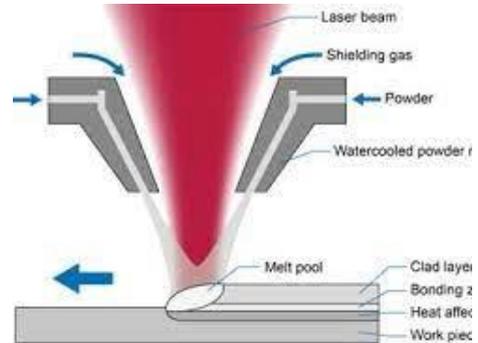


LASER CLADDING

Laser cladding is a technique for adding one material to the surface of another.

It allows materials to be deposited accurately, selectively and with minimal heat input into the underlying substrate

Laser cladding process allows for property improvements for the surface of a part, including better wear resistance, as well as allowing for the repair of damaged or worn surface.



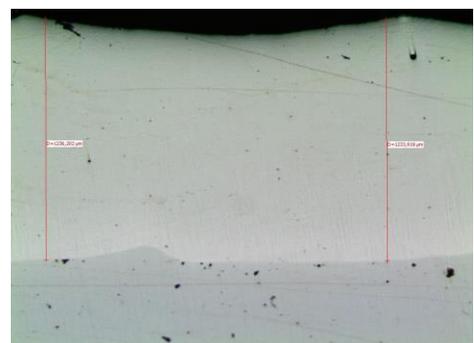
APPLICATIONS

- surface restoration and repair of damaged components
- Wear and corrosion resistant coating
- Thermal barrier coating for high temperature applications
- Enhancement of surface properties like hardness and friction resistance
- Creation of complex geometries and structures
- Additive manufacturing and 3D printing of metal parts



MATERIALS

- AISI 308 – 316 – 431 – 410
- FeCr V15 – FeCr V12
- NICKEL-BASED POWDERS:
- Inconel 625 – Hastelloy C276 – NiBSi-22-
- NiCrBSi-30-40-50-60 HRC
- COBALT-BASED POWDERS:
- Stellite 1 – 6 -12 – 21
- T400 T800



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- CARBIDE-REINFORCED POWDERS:
- NiBSi/WSC
- NiCrBSi/FTC

ADAVANTAGES

- Ability to place tailored performance enhancing material exactly where required
- Can be used with a wide choice of materials, both as the substrate and the layer including bespoke alloy or metal matrix composite (MMC) design
- Little or no porosity within the deposits (>99.9% density)
- Relatively low heat input results in a narrow heat affected zone (EHLA as low as 10µm)
- Minimal distortion in the substrate reduces the need for corrective machining
- Easy automation and integration into CNC and CAD/CAM production environments
- Reduced production times
- Improved thermal control with laser power modulation
- Ability to produce functionally graded parts
- Precise deposition rates, dependant on equipment and application characteristics
- Good mechanical properties
- Suitable for repair of worn parts

DIMENSIONS

- Shafts, cylinders, rollers, rods, etc.: Diameter 2000 mm x length 6000 mm x weight 5000 kg
- Rings, flanges, rotors etc: Diameter 2800 mm x 1000 mm
- Cases, seatings, body structures: 3000 mm x 2800 mm x 2000 mm

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