 2012 • IMR Singapore

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Implementation of Cold Spray Technology

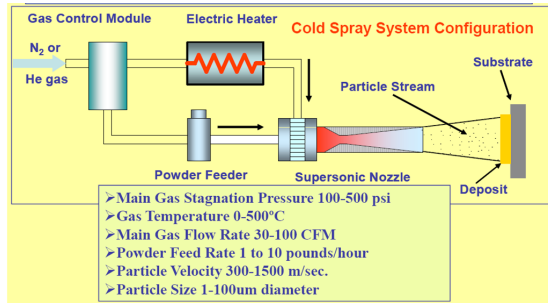


A Partnership Between:



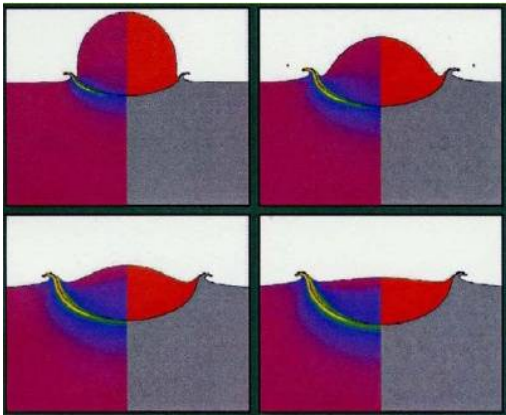
Cold Spray Technology

Cold spray is a new technology used to deposit high quality metal-based coatings onto a metallic substrate. Evaporation, melting, crystallization, gas release and residual stresses are all common problems eliminated or minimized utilizing cold spray techniques.



*The Cold Spray Process
Graphic Courtesy of Phil Leyman*

Materials that are cold sprayed must have the ability to deform. Graphic courtesy of Phil Leyman



Our Team's Capabilities

Development of the qualification plan and time line

- Review specifications and goals
- Develop coating optimization plan
- Define testing needs and methods
- Finalize schedule and time line

Optimization of the coating process

- Use of plume sensors for process characterization
- Use of DOE technology
- Optimization and review of powder sources

Coating characterization

- Metallography
- Chemistry
- Tensile testing
- SEM

Powder characterization

- Chemistry
- Microtrac
- SEM

*Coating Shear
Specimen in
Grips*

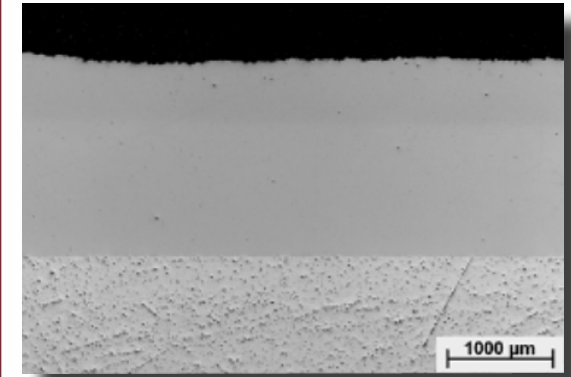


Mechanical testing

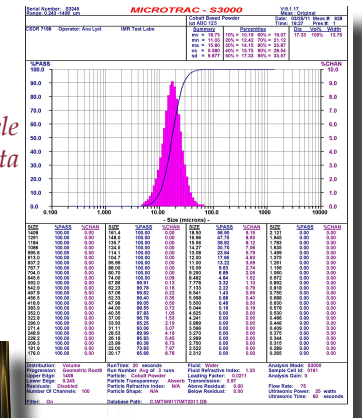
- Manufacture of test bars from varied configurations
- Testing methods
 - LCF & HCF testing
 - Shear testing
 - Compact tension
 - Bond Strength/Adhesion Testing
 - RR Moore
 - Shear testing
 - Specialized tensile testing

Application testing

- Specialized testing for unique service conditions



Photomicrograph of cold sprayed sample



Microtrac Particle Size Data



Coating Shear Fatigue in Frame

Mechanical Test Specimens

