

IN SITU GAS TURBINE PREVENTION OF CRACK GROWTH PROGRESSION VIA LASER WELDING

ABSTRACT OF THE DISCLOSURE

Methods for material build-up on a tip of a blade of a gas turbine engine are provided. The method can include inserting a material supply adjacent to the tip and directing a laser onto the interface of the material supply and the tip such that the material supply melts and attaches to the tip. Methods are also provided for remotely stopping a crack in a component of a gas turbine engine. The method can include inserting an integrated repair interface attached to a cable delivery system within a gas turbine engine; positioning the tip adjacent to a defect within a surface of the component; supplying a new material to the fillable area to fill the defect; and directing a laser to the new material within the fillable area to fuse the new material to the component within the defect.

[Fig. 4]