

Simpl-Seal® v. RF/Sonic/Heat Simplicity



How does "SIMPLICITY" improve packaging?

Simplicity improves reliability, shortens learning cycles, reduces fatigue, increases production quality and presents the opportunity to get more done in less time.

Consider Simpl-Seal's four components:

1. UV light system
2. Steel tunnel (confines/focuses UV)
3. Continuous, speed-adjustable conveyor through the tunnel
4. Ventilation

Primary maintenance is a UV light (replace every 100 shifts or so) and a clean machine.

Consider adhesive application:

- Application may be done manually via swab, squeeze bottle, etc.
- Application may be automated via a roller or robot
- Application may be semi-automatic, such as a hand-held, pressurized wand

From the standpoint of worker training, there are not many tasks that are simpler to teach and perform than application of adhesive.

Consider sealing:

Sealing a package is a conveyor ride through Simpl-Seal's UV tunnel.

What Makes Simpl-Seal so simple?

Simpl-Seal was invented in the 1990s. Before UV-sealing, packaging machinery that was available, harmed sensitive merchandise with heat and high-energy signals. And, since manual package sealing operations were far too costly, Simpl-Seal's cool-seal, low-energy, fast-cure UV-adhesive seal was a practical response.

Q: Because simplicity is well-demonstrated by comparison, "What does Simpl-Seal do differently than its predecessors?"

A1: No pressure, no energy bursts, no arcing, no high-heat, no rotating or shuttling table, no tooling and no fixtures.

A2: Continuous conveyor sealing replaces methods that feature production-limiting cycle times.

Simplicity – Simpl-Seal® v. RF/Sonic/Heat



Compare Set Up:

<u>Predecessor Sealing</u>	<u>Comment</u>	<u>Simpl-Seal Sealing</u>
A-Fit the press with tooling	Different	A-Fill adhesive dispensers
B-Verify/adjust power, cycle, etc.	Different	B-
C-Test the process	Similar	C-Test the process

Compare Production:

<u>Predecessor Sealing</u>	<u>Comment</u>	<u>Simpl-Seal Sealing</u>
1-Denest plastic packaging	Same	1-Denest plastic packaging
2-Put contents in pkg (assemble)	Same	2-Put contents in pkg (assemble)
3- - - Continue	Unique	3-Apply Adhesive
4-Snap-close the package	Same	4-Snap-close the package
5-Place package in sealer	Unique	5- - - Continue
6-Pressurize, energize & seal	Different	6-Cure adhesive w/UV light
7-Remove package from sealer	Unique	7- - - Continue

A very good case may be made for reduced set up (A&B above).

A strong case can be made for more efficient use of sealing effort (3,5,6,7).

Please consider the following questions:

- Which is simpler, Simpl-Seal or its predecessors?
- Is it simpler to apply adhesive or handle packages (in and out of a press)?
- If all steps are automated, which process is least complex?
And what affect does this have on production?
- If all steps are automated, is either process capable of packaging to order?
And what impact could this have on cost, inventory and warehousing?
- What impact does sealing cycle-time have?

Simplicity has four natural values:

- 1] learning/use
- 2] production-line changeover
- 3] maintenance
- 4] reliability

Simplicity... Simpler isn't "just better."

Simplicity... A simpler process reduces time, minimizes worker skill-sets, reduces fatigue, minimizes maintenance and reopens the door to *packaging for order* (JIT) instead of packaging for inventory.

Simplicity... Fewer packaging restrictions: increase designable shelf-presence, allow more cost-saving material choices, improve sustainability without increasing costs.