

MICROWAVE BRAZING OF AIRFOIL CRACKS

ABSTRACT OF THE DISCLOSURE

- A gas turbine engine includes alternating rows of rotary airfoils or blades and static airfoils or vanes. The vanes are made of a base metal, such as cobalt or nickel superalloy. If a crack forms in one of the vanes, a braze alloy is applied to the crack.
- 5 The braze alloy is a powdered slurry. The braze alloy includes approximately 50 to 100% of a base material and approximately 0 to 50% of a braze material. The base material of the braze alloy has the same composition as the composition of the base metal of the vane. The airfoil is then exposed to microwaves which melt the braze alloy in preference to the base metal to repair the crack in the vane.

Figure 2