

# Simpl-Seal® v. RF/Sonic/Heat ENERGY



## How does "ENERGY" differ, based on sealing method?

USING LESS ENERGY FOR PRODUCTION IS A COMPOUNDING BENEFIT.

Fact: Energy consumed by a conveyor and a UV lamp (Simpl-Seal) is far less than the energy consumed by a rotating or shuttling platform, a press and an energy burst (RF/Sonic/Heat sealing). Comparative energy savings are significant.

The best way to determine energy savings is to measure/compare energy demands. How many watts are consumed with each seal?

Most comparisons show that Simpl-Seal consumes between 5X and 10X less energy. And higher the production speed increases savings. Simpl-Seal is an energy saver.

Simpl-Seal also creates far less heat (result of far less energy consumption). So, noxious emissions from heated plastic are reduced and the need for cooling is reduced. Result? Less demand for HVAC. Another energy saver.

When production speed is increased by Simpl-Seal, production time is decreased and the production department is "on" for fewer hours. Another energy saver.

The possibility of reduced packaging weight/bulk are "choices" available with Simpl-Seal that translate to handling, transportation and space savings. Another set of energy savers.

THE ENERGY SAVING RIPPLE EFFECT WITH SIMPL-SEAL IS SUBSTANTIAL.

Why is energy such a hot-button?

The first answer is money/profit.

When making any decision to improve, profit is an eventual, key measure.

Simply put: Less energy used and paid for is good. More is bad.

The second answer is the "carbon footprint" of the business.

The environmental impact of energy is something every business contributes to. Energy is very high on the eco-list for all concerned agencies and consumers.

Simply put: Less is good. More is bad.

Consuming less energy means there less need to consume resources to produce energy AND there is by-product... more profit.



How can Simpl-Seal save so much energy?

The primary reason is the “seal process!” for RF/Sonic/Heat sealing is a combination of pressure and energy. The “seal process” for Simpl-Seal features adhesive and ultraviolet.

Pressure and Energy each consume a heavy volume of electricity. And, as the process cycles more rapidly (for more production), the amount of peak-energy consumed intensifies. The speed at which package seams are fused together raises or lowers peak-energy demands. Literally, faster sealing increases the energy consumed by each seal.

Adhesive and Ultraviolet work together to “cure” a bond. Simpl-Seal’s adhesive is catalyzed by ultraviolet (UV). As air is to most glue, ultraviolet is to UV-adhesive (but the UV cure is instant). Plastic surfaces that “touch” the adhesive are bonded when the UV-adhesive is cured (conveyor speeds in a UV-light tunnel). The “UV lamp” consumes the same amount of energy regardless how many seals are catalyzed. Literally, faster sealing reduces the energy consumed by each seal... a distinct departure from RF/Sonic/Heat.

Result? Speed of processing is a very important issue to energy consumption. With adhesive and chemistry, faster is better.

One *yes, but* question that is present is, “How much energy does it take to make and apply the adhesive?” Assume that a bottle of adhesive will affect 6,000-25,000 seals when applied via an automated (metered) processes... about a 200<sup>th</sup> of an ounce, at most. According to analysis, the related energy consumed per seal, to make the adhesive, is negligible.

Another *yes, but* issue concerns the labor to apply the adhesive when automation is not used. That labor is measurable. It is roughly equal to the labor for manually loading packaging into the tooling (not removing the package) used by RF/Sonic/Heat sealing.

Conclusion: Any savings that repeats for every package is very big deal. Energy saved, however, does not just represent money. It also represents eco-responsibility.

When energy savings are not present, this is easily treated as “no big deal.” But it is a big deal because it happens with every seal.

Energy saved happens ever month on the energy bill and because this saving goes on for the life of the equipment, the savings can and do eclipse the value of the equipment. Energy saved is important.