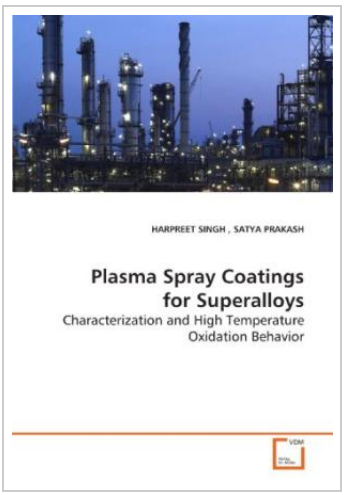

Plasma Spray Coatings for Superalloys: Characterization and High Temperature Oxidation Behavior (Paperback)

By HARPREET SINGH

VDM Verlag, 2009. Paperback. Condition: New. Language: English . Brand New Book. Superalloys are well known materials for high temperature applications. Although the superalloys have adequate mechanical strength at elevated temperatures, yet they often lack resistance to oxidizing/corroding environments during long time exposures. One possible way to combat the problem constitutes the use of protective coatings on the superalloys. Among the various techniques used for deposition of coatings, plasma spraying is a versatile technology that has been successful as a reliable cost-effective solution for many industrial problems.In the present book, high temperature oxidation behavior of some Ni- and Fe- based superalloys has been explained with and without the application of plasma sprayed coatings in air, as well as, in a simulated boiler (Na2SO4-60 V2O5) environment.Characterization and high temperature oxidation behavior of four coatings; Ni-22Cr-10Al-1Y (NiCrAlY), Ni-20Cr, Ni3Al and Stellite-6 has been elaborated with the help of Optical microscopy, Scanning Electron Microscopy/Energy Dispersive Spectroscopy and Electron Probe Micro Analysis.The effectiveness of the coatings has been discussed on the basis of weight change data.

Reviews

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