

## LASER/TIG WELDING MARKING COMPARISON

Welding is one of the pillars of the assembly process. Its quality is the key to a finished product:

- The availability rate of welding equipment determines the productivity of the production line.
- Quality welding must be repeatable and uniform regardless of the speed of execution.
- Total welding costs.

### TRADITIONAL WELDING



#### PROS

- Low initial investment.
- Portable.

#### CONS

- Suitable mainly for metals.
- Significant thermally affected area.
- Use of consumables (electrode) and/or filler metal.
- Slow process.
- No possibility of weld penetration control.
- Irregularity of the seam, blowhole or deformation.
- Impossible welding in narrow areas (the torch needs to be nearby).

### LASER WELDING



#### PROS

- Suitable for metals and plastics.
- Low Thermally Affected Zone.
- Fast and repeatable process.
- Control of the penetration depth and simultaneous smoothing of the seam.
- Possible welding in blind areas.
- Possible through-hole soldering.
- Possible exotic welding (glass/metal).

#### CONS

- Regulated integration (laser risk to be treated).
- High initial investment cost.
- Technology less suitable for nomadic applications.



### Questions to ask yourself when integrating a welding solution

- What materials are to be welded and what types of welds are to be performed?
- What is the production volume to be achieved?
- What inspections need to be done?

### Key economic points laser welding vs tig

- Fast execution.
- In one step, 3 simultaneous operations (welding, penetration control, smoothing) of the seam.
- Laser welding is suitable for metals, plastics and exotic materials.
- Paves the way for more economical assemblies (blind welding).

