International J.of Multidispl.Research & Advcs. in Engg.(IJMRAE),
ISSN 0975-7074, Vol. 3, No. II (April 2011), pp. 25-34

REVIEW OF LASER CLADDING ON STEEL

NITIN KOTKUNDE AND HARISH OJHA

Abstract

This paper presents a review of laser cladding on steel, which is mainly used to coat and repair the surface of various components, in order to increase resistance to wear, corrosion, erosion and oxidation. Laser cladding is considered as a strategic technique, since it can yield surface layers that, compared to other hard facing techniques, have superior properties in terms of purity, homogeneity, hardness, bonding and microstructure. Many papers discussed Laser cladding of different coatings onto steel, showing the suitability of this process for steel. The main fields of application are in machine-tools and engine manufacturing for the aircraft, automotive industries and power plant where the main aim is to increase resistance to wear, corrosion, erosion and oxidation, producing high-performance coatings. It is expected that from this study, a broad picture can be obtained on suitability of laser cladding for steel.

Keywords : Laser Cladding; High performance coating; Steel substrate

Subject Classification : Laser Material Processing