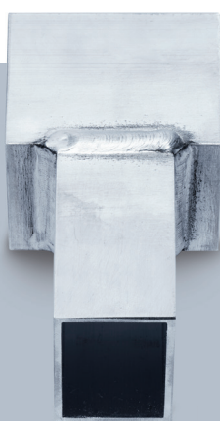
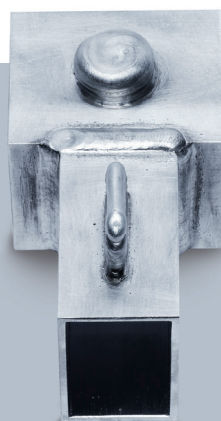


## FLEXIBLE MACHINING WITH WIRE AND ARC ADDITIVE MANUFACTURING



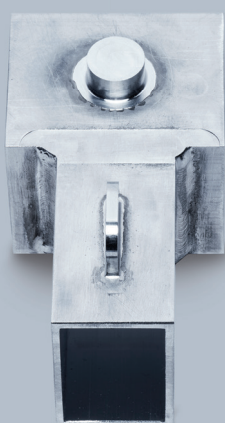
### STEP 01 JOINING

We present the WAAM process by means of a battery frame for electromobility: First, the extruded profiles are joined by applying an integrated CMT welding process in the machining center.



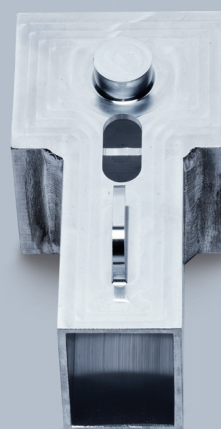
### STEP 02 ADDING

This step consists of adding extremities with any desired geometry, as for example connecting links or cylinders, by using the additive process.



### STEP 03 MACHINING

Weld seams can be levelled now. Contours and function surfaces, respectively, can be machined in one setup.



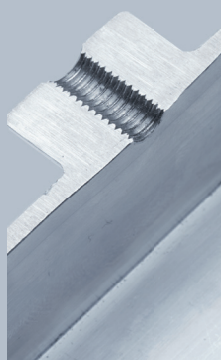
### STEP 04 SURFACE

The desired quality of the surface can be realized by milling, brushing or grinding, according to the individual requirements.



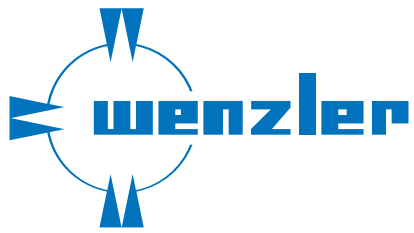
### STEP 05 DRILLING

Now, within the next step, boreholes and threads, which are relevant for assembly, can be inserted.



### PROCESS QUALITY SEAMLESS APPLICATION

Process quality has been confirmed by tensile tests and micrographic analyses by renowned OEMs.



## FLEXIBLE MACHINING WITH WIRE AND ARC ADDITIVE MANUFACTURING



### The solution for large variant diversity

In many cases, fast production of prototypes and small series with many variants is in demand, which could not be implemented in a serial production process until now. Additive manufacturing solutions developed by Wenzler and Heller can be integrated in the existing Wenzler VKM and VPM machining centers.

Workpieces can be produced completely, on time and cost effectively in one setup in the hybrid machining center.

### Wire and Arc Additive Manufacturing for complex metal components

The WAAM technology (Wire and Arc Additive Manufacturing) provides the possibility to realize three-dimensional deposition welding and machining in one hybrid machining center. Complex metal components are generated by alternating material addition and removal.

By doing so, the relevant workpieces can be complemented, modified and repaired. Recording of process data ensures quality control in the context of Industry 4.0.



Do you have any questions relating to flexible machining with Wire and Arc Additive Manufacturing? We are looking forward to getting in touch with you and talking about your requirements.

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