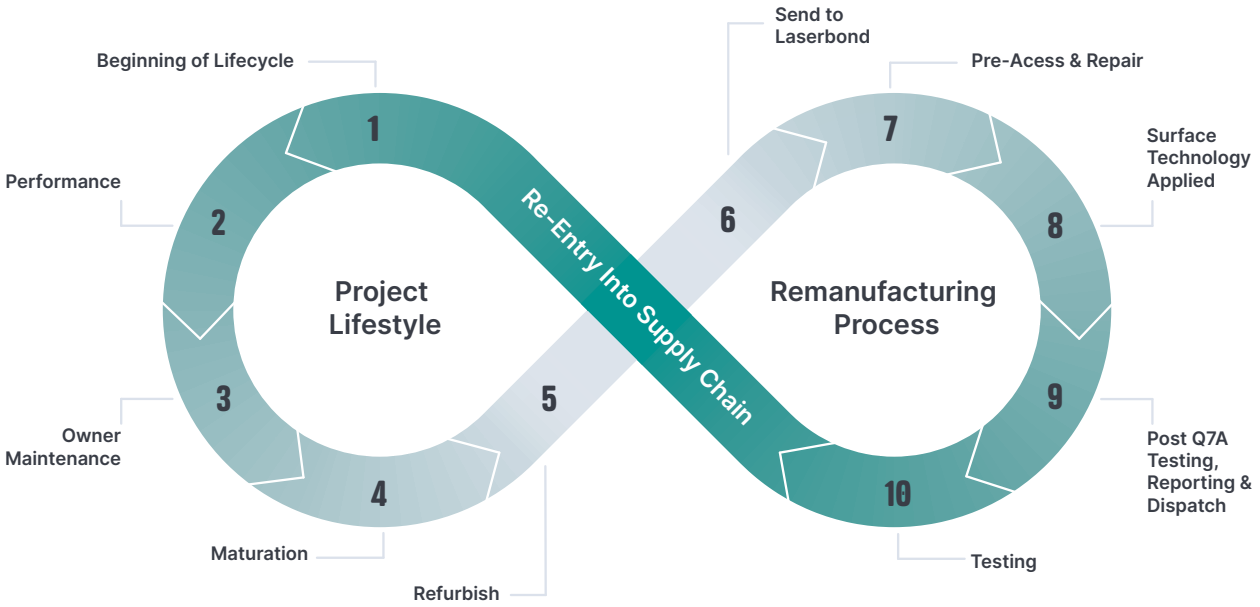
LASERBOND
ENGINEERED RESILIENCE

PRODUCT APPLICATION

Remanufacturing

Laserbond has a strong commitment to sustainable development and the environment. Our remanufacturing program is an integral part of our environmental policy, which strongly aligns with our business objectives and environmental goals.

REMANUFACTURING PROCESS



Laserbond remanufacture, surface engineered parts that deliver performance the equivalent of, and in most cases better than the Original Equipment Manufacturer (OEM) product, at a fraction of the cost.

We offer a complete remanufacturing process, starting at our on-site materials science laboratory to fully analyse for damage, stress areas, wear points and material types and ultimately produce a component that is as good as new.

A robust remanufacturing program is a great way to contribute to sustainability and reduce environmental impact.

Features and Benefits of Remanufacturing

Proven Processes:

Our remanufacturing process is underpinned by rigorous, time-tested methodologies that ensure each component meets high standards of performance and durability. We use advanced technology and engineering principles, honed through years of industry experience, to restore parts to or exceed their original specifications.

Component Reliability:

Remanufactured components from Laserbond are engineered to provide exceptional reliability and performance. We meticulously examine each part for damage, stress, and wear, and apply our advanced surface engineering techniques to restore it to a condition that is often better than the original.

Good for Business - Maximum Productivity with Lower Operating Costs:

Remanufacturing allows for a cost-effective solution that doesn't compromise on quality. These parts are often priced at a fraction of the cost of new OEM parts, enabling businesses to reduce their maintenance budgets without sacrificing operational efficiency. Remanufactured parts often have enhanced durability, they can lead to fewer replacements and downtime, further optimising productivity. Very often using remanufactured components reduce the long lead times for OEM parts.

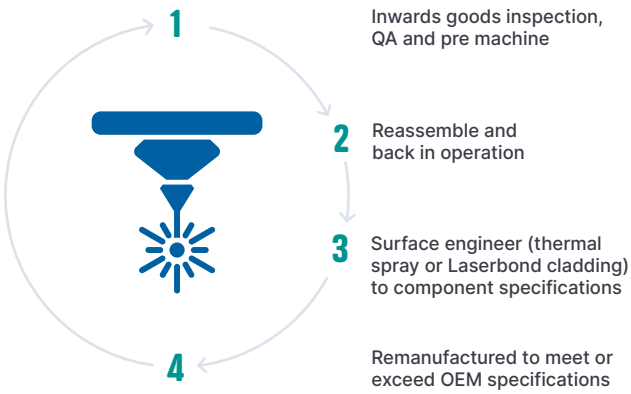
Good for the Environment - Waste Reduction:

Remanufacturing is a key component of our environmental sustainability efforts. By refurbishing and reusing components that would otherwise be discarded, we significantly reduce the volume of waste that ends up in landfills. Our remanufacturing program conserves resources, and helps to create a sustainable, low-carbon footprint.

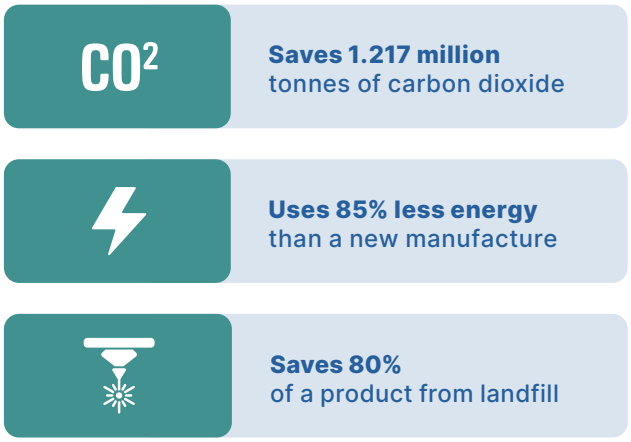
All Component Parts Inspected, Cleaned, and Replaced if Necessary:

Each component that undergoes remanufacturing is subject to thorough inspection and cleaning to ensure it meets our stringent quality standards. This comprehensive approach guarantees that every remanufactured component performs optimally and reliably, just like a new part.

A REMANUFACTURING PROGRAM



ENVIRONMENTAL BENEFITS OF REMANUFACTURING



Total Quality Control Reman Program:

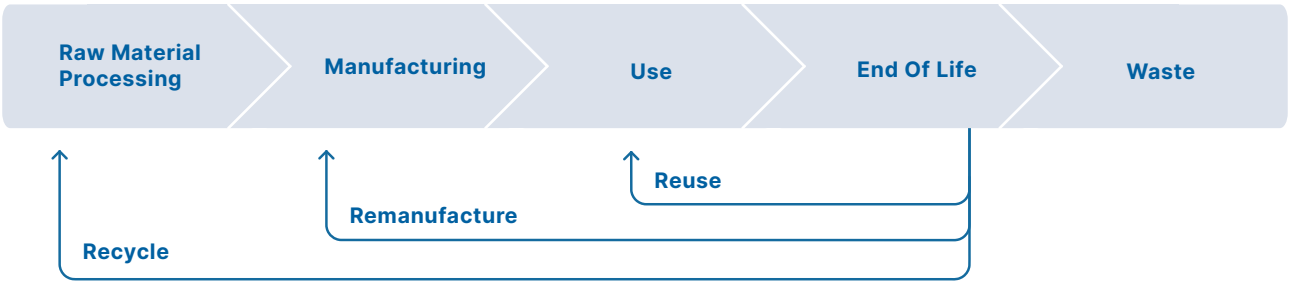
Our remanufacturing program includes a rigorous quality control process that spans from initial inspection to final testing. This includes detailed analyses in our materials science laboratory, precision engineering, and extensive performance testing. Our total quality control approach ensures that each remanufactured component is of the highest quality and reliability.

Guaranteed for Quality and Fit for Purpose:

We stand by the quality of our remanufactured components with a guarantee of performance and suitability for their intended applications. Each part is engineered to meet or exceed the specifications of the original OEM components, ensuring a perfect fit and optimal functionality.

A Remanufacturing Program

REMANUFACTURING IN CONTEXT WITH THE CIRCULAR ECONOMY



Definition of Remanufacturing:

Returning a product to at least its original performance with a warranty that is equivalent or better than that of a newly manufactured part.

Remanufacturing Contributes to Decarbonisation and the Circular Economy

Remanufacturing involves taking used products, disassembling them, and refurbishing or replacing parts to restore them to a like-new condition. The goal is to return the product to a condition where it can perform as well as, or even better than, a new product. The industrial machinery remanufacturing market size is estimated to grow at a compound annual growth rate (CAGR) of 18.54% between 2023 and 2028.

Remanufacturing aligns well with decarbonisation goals by promoting sustainability through energy savings, material conservation, waste reduction, lifecycle extension, efficient use of resources and lowering emissions. Incorporating remanufacturing into a circular economy framework not only supports environmental sustainability but also offers economic and social benefits.

Remanufacturing can reduce production costs, as used components are often less expensive than raw materials. It can also create jobs and stimulate local economies. Reducing the need for new raw materials and minimising waste, remanufacturing supports environmental sustainability. It aims to reduce the carbon footprint associated with manufacturing new products and contribute to a more sustainable future.

Our Remanufacturing Expertise

Remanufacturing machinery components with surface engineering is a sophisticated approach that involves restoring worn or damaged parts to their original or improved specifications using advanced surface treatments aimed to extend the life of components and reduce waste.

Laserbond's tried and tested surface engineering techniques focuses on modifying the surface properties of materials to enhance performance, durability, and resistance to wear. Techniques used in surface engineering for remanufacturing include:

- **Hard Coating:** Applying hard coatings (e.g., hard chrome replacement coatings, carbide coatings) to improve wear resistance.
- **Thermal Spraying:** Techniques include HVOF, Arc Spraying and Plasma Spraying to deposit metal or ceramic coatings to enhance surface properties or rebuild a worn component.
- **Laserbond® Laser Cladding:** Using a laser to metallurgical bond a deposition material onto a surface. Depending on the deposition material and thickness the added layer provides improved wear and corrosion properties to the part or restores dimension.

Integrating surface engineering into the remanufacturing process enhances the capabilities and longevity of machinery components, aligning with both economic and environmental goals.

Remanufactured Machinery Components

Here are some before and after images showcasing our remanufacturing program on various machine components in a variety of industries.

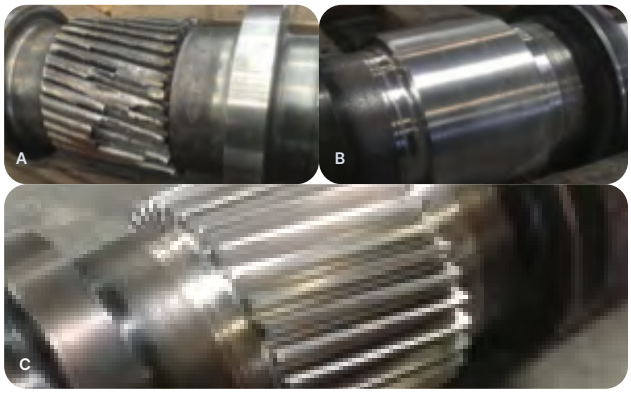
Mud Rotor

A carbide coating application using High-velocity-oxy-fuel (HVOF) spraying is applied to a mud rotor. HVOF is a cost-effective and sustainable alternative to traditional chrome plated mud rotors.

A. Before; B. After

Gear Shaft

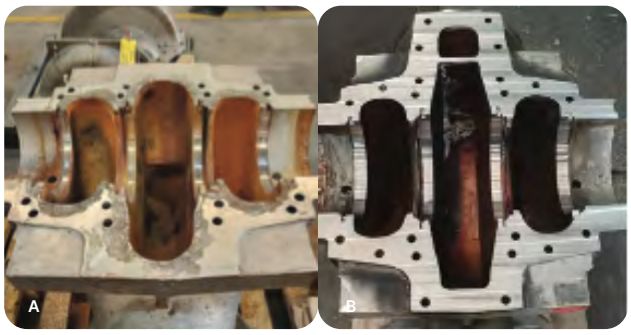
The before image showing a badly damaged gear shaft. The after images showcases that we were able to reclaim the part with Laserbond® Cladding and bring it back to new.



A. Before: Damaged gear teeth of the mating gear;
B. During: Damaged area is removed by machining and built up with Laserbond® Cladding;
C. After: New gear teeth were cut as per the profile provided by the customer.

Super Duplex Pump Housing

A super duplex pump housing with crevice corrosion was repaired using super duplex material with Laserbond® Cladding. The repaired mating face looks like new after machining to specification.



A. Before; B. After

About Laserbond

We are a specialist surface engineering company, founded in 1992, that focuses on the development and application of materials, technologies and methodologies to increase operating performance and wear life of capital intensive machinery components. Our surface engineering technology has applications acrossmany industries, such as resources and energy, agriculture, advanced manufacturing, defence and infrastructure construction.

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Laserbond

info@laserbond.com.au
laserbond.com

Sydney
2/57 Anderson Road
Smeaton Grange NSW 2567
+61 2 4631 4500

Brisbane
74 High Road
Bethania QLD 4205
+61 7 3200 9733

Adelaide
112 Levels Road
Cavan SA 5094
+61 8 8262 2289

Melbourne
26-32 Aberdeen Road
Altona VIC 3018
+61 3 9398 5925