AZT

ALLIANZ GLOBAL CORPORATE & SPECIALTY

OVERHAUL AND REPAIR OF GAS TURBINE COMPONENTS

Allianz Center for Technology (AZT)

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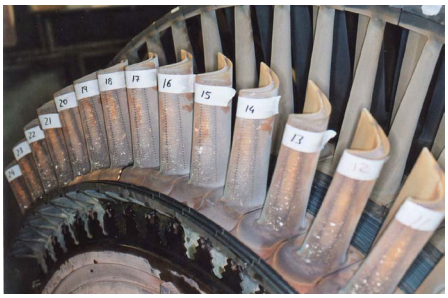
The decision whether to replace or repair gas turbine (GT) components is often not an easy one. AZT with its significant experience in detailed inspection of high value parts offers an independent, professional analysis on reparability. This includes visual inspection, non-destructive testing (NDT), mechanical testing and metallurgical investigation checking the state of the material – helping plant operators to come to the best conclusion for their business.

LIMITING OVERHAUL AND REPAIR COSTS

In particular GT vanes and blades of 1st and 2nd stages are high value parts (in total 5 to 10 Mio EUR). In the case of damage and also of incidents such as small impacts of foreign object material (FOD), deposits and hard rubs, which are detected during regular borescope inspection and overhaul, the replacement/repair of the affected parts is often in question.

The manufacturer sometimes denies refurbishment although technically feasable and prefers the installation of expensive new components. Hence, an independent assessment on reparability provided by AZT can save significant values by re-installing repaired turbine blades and vanes for another operational period (e.g. 24'000 operating hours).

Row 1 Turbine Blades with tip rubbing



GT Row 1 Blades with slight FOD

GT Row 1 Vanes with deposits due to sand ingress

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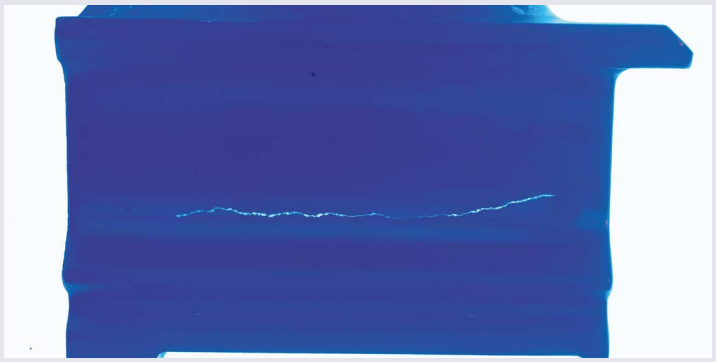
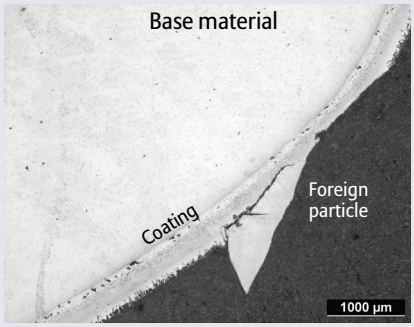
YOUR BENEFITS

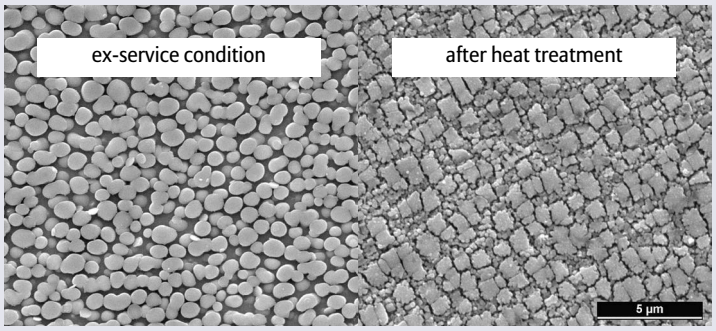
- ✓ Independent evaluation of reparability by highly qualified personnel and state-of-the-art equipment for comprehensive lab analysis
- ✓ Independent review of the overhaul and repair work carried-out by the manufacture
- ✓ Reduce the overhaul and repair costs by saving high value components, such as Row 1 & 2 Turbine Vanes and Blades



Crack indication in a Row 1 Blade



Impact of foreign particle on the surface



Microstructure analysis (γ' – phase) in the Scanning Electron Microscope (SEM)

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