MITSUBISHI HEAVY INDUSTRIES COMPRESSOR CORPORATION

Mar. 12, 2012

T-E-009 / 766-90173

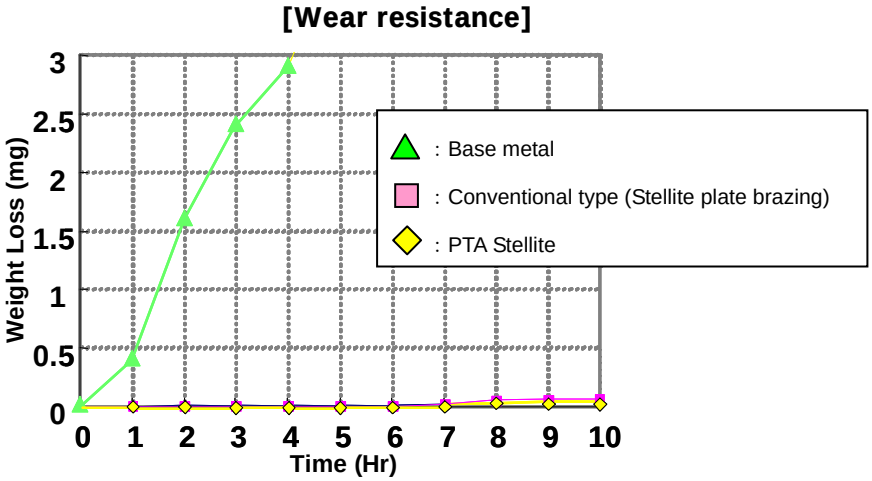
Improvement of drain erosion resistance for last stage blade

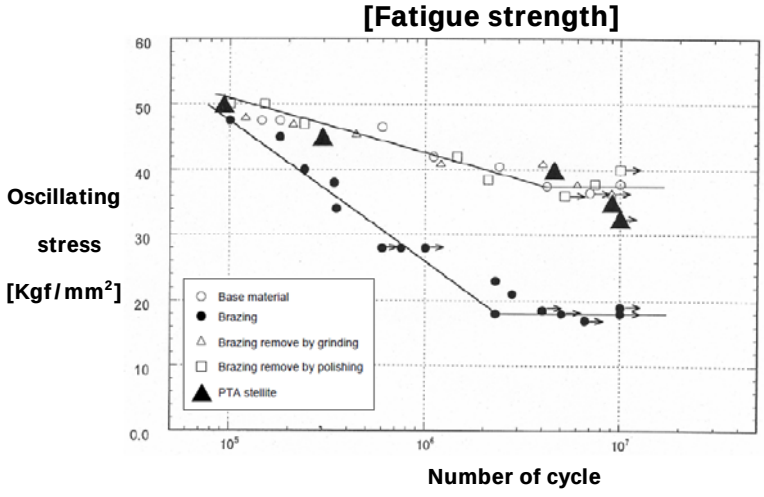
REASON FOR SUGGESTION:

A condensing turbine being operated in a wet steam region may have its blade surface erosion due to drain produced during long-term operation, leading to an accident of broken blade(s) in a worst case as well as reduction in efficiency. In recent year, some wider range damage was observed on conventional anti-erosion treatment blade.

DETAILS OF SUGGESTION:

Replace the blades in a relatively high wet (>10%) stage with those so-called PTA (Plasma Transfer Arc welding) Stellite. Thereby, higher erosion resistance, wider erosion protect area and longer service life will be obtained. In conventional spec., erosion protect area is limited by fatigue stress lowering due to brazing. On the other hand, PTA stellite welding does not be limited the erosion protect area.





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Conventional type
(Stellite plate brazing)

After welding

After finishing

PTA Stellite welding

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