

COULD ALUMINIUM REPLACE PLASTIC?

Capalex has embarked on programme of investment since being bought by Amari Metals in 2019

Aluminium extrusion is not a process that the vast majority of people are familiar with.

Even the word “extrude” is not a regular part of daily language for most of us.

However, once the process is explained to you, you will begin seeing aluminium extrusion everywhere, from cars to table legs, planes to ambulances and in components for everything from printing to making sausages.

In the UK, one of the major practitioners of the process is Capalex, in Cleator Moor, which has been based in the town since it was established in 1979.

In very basic terms, aluminium extrusion involves taking cylinders of aluminium – known as billets – and heating them until the metal is malleable in a similar way to plasticine. It can then be forced through a steel die – a disc with a particular shape cut into it – to create a limitless array of parts which are used in a never ending variety of applications.

Capalex does this using high pressure presses and then draws the metal out along cooling tables before cutting the pieces to length. Different alloys of aluminium are used for different purposes; for example, one may be stronger while another may be more suitable for powder coating or polishing. “Pure aluminium is soft, ductile, corrosion



Richard Owen

resistant metal and has a high electrical conductivity, but alloying with other elements is necessary to provide higher strengths,” says general manager Richard Owen.

“Aluminium is one of the lightest engineering metals, having a strength to weight ratio superior to steel and it can be produced in a range of alloys and we stock and extrude in the biggest range of alloys in the country.”

As well as extruding the initial shapes, Capalex also machines the parts to order as well as anodising – coating them in a protective layer – and powder coating them in

any colour required. It develops the drawings for the die and advises on the process, although the shape itself and any associated patents or copyrights are owned by the customer.

It prides itself on turning orders around quickly, in as little as three days if a customer has a die already made.

“One of the reasons people come to us is because we don’t have a minimum order quantity, which is very unusual in the industry,” says Richard. “Normally, you’d have to buy a minimum of 250 kilos with some

companies, it would be half a ton of material, but a lot of customers might only want 50 kilos or 100 kilos.”

He says this helps open the door to many more start-up businesses, as well as prototyping.

“We’ve got a range of facilities on site including machining and powder coating and we’re able to turn around prototypes and then pre-production very, very quickly. Obviously we do that because that then leads into production and we’ve then got a volume business.”

Aerospace has always been a core part of the company’s



Caption
Caption

Capalex works on projects across the globe

Richard says there is also a growing interest in using aluminium as a replacement for plastic in order to reduce plastic waste.

business, but a tour of its factory reveals parts being prepared for a host of uses, including buttons for high-end entertainment systems, legs for operating tables, jet ski nozzles and parts for luxury sports vehicles, to name just a few.

Richard says there is also a growing interest in using aluminium as a replacement for plastic in order to reduce plastic waste.

“Aluminium is 100 per cent recyclable and 70 per cent of all the aluminium ever produced is still in use, whether in its original form or recycled back into something else,” he says.

Over the last 12 months a variety of factors have seen the global aluminium price soar, including the pandemic, a slowdown in smelting output in China and a coup in Guinea, one of the main sources of bauxite ore from which aluminum is extracted.

Such is the demand for the metal that Richard says Capalex now sells excess left over from production to recyclers for nearly the same price as it used to buy raw aluminium a year ago.

The company was bought by Amari Metals in February 2019, and this has given Capalex capacity to invest in developing its business, installing new equipment and streamlining its processes.

This has included investing in a new website, which acts as its main conduit for attracting customers.

“We get enquiries every day from all over the world, as far as Australia and South America,” says Richard.

“We already supply China, the Philippines, the States and to an extent Europe as well.”

In common with many UK manufacturers Capalex is focused on offering specialised services and high quality products rather than

competing on volume and price. The approach is paying off, with a seemingly endless demand from customers.

“We can offer tight tolerances and special alloys and a wide range of services and that’s relatively hard to

find internationally,” says Richard. Other investments have included increasing the size of a huge oven used to temper the aluminium to a particular hardness.

Works manager Paul Bennett explains that aluminium will naturally harden throughout its lifetime, but Capalex uses the oven to recreate the effect of years of hardening in a matter of hours.

The company is planning to make more investment over the coming months, which Richard hopes will combine with the experience of its team of over 50 staff to continue growing the business.

“I’ve worked in companies all over the world and the people here are some of the most genuine and hardest working I’ve come across,” says Richard.

While the firm’s nine managers have a combined 106 years’ experience between them, its longest serving member of staff has worked there for 38 years.

The workforce includes generations of the same family, such as maintenance manager Chris Nixon and his son Bradley, from Egremont. Bradley completed a level three mechanical engineering apprenticeship in July.

