

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

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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

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