

# Laser Cladding System for Mining Machinery Repair

This laser cladding system is designed for repairing column-type parts in mining machinery. It utilizes laser technology to apply a coating material to the substrate, improving wear, corrosion, and heat resistance.



## ADDITIONAL IMAGES



## Overview

### Advanced Laser Cladding for Industrial Repair

This complete set of laser cladding equipment is specifically designed for the surface modification and repair of column-type parts in mining machinery. By utilizing high-power laser irradiation, the system melts a thin layer of the substrate with additive materials to create a dense, metallurgical bond with extremely low dilution. This process significantly improves wear resistance, corrosion resistance, and heat resistance, providing a cost-effective alternative to replacing expensive components.

## Technical Capabilities

### Cladding Performance

**30 mm**

Max Single Layer Width

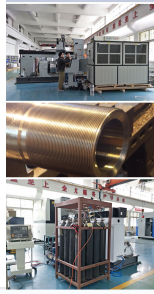
**2 mm**

Max Single Layer Thickness

### Technology Features

- Precise control of composition and properties
- Dense microstructure with high bonding strength
- No substrate preheating required
- Environmentally friendly with no radiation
- High cladding efficiency and coating quality

## System Configuration



A full view of the laser cladding equipment including the CNC machine tool, laser source, and cooling system integrated for heavy-duty mining part repair.

### Optical System Details

- Fly optical path
- Light path diameter: 70mm
- Manual type swing head
- Turning Angle:  $\pm 60^\circ$  manual adjustment
- Integrating mirror for uniform light spot

Laser Source	High-power 10kW CO2 cross-flow laser / TFL-6K/10K
Control System	Siemens 802D CNC system with five-axis and four-linked processing
Cooling System	80000 kcal

## Machine Specifications

Model	GS-TFL-6K/10K
System Components	Laser Source, Water Chiller, CNC Machine Tool, Auto Powder Delivery Machine, Optical Path System, CNC Control System

## Applications

### Target Components

Hydraulic Cylinders • Piston Rods • Drill Pipes • Column-type Parts

Surface Improvements	Wear Resistance, Corrosion Resistance, Heat Resistance, Oxidation Resistance, Electrical Characteristics
----------------------	--