

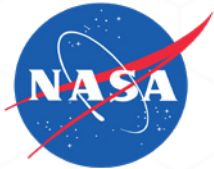
CUTTING EDGE LASER SOLUTIONS FOR THE NUCLEAR INDUSTRY



| | |
|--------------------------------|----|
| What is Laser Cleaning | 2 |
| The Benefits of Laser Cleaning | 4 |
| Why Choose Laser Cleaning | 6 |
| Process Applications | 11 |
| Cleaning Method Comparison | 12 |
| We're Here to Help | 14 |
| Samples | 16 |
| Contact Us for a Demonstration | |

Industries such as nuclear, aviation, aerospace, defense, manufacturing, and metal fabrication are constantly looking for cost-effective and time-efficient industrial cleaning solutions. Thankfully, Laser Photonics provides the perfect solutions to meet all material preparation applications.

Fortune 1000 companies across the United States trust Laser Photonics to provide innovative and reliable technology that solves their unique challenges. Along with delivering industrial laser solutions that are compliant with CDRH, EPA, and FDA regulations, CleanTech laser products also feature a simple-to-use design that is quiet, eco-friendly, energy-efficient, and cost-effective, which all translates to an excellent ROI.

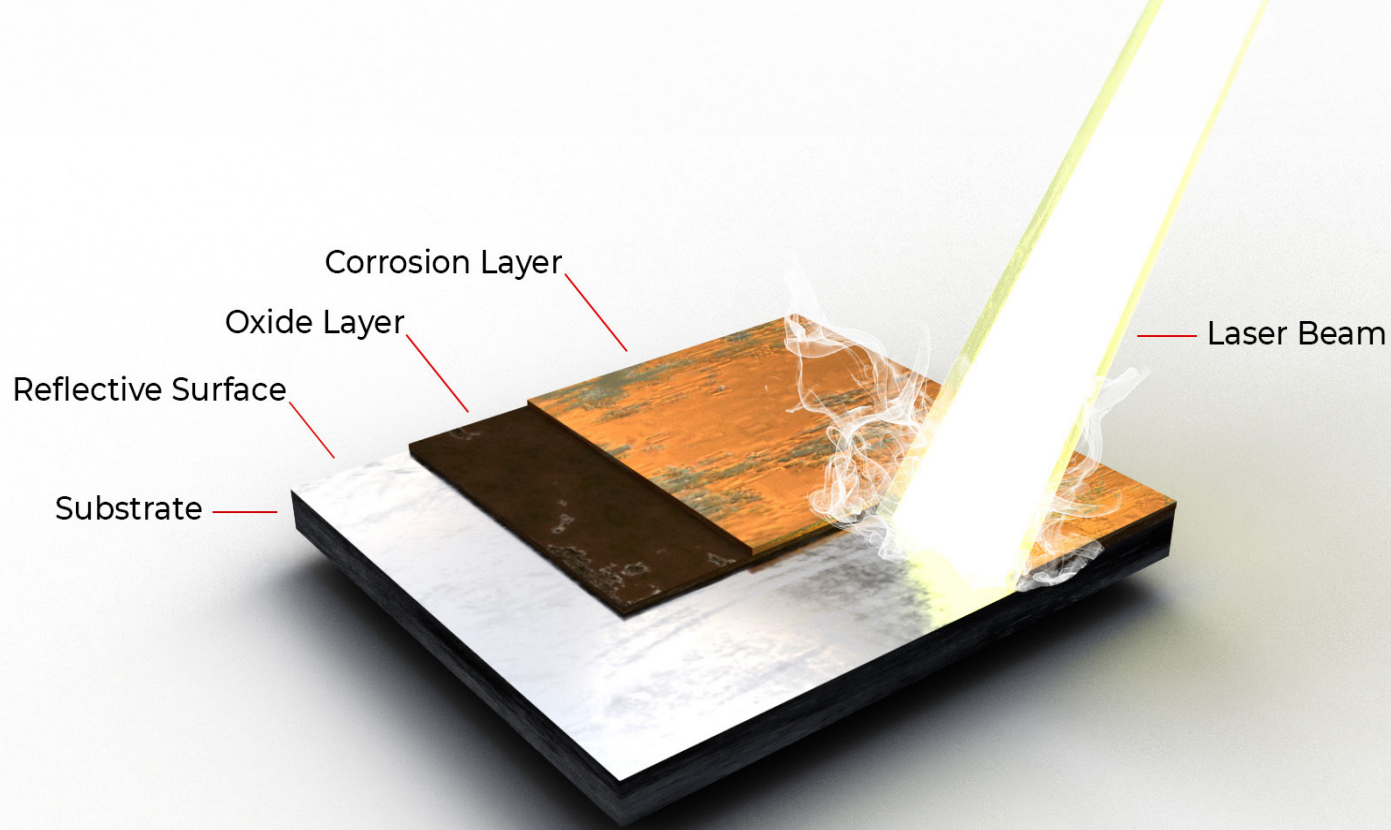


What is Laser Cleaning?

Laser cleaning is a non-contact, environmentally friendly process that removes rust, corrosion, grease, oil, contaminants, and coatings from metals, concrete, and delicate substrates such as composites. This process can be done quickly, with minimal impact on the base material unlike traditional techniques such as sandblasting, bead blasting, and chemical stripping.

How Does Laser Cleaning Work?

Laser cleaning works by aiming brief pulses of high-power laser energy at the surface to be cleaned. The energy applied to the top layer being removed doesn't dissipate - instead, it blasts off the material being cleaned. Part or all the material being removed is vaporized. The remainder may be suctioned and collected into a filtration system as particle dust.



THE BENEFITS OF LASER CLEANING



6-12 MONTHS

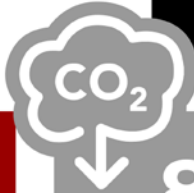
Research by McKinsey & Company indicates that companies investing in laser cleaning technology can achieve a **return on investment in as little as six to twelve months** due to cost savings and increased productivity.



Laser cleaning is an environmentally friendly process.



No hazardous fumes, dangerous chemicals, or complex cleaning procedures.



80%

Laser cleaning can reduce CO2 emissions by up to 80% compared to traditional cleaning methods.

Laser cleaning can result in **cost savings of up to 90%** compared to traditional cleaning methods due to reduced labor, material, and disposal costs.





Why Choose Laser Cleaning?



Safe



Efficient



Cost Effective



Precise



No Microparticles



Safety Features

Our CleanTech laser cleaning systems offer a non-abrasive cleaning process that is safe, easy to use, quiet, and more eco-friendly than traditional abrasive cleaning methods such as sandblasting and dry-ice blasting.

The technology minimizes the need for chemicals and abrasives in industrial settings, making it compliant with increasingly strict regulations from organizations like the CDRH and EPA.

- » **No Dangerous Chemicals**
- » **No Hazardous Fumes**
- » **No Complex Cleaning Procedures**



Why Choose Laser Cleaning? *(Continued)*



Efficiency

One benefit of laser cleaning is that a turbine no longer needs to be completely taken apart, creating downtime. Turbine blades can be cleaned without disassembling the turbine, extending product life while improving maintenance speed. This cleaning process will get the turbines up and running faster than traditional MRO methods.

Another benefit of laser cleaning is that there is no longer a need to pay an outside cleaning team. Once we train your staff, they can complete routine cleaning tasks faster, safer, with no complicated cleanup afterwards.



Increase Your Revenue

Laser cleaning systems are a tool that allows for retired radioactive parts to be cleaned for reuse or sold to boost revenue. Laser cleaning eliminates the need to store radioactive material for years. This will free up storage space and eliminate the costs involved with that storage.



Reduce Your Downtime

Studies have shown that nuclear plants are shut down for an average of 30 days to do extensive maintenance on turbines and other equipment. This can mean upwards of \$30 million in revenue is lost due to the plant being inoperable. Laser cleaning can cut downtime in half, recovering \$15 million or more in lost revenue.

By utilizing our laser technology, you can significantly reduce cleaning time compared to conventional methods, ensuring every minute contributes to your bottom line.



No Microparticles

The intense energy generated during the laser cleaning process causes microparticles of contaminants on the surface to vaporize or ablate, effectively removing them from the substrate. A fume extractor can also be used as an added measure to draw any particulates from the air, into a filtration system. So, this means that no toxins are left behind, ensuring the safest options for your facility and workers.



CleanTech Systems are the most cost-effective, time-efficient, and safe surface treatment solution for industrial applications.

Process Applications

- | | |
|--------------------------|---------------------------|
| » Laser Cleaning | » Degreasing |
| » Coating Removal | » Surface Preparation |
| » Surface Texturing | » Corrosion Removal |
| » Surface Conditioning | » Turbine Maintenance |
| » Pre-Adhesion Treatment | » Surface Decontamination |
| » Pre-Weld Preparation | » Pipe & Well Preparation |
| » Post-Weld Treatment | » Pipe & Well Cleaning |

Materials

- | | |
|------------|----------------|
| » Steel | » Plastic |
| » Ceramic | » Silicon |
| » Aluminum | » Metal Alloys |
| » Brass | » Cast Iron |
| » Titanium | » Carbide |
| » Copper | » Chrome |
| » Concrete | » Galvanized |
| » CFRP | Metals |

Cleaning Method Comparison

| Cleaning Method | Laser Cleaning | Chemical Cleaning | Dry Ice Cleaning | Mechanical Cleaning | Sand Blasting |
|-----------------------------------|--|--|--|--|--|
| Precision | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Cleaning Efficiency | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Consumables | Electricity | Chemicals | Dry ice pellets, Electricity | Sandpaper/Grinding wheels, Electricity | Sand/Silica media, Electricity |
| Cleaning Effect | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Damage | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Safety & Environmental Protection | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Manual Operation | Easy operation, hand-held or automatic. | Complicated operation, high safety requirements for workers, pollution protection measures needed. | Easy operation, hand-held or automatic. | Labor intensive, pollution protection measures needed | Labor intensive, pollution protection measures needed. |
| Cost Input | Higher initial cost, no consumables, very low maintenance cost. | Low initial cost, very high consumables cost. | Medium initial cost, high consumables cost. | High initial cost, high consumable and labor costs | High initial cost, high consumable and labor costs |



We're Here To Help

Laser Photonics supports customers throughout the world and has a dedicated team of Service and Technical Support Engineers to provide after sales service from the moment the laser is delivered. We promise to give you our full attention and to act with integrity and accountability. Laser Photonics offers extensive customer training and support to ensure the best system performance, including:

- ✓ Factory And On-Site Operator Training
- ✓ Advanced Customer Training
- ✓ Designated Customer Service Engineers
- ✓ Optimal System Configuration
- ✓ Direct Technical Support
- ✓ Inbound Customer Support
- ✓ Advanced Application Support
- ✓ Notifications Of System Upgrades
- ✓ Remote Diagnostics Capability
- ✓ Engineers Log in For Testing/Troubleshooting



Samples



*Corrosion Removal on
Aluminum Housing*



*Corrosion Removal on
Steel Cylinder*



*Corrosion Removal on
Aluminum Mold*

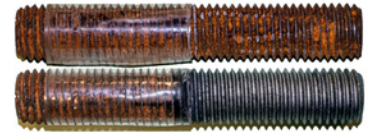
Samples



*Post-Weld Treatment on
Steel Cylinder*



*Corrosion Removal on
Brass*



*Corrosion Removal on
Steel Rod*

Contact Us for a Demonstration

Laser Photonics maintains a state-of-the-art facility for processing customer samples and assisting with process development. Our applications lab holds the latest cutting-edge testing equipment to help analyze all of your application needs.



« Scan Here



☎ 407.804.1000

🌐 laserphotonics.com

📈 NASDAQ: LASE

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