

Laser Cladding Services Huntersville, NC, U.S.A.

Benefit from our expert laser cladding services. We can restore existing parts and reduce your operating costs by improving the life and efficiency of your components and systems.

Laser Cladding (DLD^a) / Hardening

- Max weight of 15,000 lb (8000 kg)
- Length up to 480 in (12 192 mm)
- Diameter up to 96 in (2438 mm)
- Inner diameter from 2 in to 120 in (50.8 mm to 3048 mm)
- Minimum wall thickness of 0.25 in (6.35 mm)

^a DLD = Direct Laser Deposition

Grinding and Machining^b

O.D. Cylindrical Grinding

- Grind diameter up to 30 in (762 mm)
- Length up to 160 in (4062 mm) between centers
- Weight up to 6000 lb (2700 kg)
- Taper grinding capable

CNC Cylindrical Roll Grinding

- Grind diameter from 1.0 to 24 in (25 to 610 mm)
- Length up to 120 in (3050 mm) between centers
- Weight up to 6000 lb (2700 kg)
- Taper grinding capable

I.D. Grinding

- Swing diameter up to 30 in (760 mm)
- Grind diameter from 0.75 to 25 in (19 to 635 mm)
- Length up to 18 in (457 mm)
- Weight up to 2000 lb (900 kg)

CNC Surface Grinding

- Part dimensions up to 18 in W x 30 in L x 8 in H (457 mm W x 762 mm L x 203 mm H)

Manual and CNC Milling

- X-axis traverse up to 40 in (1016 mm)
- Y-axis traverse up to 20 in (508 mm)
- Z-axis traverse up to 24 in (610 mm)
- Weight up to 1750 lb (794 kg)

^b All O.D. and I.D. limits depend on the total length of the part



- 3-axis CNC mill with 40 in x 20 in (1016 mm x 2032 mm) table, holds up to 24 tools with side-load carousel
- CNC mill with 31.5 in (800 mm) table [extendable to 35.4 in (900 mm)] for parts up to 31.5 in (800 mm) height; holds up to 42 tools up to 11.8 in (300 mm) long

Manual and CNC Turning

- Turn diameter up to 16 in (406 mm)
- Turn length up to 29 in (736 mm)
- Live tooling capable

CNC Shaft Machining Center:

- Turn diameter up to 22 in (559 mm)
- Turn length up to 120 in (3048 mm)
- Live tooling capable

Superfinishing

- Film polishers: 4 in (102 mm) and 2 in (51 mm)
- Films: 15, 9, 6 and 3 μ m

Keyseat Machining

- Key cut width from 0.063 to 1.25 in (1.6 to 31.75 mm)
- Stroke up to 9 in (229 mm)
- Bore diameter down to 0.75 in (19 mm)

Overhead Crane

- Weight up to 15,000 lb (6804 kg) - Laser area
- Weight up to 10,000 lb (4536 kg) - Machining area

Additional Capabilities

Processing

- Grit and bead blasting for small and large parts
- EDM wire cutting

In-House Metallography and Quality Testing

- High-precision CMM dimensional inspection and verification
- Blue light optical scanning and mapping
- 250 kN load frame tensile testing at up to 1830 °F (1000 °C)
- Density measurement (for printed parts)
- State-of-the-art metallography laboratory including:
 - Sample preparation, grinding, polishing, mounting
 - Scanning electron microscope for microstructure imaging, fracture surfaces, powder morphology and qualitative chemical analysis
 - Energy dispersive spectroscopy (EDS) for chemical analysis of powder and printed materials at the microstructure level
 - Electron backscatter diffraction (EBSD) for grain orientation and size measurements and phase identity
 - Automated microhardness mapping in two dimensions
 - Stereoscope with ability to quantify surface roughness

Same-Day Service

- Premium service availability

Certified Quality Management Systems

- ISO 9001

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Information is subject to change without prior notice.