

INTEGRALLY BLADED ROTOR AIRFOIL FABRICATION AND REPAIR
TECHNIQUES

ABSTRACT OF THE DISCLOSURE

The present invention relates to a method for fabricating an integrally bladed rotor which comprises providing a hub section, preferably formed from a titanium based alloy, and welding an airfoil, also preferably formed from a titanium based alloy, to the hub section. The method further comprises partially aging and cooling the hub section prior to welding and aging the airfoil and the weld joint between the airfoil and the hub section subsequent to welding. The post welding aging step is preferably carried out using a novel encapsulated local airfoil heating device having a plurality of heating elements woven into a jacket made from a high temperature cloth material.

The method of the present invention may also be used to repair integrally bladed rotors.



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Figure 1



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