

# Cutting of Metals with [water jet](#) [metal cutter](#)

## **Steels.**

The high pressure water jet is particularly well suited for cutting all metals or the like.

Cutting these materials requires the use of abrasive additives that allow you to work on the harshest materials.

## **Cutting very thick steels.**

Its field of action ranges from foil of a few tenths of an mm to thicknesses of over 150mm, even on alloy steels.

Under certain conditions, we manage to exceed this limit, as proof the cutting of a steel plate 200mm thick.

## **Cutting special or treated steels.**

Special or treated steels do not escape the power of the water jet. For example, we regularly cut pieces in CREUSABRO ©.

This steel, which offers, in addition to its hardness qualities, exceptional abrasion resistance, is frequently used as an anti-wear lining on public works or agricultural tools.

Despite this exceptional hardness, the water jet accompanied by abrasion allows it to be cut.

## **Aluminium and its derivatives.**

Aluminium is often affected by cutting thick plates.

It is the essential technology for economically cutting thick parts.

All grades of aluminium alloys can be cut with a water jet.

One of the water jet strengths is that it does not heat the part, which makes it possible to cut aluminium anodized or protected by plastic film very cleanly.

## **Tantalum.**

The performance of abrasive waterjet cutting is particularly well suited to cutting this material.

Because of its excellent hardness and its excellent resistance to wear, tantalum is often used for the manufacture of surgical instruments or dental burs and in the fields of electronics or nuclear power.

## **The copper.**

Delicate to laser cut due to its high reflection index, copper is easily cut with the high-pressure water jet; it is the most suitable technology, especially as the thickness increases.

## **Titanium**

Waterjet cutting of titanium produces precise parts with a clean and accurate cut.

When cutting, titanium has the particularity of generating sparks due to friction with the abrasive.

Titanium is mainly used in the aeronautical, aerospace and medical industries, where its qualities of lightness and resistance are highly appreciated.

## **A large variety of [water jet metal cutting machine](#) parts.**

With metals, we touch all areas of industrial manufacturing, hence the great diversity of parts that can be cut with a high pressure water jet.

In addition to the materials mentioned above, we often find brass, bronze, lead, special metals (Ferrites, Tungsten, Nickel, Molybdenum...).

Some examples of parts regularly cut with our waterjet cutting:

- Manufacture of S355 steel gussets.
- Cutting shims or adjustment shims in 0.2 and 0.3 mm thick sheets (the water jet does not heat the material, these thin shims keep their flatness).
- Cutting of flanges, washers, plates, cams or spacers in alloy steel, molybdenum steel, stainless steel, aluminium, etc. for thicknesses ranging from 1/10 to more than 50 mm.
- Knife blanks (punch - die) 50mm thick in 238 CDVS steel.
- Cutting of 40CMD8 rectified steel mould plate.
- Cutting of corrugated sheets or perforated stainless steel sheets....
- Cutting of decorative pieces in aluminium protected by the plastic film but also anodized aluminium...
- Cutout of gripping arm for palletizing robot in 16mm thick CERTAL® (an aluminium alloy of the 7000 series with excellent mechanical characteristics, great stability and excellent weldability).

- 20 mm thick AU4G aluminium rack sheets.

## **Materials treated, painted or protected by film.**

As the water jet does not cause the material to heat up, it is possible to cut very cleanly painted, lacquered, anodized or protected by adhesive film parts.

- Resumption of electrical cabinet doors or cabinet backs for cutting out the reservations allows installing components.
- Resumption of painted casings for installation of viewing windows in Lexan, plexiglass or glass.

Learn more about [water jet cutting machine](#)