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Original Issue

TYPICAL APPLICATIONS FOR STATIONARY GAS TURBINE ENGINES

Stationary gas turbines

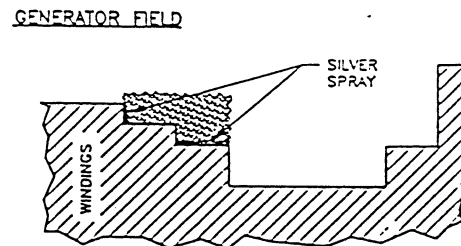
A natural expansion of the aircraft applications was into the landbased gas turbine overhaul industry. Some of the applications are:

Lock fit coatings

A bucket or blade has to be anchored or locked on the turbine rotor. In this application the lock ring groove was sprayed and machined back to dimension. Welding would have distorted the turbine rotor and other forms of thermal spray don't have the bondstrength or economical feasibility to accomplish this task. Arc spraying with a high velocity concentrator provided a dense, well bonded machinable coating.

Conductivity

Two mating parts in the generator field connected to the turbine needed to have a conductive path between them that needed to be guaranteed. Pure silver was used because of its conductivity and its softness. The soft coating allowed seating to ensure constant contact. One other area on the same part had excessive wear from the mating part. This wear was eliminated by applying molybdenum.

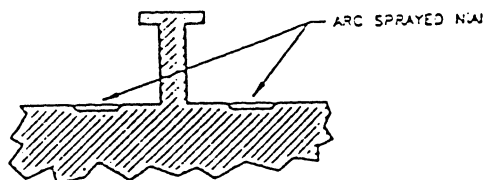


Conductivity

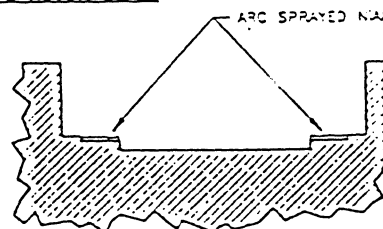
Dimensional sizing

Seal areas and large turbine rotor seal "fits" needed dimensional changes. This was due to a change in machining dimensional requirements. 95/5 NiAl was used to spray the part to the required dimensions. The faces of these flanges have also been sprayed and remachined.

TURBINE SEAL AREA
MISMACHINED



TURBINE ROTOR SEALS



Dimensional Sizing