



TRAITEMENTS THERMIQUES

HEAT TREATMENT SERVICES



A PARTNERSHIP FOR YOUR CHALLENGES



Aerospace

Aircraft and helicopters

Shafts, guide vanes, rotating parts (fan discs, drums), fasteners and aerospace bearings, airframe components (spars, ribs, etc), engine integration components (pods, thrust reversers), fixed and removable fittings (flap shutter guides/rails, transmission components), landing gear (sliding tubes, landing gear fittings), transmission parts, bearings, fasteners.

Space

Engine shrouds, boosters, tanks, satellites, etc...

Mechanical engineering

Bearings, mandrels, roller bearings and gears, tooling machine parts,...

Motorsport

F1, Rally, Go-kart,...

Engine parts, camshafts, crankshafts, gears, connecting rods, etc...

Transportation

Shipbuilding

Fuel injection systems, admission and exhaust valves, miscellaneous parts...

Railways

Bearings and springs,...

Energy

Nuclear

Flanges, support blocks, tank rods, separating plates, anti-vibration bars, shafts, valves, tubes,...

Renewable energies

Oil and gas

Gas and steam turbines

Defense

Gun barrels and parts, parts for marine and nuclear submarines, missiles and firing weapons.

Medical

Implants and associated instruments.





FINDING YOUR SOLUTIONS TOGETHER

Quality first

Major approvals and recognitions:

- **Nadcap**
- **ISO 9001**
- **AS9100, EN9100, JISQ9100,**
- **AQAP 2110**
- **SAFRAN**
- **EADS**
- **Rolls Royce**
- **Agusta Westland,...**

Quality guarantee

We guarantee the respect of all international standards. We assure a constant follow-up of all the treatment processes, from the receipt of your parts until their return to your workshop. The conformity of our treatments is always guaranteed because we perform the necessary controls and we provide you with a certificate of compliance which confirms this procedure. Quality is one of our top priorities and permits us to meet requirements of high technology. Well established names in international industry have come to rely on Aubert & Duval Heat Treatment Services. Our department is renowned for its specialist knowledge and expertise.

Environment

For instance, we are equipped with a degreasing machine in a vacuum with no release of any solvent into the atmosphere in order to be environmentally friendly.

Because your work is in a demanding industry, you need to rely on a partner for your treatments - one who knows your industry well, is aware of the challenges you face and can anticipate your needs.

Our company, based in Gennevilliers (Paris area), offers sub-contract heat treatment and thermochemical treatment services. 40 professionals allow you to constantly push back the limits of your parts thanks to the development of cycles adapted to your needs and specifications.

Moreover, in order to guarantee the quality of our treatments, a laboratory is integrated in the department allowing us to perform tests such as hardness, microstructural observations and mechanical properties (tensile, charpy notch test,...)

We also have a completion unit (blasting, straightening) and a machining workshop (allowing the cut and machining of samples) which complete our offer.

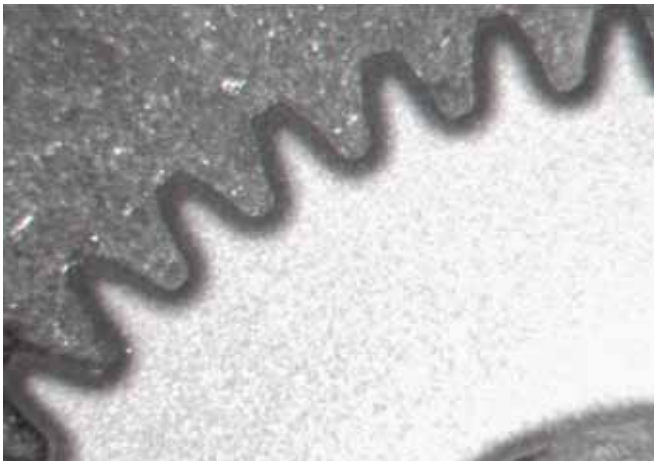




Optimised heat treatment

Our team is renowned for its specialist knowledge and expertise, reliability to perform advanced heat treatment delivered on time.

As a reliable Heat Treatment Services partner, we offer you technical materials and manpower in order to anticipate your needs and answer your requirements paying special attention to meeting deadlines.



Heat treatment

- **Hardening / Tempering**
- **Ageing**
- **Solution treatment**
- **Stress Relieving**

We are able to carry out treatments in controlled atmospheres or in a vacuum.

Controlled atmospheres heat treatment

They are usually used for draft parts. Gases used as atmospheres could be argon, nitrogen or hydrogenated nitrogen.

Vacuum heat treatment

These treatments are principally used for stainless steel or tool steel in advanced fields such as aerospace or all other high technology activities.

The treatment is performed in a vacuum and oil or neutral gas can be used for cooling.





Gas nitriding

Our 16 furnaces make it possible to achieve cycles resulting in depths from 0.05 up to 1.4mm for a wide range of steel grades.

Moreover our know-how and wide range of furnaces (from 2.5 m of diameter and 4.7 m of length) allow us to nitride all kinds of high technology parts:

- **Nitriding on tool steels and also high depth nitriding.**
- **Special nitriding for parts subject to high fatigue stress.**
- **Nitriding of austenitic and martensitic stainless steel.**
- **Nitriding of precipitation hardening steels and superalloys.**
- **Nitriding of maraging steels.**

We guarantee limited deformations and a good regularity and reproducibility of depth and structure. Moreover our process leads to consistent nitriding layers even in small bore sizes. For non aeronautic parts, we can mask areas of parts in which no nitriding is required.

Low pressure carburizing

This process is recognized for flight safety parts of major aerospace customers, for motorsport and other fields of applications. We propose a wide range of case depths from 0.25 up to 2.8 mm.

For many years our developments and equipment in the low carburizing process have provided:

- **Control of surface carbon.**
- **Control of residual austenite.**
- **No intergranular oxidation.**
- **Reduction of grinding allowances.**
- **Consistent carburised layers even in bore sizes as small as 0.5 mm.**
- **Carburizing of blind holes.**
- **Carburizing of stainless steels.**





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**For any questions,
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