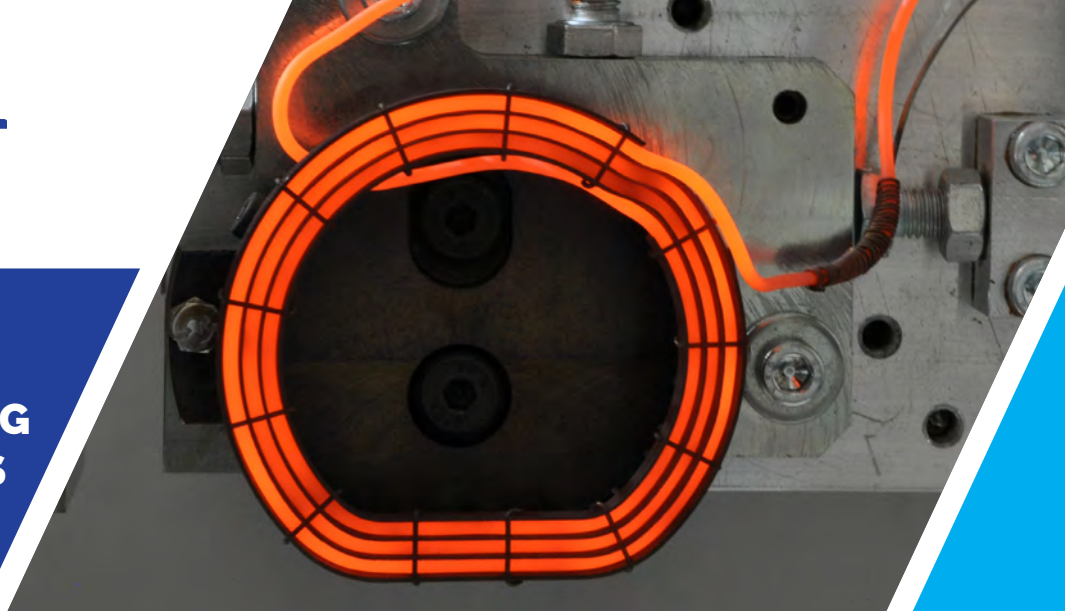




SONIMAT

Europe Technologies group

INFRARED WELDING PROCESS



PROCESS

The infrared welding process of plastic materials goes by **radiation principle**. The radiation acts by transmitting energy through electromagnetic rays emitted by a heating source. **This method does not need any contact with the surface to be heated, as well as nor any intermediary agents.** Further the tool does not get dirty, and the weld bead is clean.

The heating efficiency of the part is influenced by many factors:

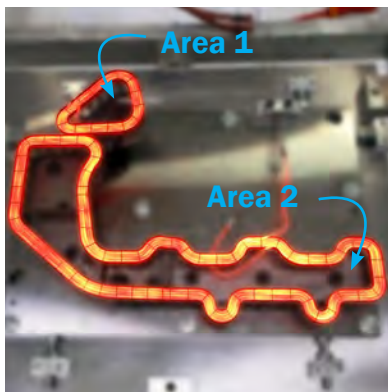
- Materials characteristics
- The source temperature
- The heat time
- The mechanical constraints
- The interface geometry

INFRARED SOURCE

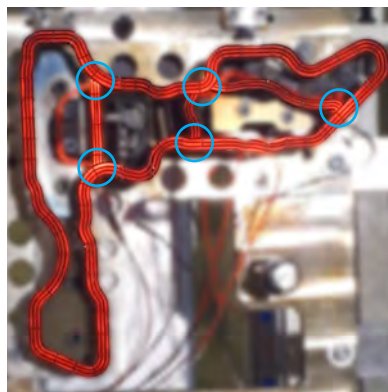
SONIMAT has done from the **infrared filament** its expertise. This filament is integrated into **a support designed and developed by our owns**. Our expertise for the manufacturing of infrared sources allows us to make the most of the interface geometry to get optimal welds.

Each area is thoroughly optimised by considering the physical constraints and the convections of nearby areas. This is to provide a balanced distribution of the heat, ensuring perfect interpenetration of materials.

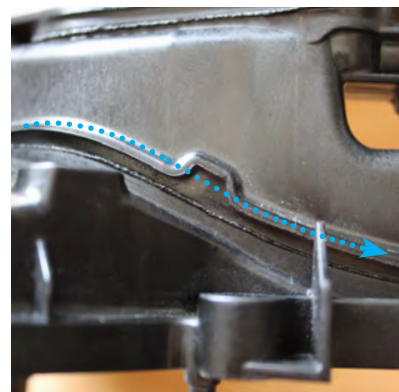
Custom geometries



Multiple heating ares



Innver wall crossing weld bead



3D wled bead

We guarantee the reliability and quality of our weld bead.



PROCESS ADVANTAGES

- No change of the part colour
- Clean weld without particles or smudges
- A localised heat
- Suitable for 3D parts
- Suitable for welding interior and peripheral partitions at the same time
- Excellent weld quality (aesthetic, mechanic, waterproofness)



This process consumes less energy than a traditional system.

APPLICATIONS

The infrared welding process allows to weld various dimensions parts. It is particularly suitable for parts with complex geometry with 3D and ribs, but as well complex plastic materials made up of charge, preventing deposits on the heating source.



Head cover



Water outlet housing



Tank



Urea tank

Materials

PE, POM, PP, PA, PBT, PPA, PPS

CO-DESIGN

To determine the welding characteristics, SONIMAT provides you with its expertise from feasibility study to series production. Based on a SONIMAT proprietary mould, we use your materials to produce parts enabling material/process qualification to validate the welding technology. In collaboration with your team, we define joint plans to optimise parts.

OUR HPW RANGE MACHINES

Our plastic welding machines are fully electric, precise and fast. They are equipped with vertical or horizontal blades and come in different sizes with a wide choice of options.

