We combine the engineering capacity from our OEM background with the open-mindedness of an independent service provider. Giving you sound advice and optimal service when it comes to repairing, reconditioning, upgrading or servicing GE type gas turbines. We call it OSP, Original Service Provider. A great concept to engineer power installations worldwide to new levels.

6B First Stage Bucket
Component highlights

Operating conditions
Due to the specific design the Ansaldo Thomassen 6B first stage buckets are suitable for:
- Firing temperatures up to 1140°C (2084°F)
- Rotor speeds of 5163 rpm (PG6581)
- All gas turbine fuels

Design
The buckets are fabricated with the investment casting process and are made of a nickel based superalloy 111-DS. The directionally solidified (DS) material structure results in an increased creep rupture strength.

The cooling system of the first stage buckets is designed for increased inlet temperatures. At the root, the cooling air enters the cooling channels via a cavity in the shank. The buckets are designed with 16 STEM drilled cooling holes around the airfoil perimeter. Turbulated cooling holes enhance the cooling capabilities even further and make this part suitable for turbine upgrades to higher firing temperatures.

To protect the part against corrosion and oxidation the first stage bucket is delivered with a thermally sprayed MCrAlY coating on the gas path. To protect the base alloy around the cooling holes, the bucket is internally coated with an aluminide diffusion coating, applied by a chemical vapor deposition coating process. An aluminium seal coating is applied to the root serrations to minimize air leakage. Ansaldo Thomassen can advice on coating solutions for specific operating conditions.

The delivery includes 91 standard buckets and 1 locking bucket. The complete set of parts is balanced and sequenced for assembly. The results of the moment weight inspection are included in the shipment. The delivery also includes applicable installation hardware.

The buckets are fully interchangeable with GE P/N 314B7162G015, G021 and G022, without any modification to the gas turbine.

Design life
The estimated life is 72.000 factored hours / 3600 factored starts based on Ansaldo Thomassen recommendations and after standard inspection and repair intervals. For base load, dry and gas only operation the estimated lifetime is 96.000 factored hours.