

METHOD AND APPARATUS FOR MICROPLASMA SPRAY COATING A PORTION OF A COMPRESSOR BLADE IN A GAS TURBINE ENGINE

Abstract

A method and apparatus for microplasma spray coating a portion of a substrate, such as a gas turbine compressor blade, without masking any portions thereof. The apparatus includes a microplasma gun with an anode, cathode, and an arc generator for generating an electric arc between the anode and cathode. An arc gas emitter injects inert gas through the electric arc. The electric arc is operable for ionizing the gas to create a plasma gas stream. A powder injector injects powdered material into a plasma stream. A localized area of the compressor blade is coated with the powdered material without having to mask the compressor blade.

Figure 2