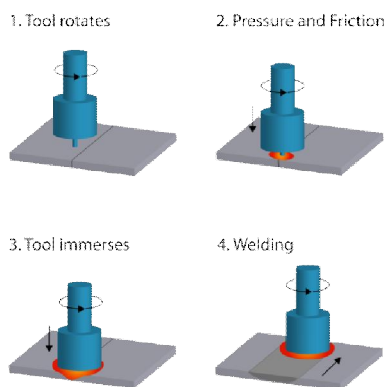


Manufacturing of heat sink extrusion profiles

Technology



Friction Stir Welding (FSW) offers an easy way to increase your competitiveness.

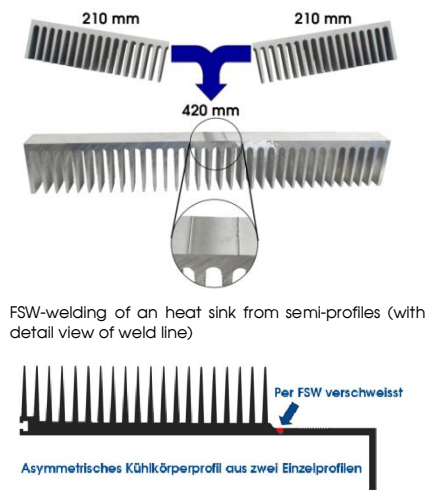
Friction Stir Welding (FSW) joins two parts with a specially shaped, rotating tool. Due to rotation and pressure of the tool frictional heat is produced and the parts soften plastically in the area of the rotating tool without reaching the melting point. The parts remain in solid state: A ductile structure similar to the profile extrusion process.

The pin of the tool immerses into the malleable material of the part and produces a homogenous blend along the joining line. The shoulder of the tool forms and smoothens the welding line with only a marginal ridge.

Advantages of the FSW process:

- No Need for filler wire, welding flux or gas shielding
- Homogenous, sealed weld
- No inclusions
- Low distortion
- No shrinkage (Tolerances of the single profiles determine the tolerances of the welded part)

Take Two- Make One!



FSW ideally suited to manufacture heat sinks!

- Instead of one large, thick-walled and expensive extrusion profile, you combine your heat sink from several, thin-walled and cost-effective semi-profiles
- Complete material thickness of the joint is welded – without melting – in the low temperature range of the FSW welding process.
- Better fatigue strength (dynamic as well as endurance). Less susceptible to breakage of the weld line due to alternating load (temperature, vibration, etc.)
- Less rework compared to conventional fusion weld lines
- The combination of an extreme variety of extrusion profiles allows a modular design and very asymmetric heat sink geometries which could not be done with conventional extrusion equipment or if at all only with functional restrictions and at much higher cost.

Friction stir welding will help you to offer better heat sinks. FSW-Extrusions can be welded in dimensions up to 1000 (W) x 400 (H) x 6000 (L) mm. We would like to serve you with advice and further information.

EURO-COMPOSITES® Group

EURO-COMPOSITES® is headquartered in Luxembourg and operates three production sites in Europe und USA. Our centre of Excellence, R&D is also based in Echternach, Luxembourg.

We are specialised in the design and production of advanced composites and offer a high degree of vertical integration: From a complex assembly group down to the simple sheet of honeycomb – we reinforce your ideas!

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