World Academy of Science, Engineering and Technology
International Journal of Materials and Metallurgical Engineering
Vol:16, No:08, 2022

Improvement of Fatigue and Fatigue Corrosion Resistances of Turbine Blades Using Laser Cladding

Authors : Sami I. Jafar, Sami A. Ajeel, Zaman A. Abdulwahab

Abstract : The turbine blades used in electric power plants are made of low alloy steel type 52. These blades will be subjected to fatigue and also at other times to fatigue corrosion with aging time. Due to their continuous exposure to cyclic rotational stresses in corrosive steam environments, The current research aims to deal with this problem using the laser cladding method for low alloy steel type 52, which works to re-compose the metallurgical structure and improve the mechanical properties by strengthening the resulting structure, which leads to an increase in fatigue and wears resistance, therefore, an increase in the life of these blades is observed.

Keywords : fatigue, fatigue corrosion, turbine blades, laser cladding
Conference Title : ICMSE 2022 : International Conference on Materials Science and Engineering
Conference Location : Moscow, Russia
Conference Dates : August 30-31, 2022