



Manufacturing

Reduce costs with aluminium prototypes

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January 02, 2018

Using the electrical discharge machining process to produce your prototype in aluminium will help you avoid costly mistakes.

The ability to make a prototype through three-dimensional printing, computer numerical control – or, CNC – machining and other means has been revolutionary for manufacturing. Being able to test and trial a product or piece before it enters production saves materials, time and money.

Having prototypes in plastic and other materials are helpful, but there is a clear advantage in being able to make a prototype in the same material that you want to use for your product.

Fully functional prototypes

With electrical discharge machining (EDM), fully functioning prototypes can be made in aluminium. These provide an accurate representation of how your final aluminium parts will turn out.

EDM is an industrial process that uses spark erosion to cut conductive metals. For a rough idea of how EDM works, picture a wire cheese slicer that cuts through a block of aluminium rather than a slab of cheese. The electrically charged wire cuts the material and as it sparks, it erodes the metal away.

Hydro has applied this process to making aluminium prototypes for customers. Why?

- Prototypes are cut from aluminium and perform like a production extrusion for precise validation of fit, form and function
- They can be done quickly, within a week
- There is no need to purchase a die or order a minimum of material to validate a part
- Tight dimensional control allows for evaluation of production tolerances
- Aluminium prototypes can be cut, welded, drilled or ground, and will respond within a few percentage

points of how the final product will respond

- The precise wire EDM machine can cut delicate or thin parts that are dimensionally accurate
- They offer the ability to produce features on a part and test how they interact with another extrusion, bolts or parts

Interested in learning more?

If you are interested in learning more about using aluminium and EDM prototyping, then please [contact us](#) and we will put you in touch with the right expert.

