

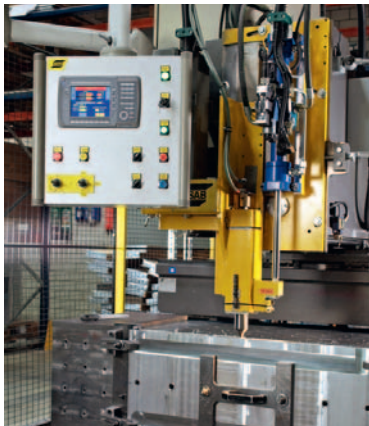
**Rapid**

## **Friction stir welding (FSW):**

Reliable, low warping,  
reproducible, non-porous



# Friction stir welding (FSW) – The high-tech welding process



## Success factors of friction stir welding

- automatic, reproducible method
- pore- and crack-free joints
- minimal warping
- very good mechanical properties
- possibility to weld different materials
- environmentally friendly process (no inert gases, no welding additives)

Apart from conventional welding processes, Rapid Technic Ltd uses so-called friction stir welding or FSW technology. Rapid is the first company in Switzerland to have successfully applied this process also for customer orders.

## The process

Friction stir welding is a process related to rotary friction welding, during which two cylindrical rods are pressed together and welded by varying r.p.m. Friction stir welding has the advantage over rotary friction welding, in that it is suitable for joining parts of any shape, in particular also sheets, plates or cuboids. The parts to be joined remain still during friction stir welding and are held together firmly by a clamping tool. No special forming of the weld-seam before the welding is necessary.

## The method

A rotating pin rubs at one end of the planned weld until the material (usually aluminium, brass or other soft metal alloy) becomes viscous. The rotating pin now moves along the pre-planned weld between the parts and «stirs» the plasticized materials of both parts.

## The result

Welding seams created by the friction stir welding process stand out by their high uniformity and leak-tightness. The method is used, in particular, in the construction of rail and other vehicles, in medical technology and in aircraft construction.



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Rapid Technic Ltd not only has the technical know-how and trained specialists, but also the infrastructure, to carry out demanding friction stir welding orders. Should you have questions or wish to personally have a closer look at our production plant, please contact our Director of sales on no 044 743 13 91 or at erich.striffler@rapid.ch