

ETUDE DES PROPRIETES MECANIKUES DES COUCHES DE MOLYBDENE PROJETEES THERMIQUEMENT SUR UNE FONTE GRISE

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Abstract: The coatings obtained by thermal spraying are used in order to meet the most stringent industrial requirements in the fields of application wider. The molybdenum coating is one good wear resistance which used in several mechanical applications. In this work, we have studied the mechanical properties of molybdenum coating deposited using thermal spraying on gray cast iron with lamellar graphite. After optimization of spraying parameters, the microstructure has been studied using the optical microscopy, scanning electron microscopy and the X-ray diffraction. Also, the mechanical properties such as microhardness and elastic properties like elastic modulus using nanoindentation test have been evaluated on cross section sample polished. The weight loss has been studied using the abrasive wear test varying the normal load. The results obtained have showed an improvement the mechanical properties of gray cast iron after deposit of molybdenum.

Keywords : Thermal Spraying, Molybdenum Coating, gray cast iron, wear, mechanical properties