

Ultrasonic Welding - The Environmentally Friendly Technology for a Sustainable Future



PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SIEVING



Bronschhofen (CH), August 11, 2023

In a time where environmental consciousness and sustainability play an increasingly vital role, it is crucial to leverage innovative technologies that make a positive contribution to reducing environmental impact. Ultrasonic welding is one such technology that is environmentally friendly in multiple ways and significantly contributes to promoting sustainability across various industries.

Ultrasonic welding is a process that enables the bonding of plastics and other materials without the use of adhesives or solvents. Instead, this technology utilizes mechanical vibrations that generate ultrasonic waves to weld the materials together. Compared to conventional welding techniques, ultrasonic welding offers several environmentally friendly advantages:

Energy Efficiency: Ultrasonic welding requires less energy than traditional welding methods like hot air or laser welding. The ultrasonic-based technology directly converts a significant portion of the energy used into vibrations, thereby reducing energy consumption. This not only lowers CO2 emissions but also decreases energy costs for businesses.

Avoidance of Pollutant Emissions: By avoiding the use of adhesives or chemical solvents, ultrasonic welding generates no harmful emissions. This minimizes the release of toxic substances into the environment, safeguarding the health of workers and the general public.

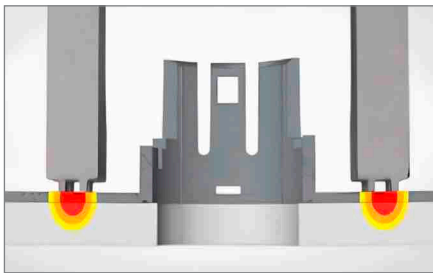
Recyclability: Ultrasonically welded products are generally more recyclable than materials bonded with adhesives. Since no harmful residues are produced, the materials can be efficiently recycled and reused after the product's lifecycle, reducing waste and the demand for new materials.

Time and Material Savings: Ultrasonic welding is a rapid process that allows for high production rates. It is also more precise than conventional bonding techniques, leading to less waste and lower consumption of raw materials.

Versatility: Ultrasonic welding can be applied to a wide range of materials, including plastics, textiles, metals, and even food packaging. This versatility enables the technology to be utilized across various industries, promoting sustainable solutions.

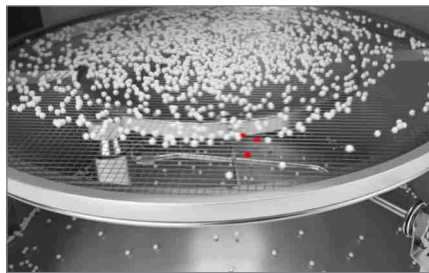


Joining Technology



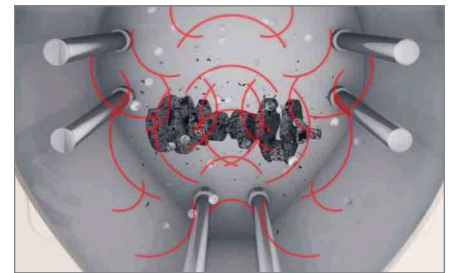
- The energy is applied only in the welding zone
- Heating the tools is not necessary
- No starting energy is required

Sieving



- A reduced friction coefficient increases throughput
- The higher selectivity reduces waste
- The resonance system requires only minimal energy input to maintain the vibration

Cleaning



- High degree of cleaning despite low bath temperatures
- Shorter process throughput times

By combining all these environmentally friendly characteristics, ultrasonic welding becomes a powerful technology that positively impacts companies' environmental footprint and fosters sustainable production. Businesses integrating ultrasonic welding into their manufacturing processes can not only reduce their environmental impact but also demonstrate their commitment to sustainable practices, enhancing their image and reputation.

It is essential for companies and industries to recognize and implement this advanced technology in their operations. Governments and organizations should provide incentives and support for companies adopting environmentally friendly technologies like ultrasonic welding to accelerate the transition to a sustainable future.

Ultrasonic welding represents a pioneering step towards more environmentally friendly manufacturing processes and a more sustainable society overall. It demonstrates that efficient and innovative technologies can play a crucial role in environmental protection, guiding us towards a greener future.

About Telsonic:

Swiss-based Telsonic Group has been a presence in Europe, America, and Asia with industrial ultrasonic solutions since 1966. Continuous innovation has given Telsonic a leading edge in many applications, providing customers with added value. With over 300 highly qualified employees, the privately-owned company specializes in plastic and metal welding, as well as cleaning and sieving with ultrasonic technology. Customers worldwide, including the automotive, packaging, and medical technology industries, appreciate the comprehensive services and wide range of ultrasonic components for system construction and complete welding systems.

«We are your partner for the development of your sustainable application and industrialization in the automotive or packaging industry.»

Dirk Schnur, Chief Marketing Officer