

Frame 9001E Buckets

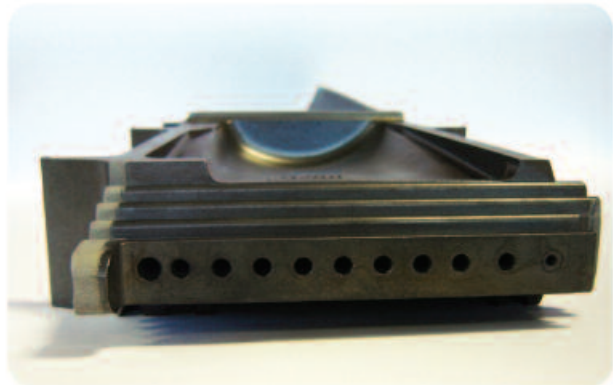


Turbine Services offers first stage buckets for the Frame 9E gas turbine.

Our experience in servicing turbine buckets throughout their life cycle has provided a unique insight into designing a high quality product that is 100% compatible and interchangeable with the original equipment.

Casting

These buckets are Equiaxed investment cast utilizing an advanced Nickel-based super alloy developed within Turbine Services organisation. This alloy is similar in mechanical and physical characteristics to the OEM material.



Machining

After initial datum checks the bucket casting has cooling holes radial drilled along the mean line of the bucket using the Shaped Tube Electrolytic Machining (STEM) technique, with 9 out of the 11 holes turbulated. Turbulation of cooling holes dramatically increases the heat transfer from bucket base material to the cooling air.

Coating

Turbine Services apply a CoNiCrAlY coating to the airfoil using Low Pressure Plasma Spray (LPPS). The coating has superior oxidation and corrosion resistance for base load and peak applications throughout a wide range of fuel types and operational conditions.

Cooling holes have an aluminide coating to improve corrosion resistance. Our coating technology has been developed over many years of Gas Turbine servicing experience.



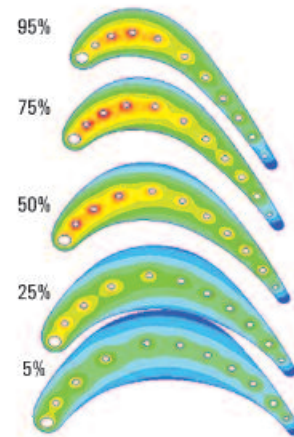
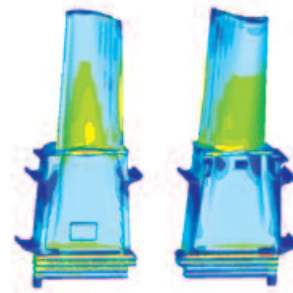
Stage 1 Buckets (S1B)

Firing Temp	2055 °F
Airfoil	Blunt leading Edge Airfoil.
Cooling	11 radial STEM drilled cooling holes along mean line of airfoil, 9 holes with turbulation.
Material	Proprietary MS1008, which is an Equiaxed Nickel based super alloy very similar in characteristics to OEM's material.
Coating	The buckets are coated to provide protection from oxidation and corrosion. The coating is a LPPS applied MCrAlY overlay coating with aluminide coating on internal cooling holes. Coating specification is equivalent to OEM's GT33 INCOAT coating.



Combined Thermal-Mechanical Loading

Von Mises Stress



TURBINE SERVICES is a global provider to owners and operators of industrial gas turbines, offering an employee skill-base in excess of 2,000 man-years of experience in gas turbine maintenance solutions. With our heritage in John Brown Engineering, our primary specialization is in the heavy duty frame range of GE designed gas turbines.

Our business is founded on the strength of our technical and engineering capability, reinforced by our commitment to quality and customer satisfaction that is demonstrated by our accreditations (ISO 9001:2000) and registrations (Achilles, Supply Line, FPAL and Repro).

In addition to our extensive experience, our customers also benefit from the high-tech capabilities of our parent company, Chromalloy. Leading the industry in advanced technology derived from 60 years of aero and industrial gas turbine component experience, we offer state-of-the-art component, repair, coating and manufacturing technologies.

Turbine Services is a division of Chromalloy Gas Turbine Corporation with interests in the global Aero & Industrial Gas Turbine market sector.

Services include:

- Plant operation & maintenance
- Field & engineering support
- Component refurbishment
- Replacement spare parts
- Turbine control systems
- Plant operator training
- Rotor Overhaul
- Condition Monitoring
- Long Term Service Agreements
- Turbine Refurbishment



Gas Turbine | Maintenance | Repairs | Spares | Parts

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