PROPERTIES OF GRADIENT LAYERS OBTAINED THROUGH HVOF SPRAYING AND PLASMA CLADDING

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Abstract:

The study discussed in the article aimed to identify the obtainability of a gradient layer made by the HVOF-spraying of an NiAl-based coating between a layer made using the plasma cladding process and powder Stellite 6 and a substrate made of structural steel S355JR. Overlay welds obtained in related tests were made using various process parameters as well as various values of current, travel speeds and powder feed rates. The study also involved the performance of macro and microscopic metallographic tests, hardness measurements as well as the analysis of the chemical and phase composition of gradient layers.

Keywords:

Gradient layer; Plasma cladding; Stellite 6; HVOF spraying