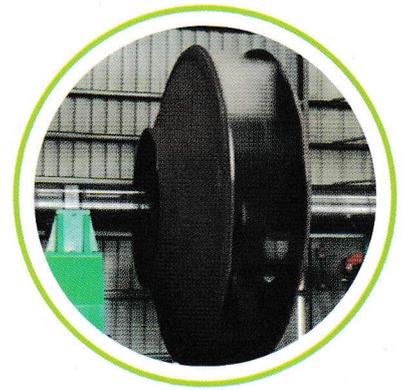


DIFFCLAD - L

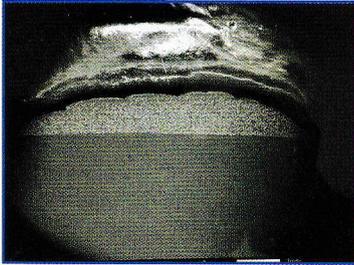
Laser Cladded Plates with fine wear resistant microstructure, metallurgical bonding and lowest heat in put



DIFFUSION ENGINEERS LIMITED

Due to its low temperature, focused beam laser technology has proved to be extremely effective for protecting parts against severe wear conditions. Advantages of laser clad plates over conventional welded hard facing are as follows :

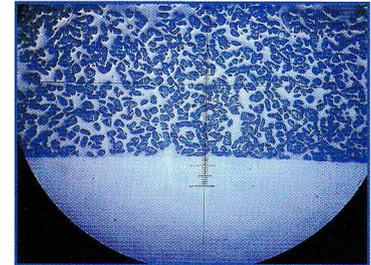
- Minimum dilution with the base , properties of coating material does not change even with thin layer.
- The carbides that provide protection against abrasion and erosion do not get dissolved and remain intact in the binding matrix, thin coating also improves the impact resistance along with high hardness.
- No stress relieving cracks on the coated surface , make it very effective against fine particle erosion.
- Of all the coating technologies the laser clad has lowest influence on the base material properties.
- The uniform coating thickness allows for smaller tolerances and ensures less turbulence are generated on the coated surface.



Low dilution, metallurgical bond
Low heat input, uniform coating



Higher base metal dilution in
other welding processes like
FCAW, MMAW



Densely packed carbides as
compared to conventional welding

Product description	Type	Applications	Properties
DIFFCLAD-L WC 50	Alloy 50% WC 55-60 Hrc (Matrix Harness)	Mineral processing industry, Power, steel, cement Industries, wear resistance for severe abrasion/Erosion	High % age of WC in hard binding matrix makes it formidable against extreme wear conditions.
DIFFCLAD-LC 276	Alloy Co-Cr-W-Ni-Fe 60-62 Hrc	Protection against Heat +Abrasion /Erosion Separator/classifiers, mixers	High abrasion resistance with pressure, no adhesion, smooth surface resistance with pressure, no adhesion, smooth surface
DIFFCLAD-L 616	Alloy Cr B Si C Fe Mo Cu 58-64 HRC	Refineries, chemical plants, paper plants High temperature corrosion +erosion on fans , mixer blades, separator blades, scrapper blades etc.	High Cr and Mo provide good resistance to chemical corrosion , Possible to give thicker coating if required.
DIFFCLAD-L 625	Alloy Ni Cr-Mo Nb Si Fe	Food processing, Sugar mills , Paper mills, Chemical processing industry, Off shore marine equipment, dredgers, mixer blades, scrapers, bucket elevators, Feed Screws	Excellent against very severe abrasion
DIFFCLAD -L 650	Fe based Alloy , 32 Cr B C Ni 55-60 HRC	Mining , Mineral ore Processing (washeries) Fans, Cement packing plant parts, mixer blades, glass industry sand feed chutes, Industrial screens etc.	For sever abrasion in static and dynamic components,
DIFFCLAD-L 610	Alloy Cr B Si C Fe 59-64 HRC	Steel plant and power plant applications high temperature erosion/abrasion, fans, feed chutes, classifier vanes	High abrasion resistance alloy coating for higher working temperatures up to 650 deg C.

■ **Wear Performance :**

DIFFCLAD-L is a thin steel plate coated with highly wear resistant layer metallurgically bonded on to the steel plate. Wear resistant layer consist of very high density Tungsten Carbide homogenously distributed into a Ni based matrix offer up to 10 times higher wear performance as compared to Heat treated plates and similar of superior wear performance than the thick and heavy traditional wear plates.

■ **Light Weight :**

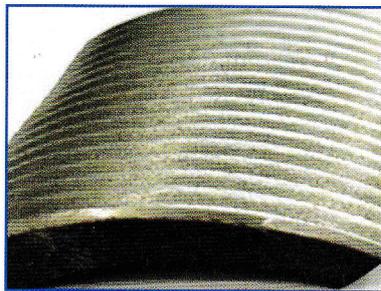
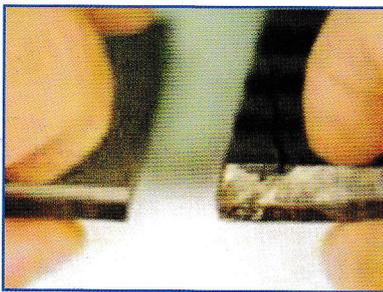
DIFFCLAD-L adds minimum weight to the dynamic components/structure, thereby increasing the efficiency of machines and reducing the mechanical stress on ancillary equipment resulting in reduced maintenance.

■ **Easy Handling :**

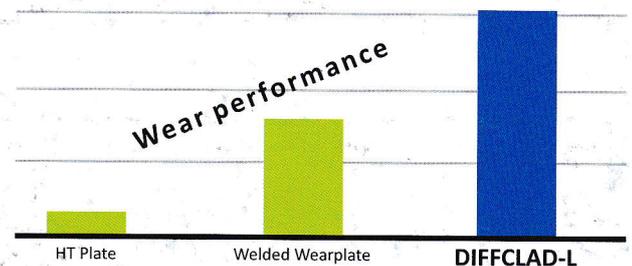
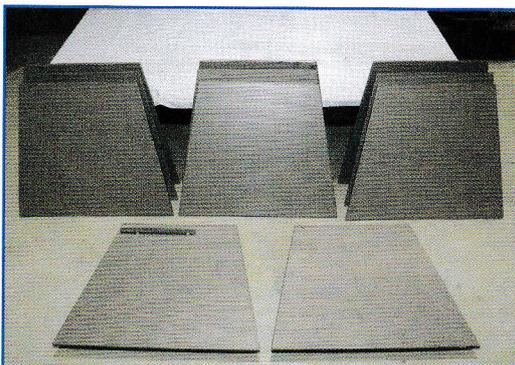
DIFFCLAD-L is a light weight plate, it can handled manually without lifting equipment, particularly in the restricted area.

■ **Formability :**

DIFFCLAD-L can be easily formed in any shape without fear of coating cracks. It is best recommended for lining of inner surfaces of machines where space is limited and machine geometry cannot be altered.



Base metal Thickness (mm)	Coating Thickness (mm)	Plate Size (mm)	Usable Area (mm)	Approx. Plate weight (kg)
3	1	1000x1000	900 x 980	35
4	1.5	1000x1000	900 x 980	48
3	1	2000x1000	1960 x 980	70
4	1.5	2000x1000	1960 x 980	96



COMPARISON OF WEAR RESISTANCE



DIFFUSION ENGINEERS LIMITED

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