

LASER WELDING - A series of firing short pulses that melt the metal to create a high-quality weld.

Weld Strength: The laser weld is narrow with an excellent depth-to-width ratio and higher strength.

Heat affected zone: The heat affected zone is limited, and due to rapid cooling, the surrounding material is not annealed.

Precision work: The small, tightly controlled laser beam permits accurate micro-welding of miniature components.

A good laser weld is typically 90% as strong as the virgin alloy or 250 times stronger than the best solder.

Laser welding is capable of welding tasks beyond the capability of traditional welding methods...



Laser Welding

HYDRO FLAME SOLDERING is an oxy-hydrogen generator that operates by converting distilled water into an oxygen/hydrogen fuel gas.

Is much cleaner and reduces or eliminates oxidation that is caused by bottled gases that are used with traditional soldering torches.

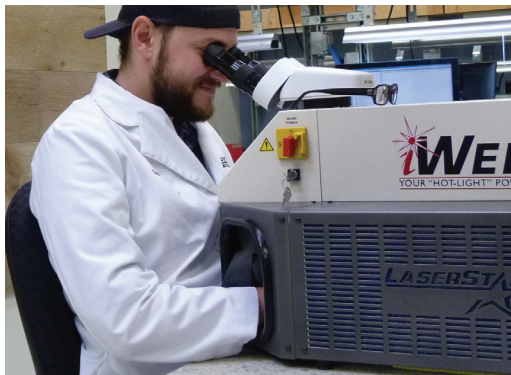
Soldering does create a strong bond once the solder cools and hardens.

Solder is used as a filler metal that flows behind and around the large gaps of the two pieces of metal and bridges them together.

Soldering material is composed of silver, copper, zinc and tin which have different melting points which can cause porosity in the solder joint and will discolor over time.



Hydro Flame Soldering



Laser welding



This soldering method is still necessary in some appliance fabrications.

Solder chemical composition:

Tin 4.5-5.5%, Zinc 15.0-19.0%, Silver 55.0-57.0%, Copper 21.0-23.0%, Other 0.15%