



# lebronze alloys

## Forging experience

### Our forging capability



Lebronze alloys group have a wide range of forging capabilities including 50 machines:

- More than 30 hot-stamping and closed-die forging presses from 100 to 3000 tons and 9 drop-hammers from 3 to 40 000 kg.m organized in 8 hot-stamping lines and 15 closed-die forging lines,
- 3 open-die forging presses from 1250 to 2750 tons,
- 1 ring rolling mill with 120 tons radial power and 80 tons axial power, for a maximum diameter of 2500 mm,
- 2 cold-forming Hatebur type presses

#### Open-die forging

Open-die forging is a process mastered by the Group and frequently used for production of single or small series parts; that do not require dedicated tooling to be manufactured, or large parts up to 8 tons.

#### Ring rolling mill

Ring rolling mill is a process recently acquired by the Group through the restart of Forge de Custines, it allows us to produce cylindrical or profiled rings with a circumferential grain flow and allows for machining allowances that are closer than in a traditional forging process . The manufacture of profiled rings requires the production of a tool and therefore is suitable for larger production volumes/series.

#### Closed die-forging

Closed die-forging (for non-ferrous alloys) and hot-stamping (for ferrous alloys) allows to produce parts having more complex shapes compared to open-die forging , but as production of a tool is needed it is dedicated to larger volumes/series.

#### Cold forming

Cold forming is adapted for small dimensions parts produced from a cut to length bar (slug) or from a long blank, allied with very high production rates. Metal cold working provides excellent mechanical properties and saves heat treatment steps.

## Our achievements



Forging is an outstanding solution to answer fatigue component problems when these are subjected to strong and repeated stress over time. The Group has helped numerous customers to improve welded assemblies systems and to evolve towards a more robust forged solution.

Our forging capabilities allow us to manufacture parts according to:

- A gross weight from 10 grams up to 800 kg for stamped parts,
- A gross weight from 1 kg up to 8 tons for open-die forged parts with a particularly high wrought ratio,
- An outside diameter up to 2500 mm for rings,
- A wide range of alloys: copper alloys, aluminiums, special steels, titanium, copper nickel alloys and superalloys.

In order to offer the best solution, our **Engineering Department** supports you from the conception to the industrialization of your products, enabling you to benefit from our know-how and redesign to cost experience. The mastering of **CAD advanced tools and digital simulation software** such as Forge® allows us not only to help you in finding solutions but also in the detailed conception of your new products.

We are able to perform a wide variety of mechanical tests and metallurgical analysis (surface preparation, attack and micrography) and our **Quality Department** ensures your most demanding specifications are satisfied. We are not only certified ISO 9001 and ISO 14001 by assurance companies (TÜV, Lloyd's Register, DNV, AFAQ) but by prestigious customers themselves.

Lebronze alloys group masters a wide range of metal processing technologies: continue and semi-continuous casting, sand casting, die precision chill casting (manual, mechanized and automated), centrifugal casting, extrusion, ring rolling, open-die forging, closed-die forging, hot stamping, cold forming, machining, non-destructive testing, etc. We are in a position to support you from the conception to the industrialization of your products, making you benefit from our redesign to cost know-how. We are committed to bring you our **experience** in order to help you to find the best answer to your needs.

Would you like to find out more or to make an enquiry?

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