



# LASER ENGRAVING

## YOUR PARTNER FOR SURFACE TREATMENT

Our long-time experience in processing and refining aluminium makes **BWB-Betschart AG** the ideal partner for complete, profitable solutions in industry, aviation and design.

Whether it's permanent laser marking for traceability or putting a logo on work piece, laser engraving offers many different personalisation options. The process is fully integrated into our work operations. Contact us to find out more about laser engraving and to simplify your production processes.



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## OUR SERVICES

### LASER ABLATION

Anodised aluminium is engraved by ablating the surface layer. We offer various ablation depths, including deep engraving. Depending on the base material and surface processes, we can achieve shades ranging from white to anthracite.

### BLACKMARKING

The laser marks refined aluminium under the anodised layer. This intermediate layer is thermally modified during blackmarking, acquiring a dark hue. The surface properties including the anodised layer are preserved, preventing any dirt or germs from settling.

### ANNEALING MARKING

The surface of the work piece is stained by heating; various colour spectrums can be achieved depending on the base material. A thin oxide layer forms on the surface, and remains intact. The application is suitable for chromium-nickel steels or titanium.



contrasting laser ablation on red-anodised aluminium



Blackmarking for delicate graphic on clear-anodised aluminium



possible colour spectrum on titanium for laser engraving using the annealing method

## ADVANTAGES

- ▶ permanent, forgery-proof, and clearly legible marking
- ▶ personalised options such as logos, graphics and lettering
- ▶ high-quality, reproducible engravings
- ▶ minimal material removal
- ▶ possibility of achieving very delicate markings
- ▶ flexible engraving of large areas or sequences of adjacent small parts
- ▶ dimension up to max. 650 x 375 x 450 mm (length x width x height)
- ▶ minimised throughput times along the entire process chain

### HANDY TIP

We can also create multi-coloured motifs on aluminium by combining our processes.