

Cladding Dissimilar Metals Reduces Component Failure.

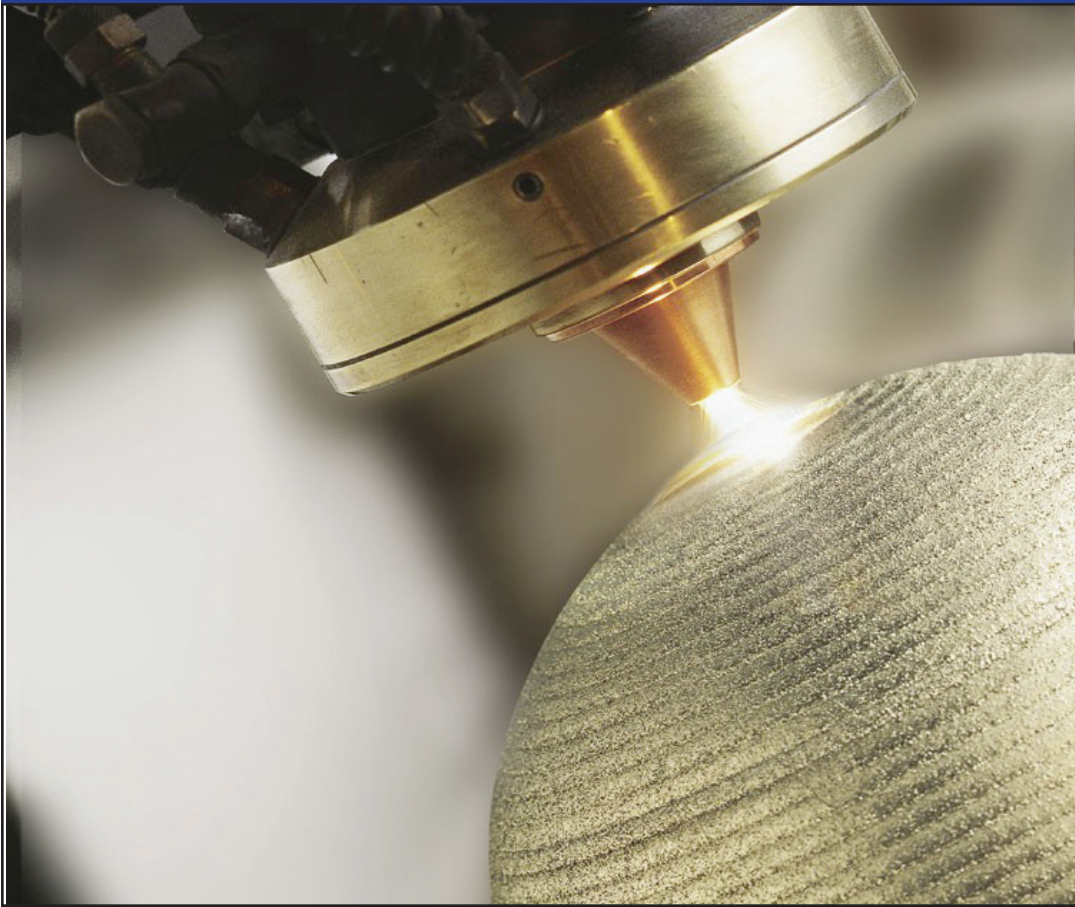


For more than a decade, laser coating technology has been used to salvage worn and corroded metals in the oil and gas industry. In May 2005, LCS partnered with NASA to reduce a component's failure. This project took LCS to another level of service, from salvaging metal parts to using their technology to prevent critical frontier systems breakdown. Using a thorough understanding of processes and materials, LCS provided creative solutions that increased product lifecycle.

It's that Simple, but so Cost Effective.



HOUSTON, TEXAS



LCS's Laser Process is being applied to a complex geometric shape used in an OEM's product to protect it against highly abrasive and corrosive wear.



Design and performance have to go hand in hand—otherwise, your customers won't be satisfied. At Laser Cladding Services (LCS), we help ensure that your design performs. That's our commitment.

Our Definition of Product Enhancement

Simply, our product enhancement program is how we partner with OEMs and other engineers, using our specific area of expertise in metallurgy and powder coatings technology, to help make new and old products last longer and perform better. We help ensure that they are built to last.

The products we enhance are your key components that are exposed to highly abrasive and highly corrosive environments.

What This Means for You

Customer satisfaction. Your products will perform longer in your customers' demanding atmospheric conditions. Lasting longer and providing more uptime will equate to superior customer satisfaction.

The Kind of Products We Can Enhance

We can enhance any critical, high wear part you think needs special treatment to maximize its performance and increase the length of its life. This is a specialized process that involves our engineering department communicating with your manufacturing engineers.

Our Knowledge that We Provide

- Metallurgical Understanding
- Powder Coating Technology
- Engineering Application Knowledge

800-856-8082
www.lasercladding.com

LSC's Product Enhancements Can Be Found in These Industries:

Process Equipment, Pulp & Paper, Food Processing,
Chemical Processing, Petroleum Refining

Critical Wear Components found
in the following Products:

- Ball Valves: Balls and Seats
- Gate Valves: Gates and Wear Surfaces
- Pumps: Centrifugal, Positive Displacement,
Progressing Cavity: Shafts, Stuffing Boxes,
Impellers, Rotors
- Mixers: Rotating parts
- Dewatering Screw Presses: Screws, Screens,
Bearing Surfaces
- Debarking: Knives & Tools
- Commercial Meat Grinder Wear parts: Bearings,
Sleeves

Downhole Oil Equipment Market

Critical Wear Components:

- Stabilizers
- Wear Bands
- Wear Sleeves
- Wear Pads
- Kicker Pads
- PC Pump Rotors
- Impellers

Processes We Perform

- Hard Facing
- Laser Cladding Services
- Laser Heat Treating
- Laser Seam Welding
- Pre-Machining
- Post Finishing

How We Do It

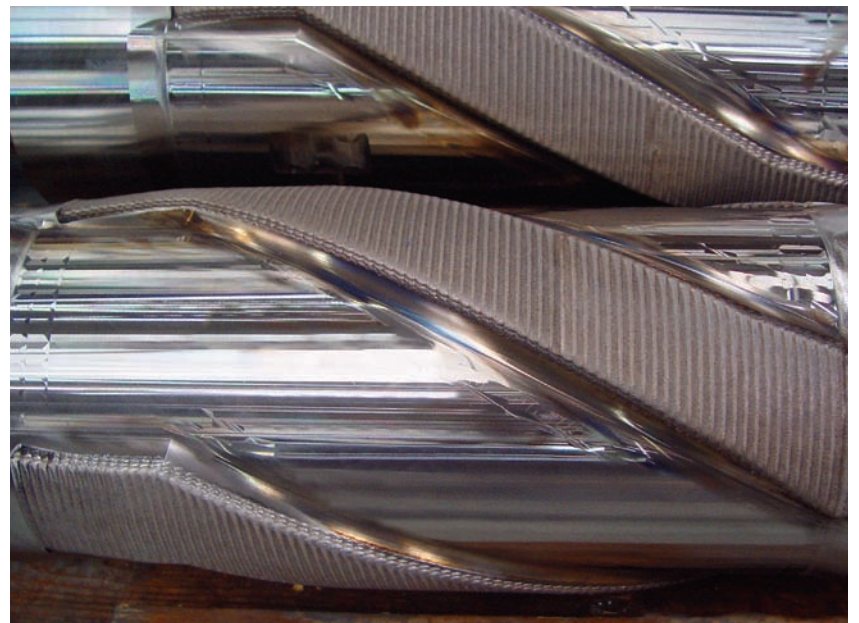
We combine our expertise in coatings and metallurgy with solid understanding of all manufacturing processes. This allows us to take your single part and do the following:

1. Work with you to learn the working environment the product will be placed in
2. Evaluate the product's potential for wear
3. Apply various processes to enhance it, using LCS's proprietary and process technologies
4. Complete the enhancement with our final finishing processes

The beauty LCS's Product Enhancement Program is that LCS prepares the part for its worst environment before it is placed in service. We focus on the enhancement process and getting your part back to you to complete your final assembly.

Why Laser Cladding Services?

Our team has proven expertise in everything from chemistry behind powder coatings and metals to the intense corrosive and abrasive environments your parts experience for days, weeks, and sometimes years.



*Laser
Cladding
Services* LTD



High Quality Cladding First!

WHO IS LASER CLADDING SERVICES LTD



During the 1990's, Gremada Industries pioneered the mining industry's shift from conventional remanufacturing, reconditioning, and enhancement methods to salvage critical wear components and corroded metal parts.

Unlike welding, thermal spraying, or plating, laser cladding provides a strong metallurgical bond with minimal dilution of the base material, exceptional thickness control, and a small heat affected zone.

By the late 90's, Gremada began offering their proven laser coating technology solutions to the oil and gas industry. As demand increased by May of 2001, Gremada established Laser Cladding Services Ltd. to service

upstream energy and offshore markets and extend OEM product lifecycles. Offices were headquartered in the energy capital of the world - Houston Texas - to meet the changing needs of the industry quickly.

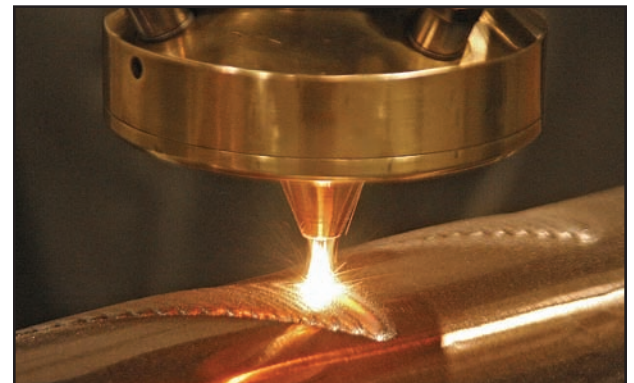
LCS first offered numerous laser cladding and hardfacing solutions using tungsten carbide powder, drawing upon combined engineering and metallurgical expertise for superior results. In December 2004, LCS became ISO 9001:2000 quality certified, a mark of their continued excellence. As their customers' needs have evolved, so have LCS's services. Continued research, testing, and development currently allow LCS to successfully apply numerous types of metal powders to

different substrates and parts with integral results.

A partnership with the comprehensive metallurgical testing program at North Dakota State University has been essential for proving the long-term durability of solutions before being commercially offered to meet the most stringent customer demands.

In 2007, LCS continues to work with more OEMs on confidential research projects to meet diverse needs onshore, offshore and into the unknown.

At LCS, we are committed to providing the best laser cladding solutions. Whether you need quick service for critical parts, creative applications to solve difficult wear issues, or ongoing programs to maintain essential components, we are here to keep you moving.



For complete information about our cladding capabilities and service, visit our website at www.lasercladding.com or call us toll free at 800-856-8082.



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