IMPROVING
PLASTIC PRODUCTS

through engineering and innovation

EXTOL INC

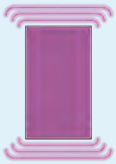
PLASTICS JOINING

Plastic Staking

Plastic staking is a method of joining components together that uses a molded stud or boss to mechanically retain a mating component. Heat is applied to the boss, softening it. A forming tool is then used to reshape the material into a cap or stake.

InfraStake
Focused infrared light radially heats the plastic boss and a non-heated punch forms the stake.

Hot Air Cold Punch
Heated air softens the plastic boss and a non-heated punch forms the stake.



Ultrasonic
Metal tool vibrates against the plastic boss generating frictional heat to melt it and form a stake.

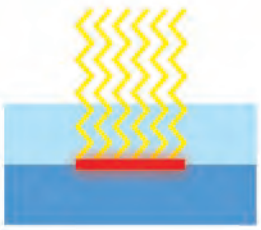
Thermal Punch
Heated metal forming tool melts and forms the plastic boss into a stake.

Hot-plate Welding

Hot-plate welding is the process of welding two plastic parts together using a heated tooling plate. A weld rib or bead on each component is brought into contact with the hot plate. Heat conducts into the weld rib causing it to melt. The heated tool is then removed and the parts are pushed together until they bond to one another.

Spin Welding

Spin welding is a method of joining plastic components together with surface friction concentrated in a circular weld joint. One part is spun relative to another and force is applied causing the material to heat and melt. The spinning process stops and the parts continue to be pressed together while they bond together.



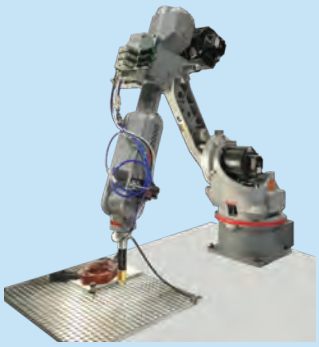
InfraWeld

The InfraWeld process uses infrared energy to bond a transparent or translucent material to a compatible opaque material with through-transmission welding. The two materials are clamped together and focused infrared light is transmitted through the top material and absorbed by the substrate, causing it to heat up. Pressure is applied at the interface and the materials are bonded together.

Ultrasonic Welding

Ultrasonic welding uses high-frequency vibration to melt and weld plastic. A tool vibrates at ultrasonic frequencies and causes concentrated molecular vibration in the weld joint. The friction between the molecules heats and melts the plastic. Once the vibration is stopped, the tool maintains a holding pressure on the joint to create a bond.

WHAT WE OFFER



Applications Lab

An extension of your engineering and research team.

Whether you need design help, feasibility testing, prototype support, or small pre-production part builds, our lab engineers are here for you.

Custom Machines

Custom plastics joining is our business.

Our 'Specials' team is all about custom machines. We provide solutions that meet your needs and we have the plastics joining expertise to make sure it is done right.

Rapid Conductor

The rules of hot-plate welding have changed.

The most sophisticated hot-plate welder available. Featuring fully supported, servo-controlled platens for fast, powerful, and independent force and distance control.

Compact FUSION

Half the size, plenty of power.

Smallest available servo-driven, hot-plate welder on the market. Ideal for smaller assemblies, clean-rooms, and limited space environments. Can be used in non-contact applications as well.

Vortex PRECEDENCE

Setting higher expectations.

The best equipped, highest value spin welding machine in its class. Integrated controls keep the footprint of this rugged bench-top unit very compact.

InfraStake

Staking at the speed of light.

Low-impact, clean, tight staking process that shines above other outdated, hot, sticky, and ugly staking processes. Available in turn-key machines and integration packages.

InfraWeld

Through-transmission welding at the IR spectrum.

Innovative through-transmission infrared welding in a compact package. This technology uses focused IR light energy to replace adhesives. Useful in both linear and spot welding applications.

Our Values
To honor and glorify God in as many unique ways as possible as we build an organization that competes in the marketplace with excellence and a partnership that is ours in Christ Jesus.

Our Mission
Extol is an engineering and innovation company that improves the way plastic products are made. We work with our customers to develop a robust product and process solution through prototyping and testing. We also provide production equipment to meet their unique needs and then support that equipment globally.

Our History
From humble beginnings in 1985, Extol has become a recognized supplier of high quality, standard and custom plastics-joining equipment.

Significant IMPACT
Significant IMPACT describes Extol's efforts beyond the scope of business. We're humbled and blessed that we can use our resources, a portion of our profits, and the willing energy of our people to relieve the affliction of the orphan, widow, fatherless, and poor around the world. Employees are empowered to take extra time off from work and contribute to the needs of others.

Over the years, Extol has supported many Significant IMPACT events and mission trips. Extol employees have worked with Back2Back Ministries, Habitat for Humanity, Water Missions International, World Orphans, and many other charitable organizations. Here's just one example of Significant IMPACT:

Extol sponsored teams of employees with companions to travel to the impoverished communities of Cancun, Mexico. The teams came alongside Back2Back Ministries, which ministers to orphans, widows, and vulnerable children in various cities throughout the world. Back2Back strives to break the cycle these kids and families are in by tending to their spiritual, physical, educational, emotional, and social needs.

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