

# Trapped Card vs. Trapped Blister

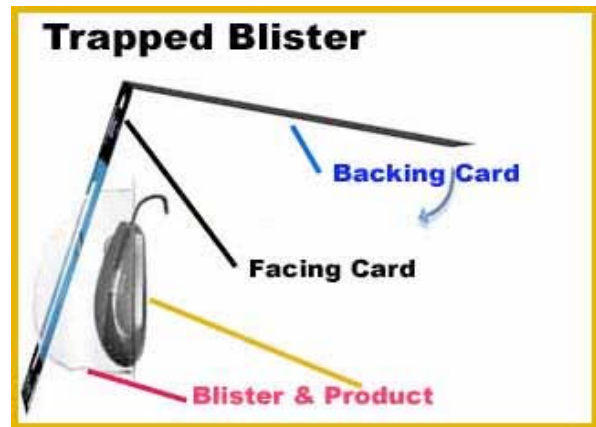
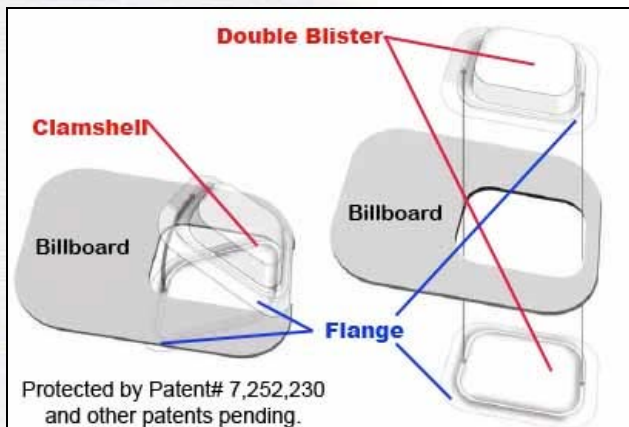


A Trapped Blister and a Trapped Card: 1) reduce plastic used in traditional clamshell-style packaging; 2) and convey a “sustainable message” to consumers and merchandisers.

Consider a 5X7 clamshell (70 sq in plastic) with small merchandise that “needs” a 3X4 plastic package, but security and shelf-presence demand 5X7.

- The Trapped Card is 25 sq in, total plastic (35 sq in less).
- The Trapped Blister is 22 sq in, total plastic (38 sq in less).

In both cases, the “rest of the package size” (for security and shelf-presence) is provided by paper. Result? Over 60% plastic reduction.



The Trapped Card is so named, because a double-blister or hinged clamshell traps a single-card billboard (card cutout matches interior of blister). Note that no “treatment or chemicals” are required for the card.

Manual assembly is a five-step process:

1. Fit bottom blister through the card
2. Add blister contents
3. Apply adhesive to the top blister
4. Snap together the top/bottom
5. Convey through Simpl-Seal®

**Things that are different:**

- A. Product visibility
- B. Security
- C. The seal
- D. Machinery (assemble/seal)
- E. Sealing speed
- F. Energy consumed
- G. Paper Weight/Printing
- H. Paper coatings/chemicals
- I. Overall landfill bulk

The Trapped Blister is so named, because a flanged blister is trapped between two cards (one with a card cutout matching the blister and the non-cutout covering the flange) and the other card is solid.

Manual assembly is a six-step process:

1. Fit blister through facing card
2. Add blister contents
3. Fit backing card to facing card
4. Place closed package in sealing tool
5. Sealer heats/pressurizes for seal
6. Sealed package removed from tool

**Things that are similar:**

- 1) Plastic Type
- 2) Plastic Weight
- 3) Paper Type
- 4) Assembly (process)
- 5) Recycle-ability
- 6) Billboard
- 7) Easy Open
- 8) Adhesive
- 9) Material Cost

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Which one is superior?

- The Trapped Card features full merchandise visibility (like the 5X7 clamshell-style package it replaces). If full content visibility is important, the Trapped Card is functionally superior.
- The plastic-to-plastic seal of a Trapped Card secures content. The paper-to-paper seal of a Trapped Blister is not as secure. For security, the Trapped Card is functionally superior.

These are “maker/breaker” issues, if visibility and security are significant influences.

The **Trapped Card** affects its seal, plastic-to-plastic.

- Adhesive is applied to either of the snap-together halves. When snapped together (thus trapping content/card), the seal is ready to be cured.
- UV cure is done at conveyor speeds (via the Simpl-Seal® UV light tunnel). When a snapped-together package sees *the UV light*, a seal is instantly and securely bonded.

The **Trapped Blister** affects its seal, paper-to-paper.

- Sealing adhesive is applied during the card print process. (Adhesive application during assembly is an option.) After assembly, the two pieces of paper that “trap” the flanged blister and content are ready to be sealed together.
- Adhesive cure is done in a press with a sealing tool (the seal pattern). While under pressure, an energy burst activates adhesive along the seal pattern. The seam is cured as the adhesive cools. Cycle time is the time required to repeat the process.

What else?

- Sealing Energy for the Trapped Blister’s press and energy burst is significantly greater than the power for a Trapped Card’s UV light.
- Sealing Pace of the Trapped Card can match the optimum labor assembly rate while the Trapped Blister’s pace is set by the cycle time.
- Weight – Assuming both methods result in the same packaging rigidity, the amount of paper used by the Trapped Card is less... so there will be less weight.
- Bulk of the Trapped Card is predictably less than the bulk of the Trapped Blister.

Option

With the Trapped Card, for “easy open,” spot seal or *snap* together may be employed.

Why is there a difference in **paper** volume/weight?

Rigidity. Getting a rigid look-and-feel from two, edge-glued pieces of paper requires more paper than getting the same look-and-feel from a single card.

One issue that arises with this comparison is adhesive. What does it cost?

- With the Trapped Blister, adhesive may be applied as an extra step in the printing process... called “dry adhesive” (chemical/adhesive coating). Cost is typically a ½cent per package of this size (\$500 per 100,000 cards).
- With the Trapped Card, adhesive is “wet applied,” in line, during the assembly process. Adhesive cost is typically a ½cent per seal for packages of this size.

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Another issue is assembly. Which is simpler, assembling two cards and one plastic piece or assembling one card and two plastic pieces? In both cases, one piece of plastic must be fitted through one card. In the case of the Trapped Blister, the second card is matched to the first. In the case of the Trapped Card, the second plastic piece is matched to the first. People can deal with either case. (See “Automation” below.)

A potential issue is “registration.” When the Trapped Card’s plastic is “snapped” together, top and bottom registration is a “snap.” Everything lines up. Such is not the case with the Trapped Blister. When the Trapped Blister is assembled, registering the face and back cards can be an exacting task. The task is simplified when the face card and back card are hinged... a common feature. When the cards are not registered, assembly is off center (edges are mismatched). This is correctable by trimming package edges after sealing.

Both packages use a wide variety of plastics, suitable for recycling, so in this they are similar. Recycling can be a difference, though. If a Trapped Blister needs more security, gluing paper and plastic together makes such an improvement, but contaminated plastic is not recyclable.

Both packages use a wide variety of paper. However, corrugate is both reasonable and recommended for the Trapped Card. Corrugate is rigid, inexpensive and light-weight... perfect for keeping handling at minimum while maximizing sustainability

### Automation

Automation has three functions: production consistency; increased volume; labor reduction. And, labor reduction is the big payback. Automation for both package styles is parallel. Blister denesting, fitting cards/blisters, adhesive application, pick-and-place contents, closing, registering and sealing can all be automated. A one-machine-one-operator approach may be taken. So, what are automation’s most important differences?

- Simpl-Seal (Trapped Card) seals at automation’s fastest pace. Trapped Blister’s sealing cycle time restricts automation’s pace.
- Reliability, maintenance and changeover time are all better with the equipment that assembles and seals the Trapped Card (see Simpl-Seal and Simpl-Track).

### SUMMARY:

The choice between a Trapped Blister and Trapped Card comes down to security, energy, visibility, labor and (to a finer extent) with sustainability. Testing will determine these differentials. The key is testing.