Effect of heat treatment on tribological behavior of superalloys Ni-Cr-Al-Mo coatings obtained by thermal spraying

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Description
The purpose of this work is to produce metallic coatings, in powder form on nickel-based onto a steel type E335 by the technique flame spraying. To improve the properties of these coatings, post-treatments are recommended in order to homogenize them and allow obtaining better mechanical properties. These coatings were subjected to post-treatments at different temperatures 400, 600, 800 degrees C and maintained for 1 hour and cooled in air. The structural and microstructural characterization of the powder and coatings is obtained using the scanning electron microscope (SEM) and X-ray diffraction (XRD). Measures micro hardness was also performed on the surface of the coatings. The tribological tests were carried out with a pin-disk configuration under different load, with two sliding velocities in order to determine the wear rate. The microstructural results showed that the treatments carried out at …