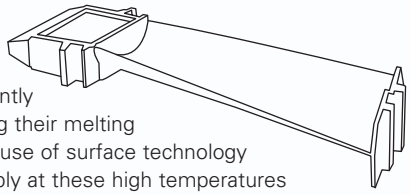
Bodycote

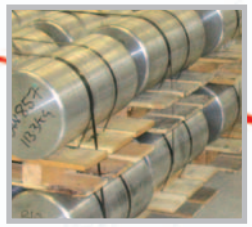
THE POWER TO DELIVER – A COMPONENT JOURNEY

LAND-BASED GAS TURBINE BLADES AND VANES

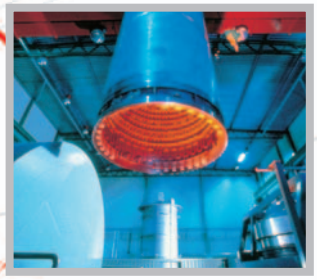
Like aircraft turbine blades and vanes, land-based gas turbine components used for power generation must withstand extreme temperatures in operation. These materials frequently operate at temperatures approaching their melting point – heat treatment, HIP and the use of surface technology allows these blades to operate reliably at these high temperatures for extended periods of time.



The turbine blades begin life as nickel-based superalloy billets. This superalloy gives superior strength at high working temperatures



The billets are investment cast to form the blade shape and then fettled to remove casting material



The blade castings are HIPed to remove porosity and increase their creep and fatigue resistant properties

Honeycomb for abradable seals is vacuum brazed onto the vanes' main sections

The blades are precipitation hardened to increase their strength at high temperatures

A thermally sprayed coating is applied to improve temperature resistance

Finally, the blades are machined prior to their assembly as part of an engine

End application – gas turbine engine

BODYCOTE COMPONENT JOURNEYS

This is just one example of how Bodycote brings together the huge wealth of knowledge and expertise from across the Group to provide the vital engineering services you need...

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Denotes the parts of the component journey undertaken by Bodycote