Turbine Services

CHROMALLOY

Frame 6001B
Buckets

Turbine Services offers turbine buckets for all three 3 stages of the Frame 6B gas turbine.

All stages of buckets are designed within the Turbine Services group of companies. Our experience in servicing turbine buckets throughout their life cycle has provided a unique insight into designing a high quality product that is compatible with the original equipment.

1st Stage Buckets

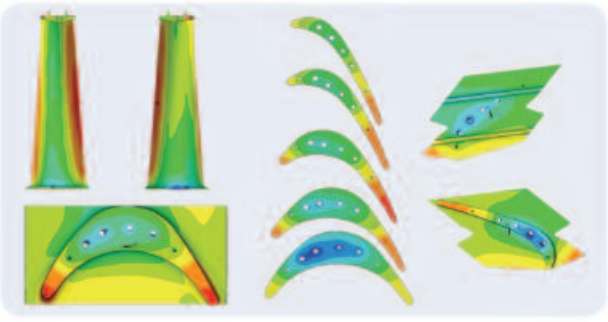
Two versions of the first stage bucket are available one suitable for standard Frame 6B firing temperature of 2020 to 2042 °F (1104 to 1117 °C) The second design is for the up rated firing temperatures of 2055 to 2084 °F (1124 to 1140 °C)

These buckets are Directionally Solidified investment cast utilizing an advanced Nickel-based super alloy. The Directionally Solidified structure has no transversal grain boundaries, which results in enhanced creep and rupture strength. The grain structure orientation gives a higher elasticity modulus along the vertical axis and better fatigue life. Turbine Services applies a MCrAlY coating with superior oxidation and corrosion resistance for base load and peak applications throughout a wide range of fuel types and operational conditions.

2nd and 3rd Stage Buckets

We have incorporated design features to help reduce life-limiting conditions such as shroud lift, trailing edge elongation and cracking. The second stage bucket employs a camber line 6 hole cooling circuit for improved cooling. The third stage bucket is not cooled. We apply a hard surface on the Z notch of the shroud and can also offer our MCrAlY coating that can improve oxidation and corrosion resistance for improved durability and longer life. All our second and third stage buckets come equipped with the cutter tooth feature to be used for improved sealing with honeycomb shroud blocks, (also available from Turbine Services).

The second and third stage buckets are capable of operating at up-rated 2055 to 2084°F (1124 to 1140°C) firing temperature.



Turbine Services carry out 3 dimensional mathematical modelling, for each bucket design, including heat transfer, structural, model and transient analysis

Stage 1 Buckets (S1B) – Standard Design

Firing Temp	2020 to 2042 °F (GT's that have not been up-rated)
Airfoil	Blunt leading Edge Airfoil with vented tip
Cooling	12 radial STEM drilled cooling holes along mean line of airfoil
Material	Propriety MS1007, which is a Directionally Solidified 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 topcoat on airfoil section and internal cooling holes. Coating specification is CN122 + CN65 which is equivalent to OEM's coating.

Stage 1 Buckets (S1B) – Up rate

Firing Temp	Suitable for all Firing Temperatures (2020 – 2084°F).
Airfoil	Blunt leading Edge Airfoil.
Cooling	16 radial STEM drilled cooling holes around perimeter of airfoil. 13 with turbulation.
Material	Propriety MS1007, which is a Directionally Solidified 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 topcoat on airfoil section and internal cooling holes. Coating specification is CN122 + CN65 which is equivalent to OEM's coating.

Stage 3 Bucket (S3B)

Firing Temp	Suitable for all firing temperatures
Shroud	Improved shroud design offering hardened faces at Z notch. Seal rails incorporate cutter teeth. Suitable for shrouds with or with out Honeycomb
Cooling	Not cooled
Material	IN738 LC
Coating	No coating required

Stage 2 Bucket (S2B)

Firing Temp	Suitable for all firing temperatures
Shroud	Improved shroud design offering hardened faces at Z notch. Seal rails incorporate cutter teeth. Suitable for shrouds with or with out Honeycomb
Cooling	6 radial STEM drilled cooling holes along mean line of airfoil
Material	IN738 LC
Coating	No coating is normally required. However we can offer a range of MCrAlY and Aluminide coatings to suit customer's specific requirements

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

Turbine Services
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Gas Turbine | Maintenance | Repairs | Spares | Parts

Turbine Services
Ground Floor, Venture Building, Kelvin Campus
West of Scotland Science Park, Glasgow G20 0SP, Scotland, UK
Office: +44 141 945 7000, Fax: +44 141 945 7001
info@turbineserviceslimited.com I www.turbineserviceslimited.com
www.chromalloy.com

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