SPECIAL PACK INNOVATIONS

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Contract Packaging

- What do we do?
  - Customers that do not want to do in their facility
    - Managing Temp works/agency
  - Completing projects per the customer requirements
    - Small quantity jobs, capacity, labor intensive, reworking jobs.

Contract Packaging

- Different Specialists
  - Liquid filling
  - Shrink Wrapping
  - Shrink Sleeve
  - Blister Sealing
  - Building Displays (Club store)
    - Full, half, quarter pallets, and skinny towers

Contract Packaging

- Industries Interested in Contract Packaging Companies
  - CPG (Consumer packaged goods) companies
  - Club Stores
  - Food
  - Pharmaceutical Packaging

Definition of Special pack

- Bonus features
- Brand recognition
- Kitting for a “special price/discount”
- Marketing
- Secure package

Blister Packs

Sealing Overview

- Different types
  - Hot/Cold sealing machines
  - Radio Frequency sealing machines
- Automation
  - Can there be any automation used with blister packaging?
- Requirements
  - Tooling
  - Material

Sealing Methods

RADIO FREQUENCY SEALING MACHINES

- Welding specific types of packaging materials
- Heat dies – manufactured using brass, aluminum and or other metal.

HOT/COLD MACHINES

- Quicker process than the RF sealing method
- Higher volume production requirements
- Trays can be manufactured in Wood with a rubber buffer. Inexpensive, however there would be a replenishment.

Sealing Methods – Material Usage

- Commonly Polymers Utilized –
  - **PVC** (Polyvinyl Chloride),
  - **PETG** (Polyethylene Terphthalate Gylcol),
  - **RPETG** (Recycle Polyethylene Terphthalate Gylcol)
  - **PET** (Polyethylene Terphthalate) -
- Corrugated Material – 32 ECT (Edge Crush Test) E-flute
- Paperboard Material – 18pt – 24pt SBS (Solid Bleach Sulfact) material
- Coating –
  - Heat seal coating
    - water based
    - Solvent Based
  - Varnish coating to prevent scuffing.

Sealing Methods – Applications

- Tri-fold blister seal –
  - 1 tri-fold SBS blistercard
  - 1 Plastic piece for the product to be placed.

Sealing Methods – Applications

- 2 - piece blistercard seal –
  - 1 SBS and 1 E-flute blistercards or 2 ECT 32 E-flute blistercards. The front card will have a cut out for the blister to be placed in.
  - 1 Blister piece for the product to be placed

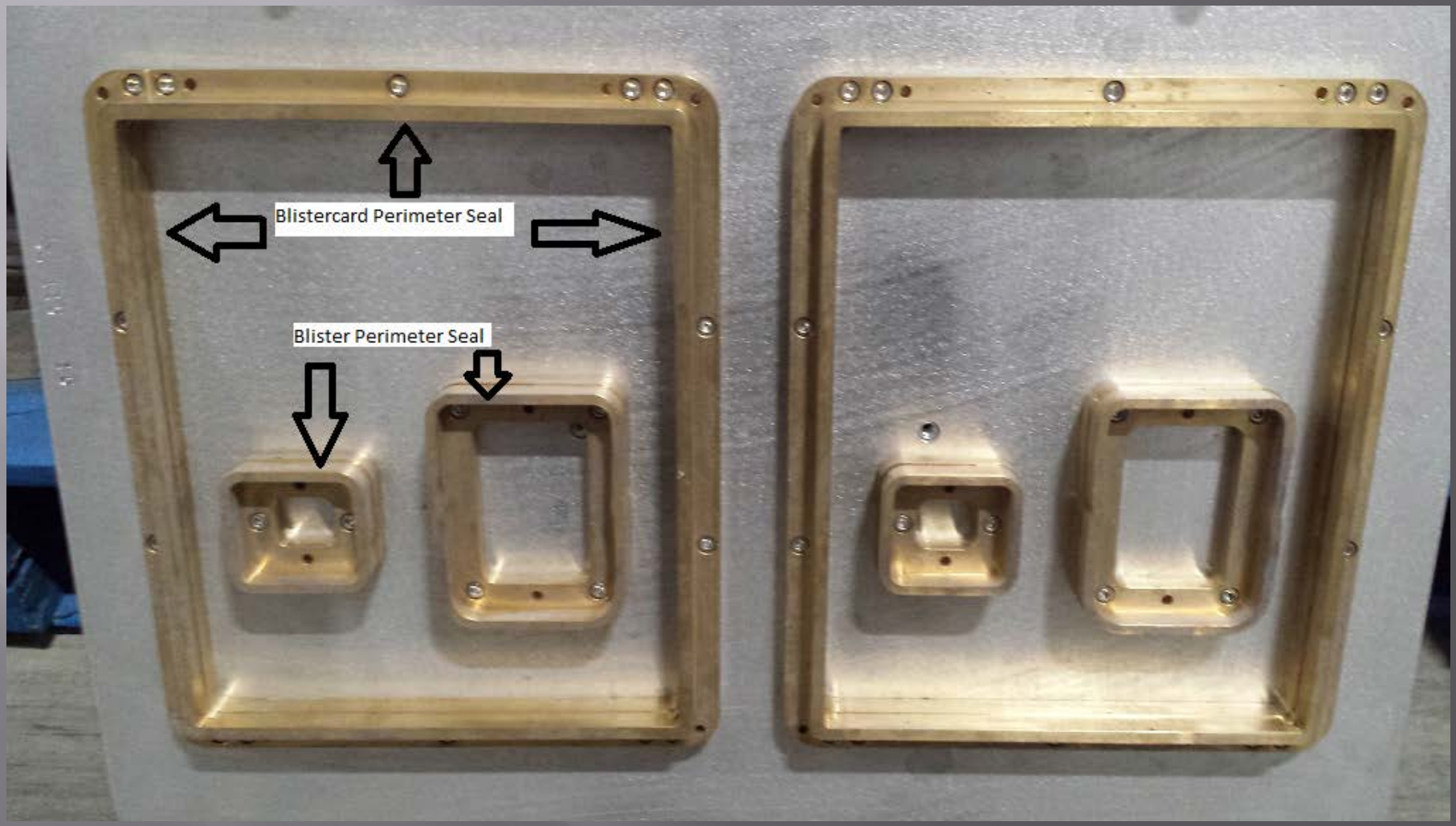
Sealing Methods – Applications

- Face seal
  - 1 SBS blistercard with heat coating
  - No cut out piece on the SBS blistercard
  - 1 plastic blister

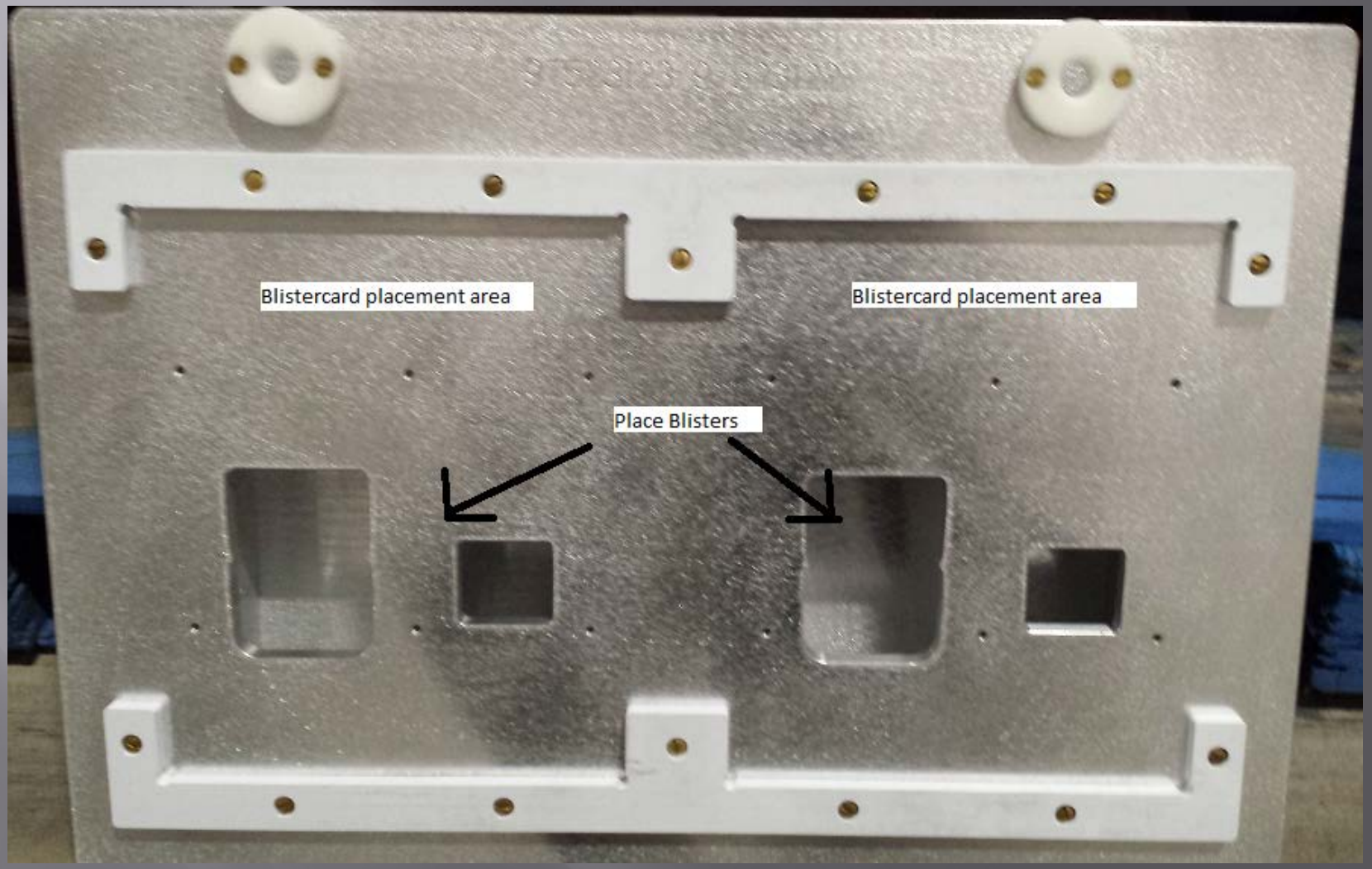
Sealing Methods – Applications

- Clamshell/2-piece blister to blister

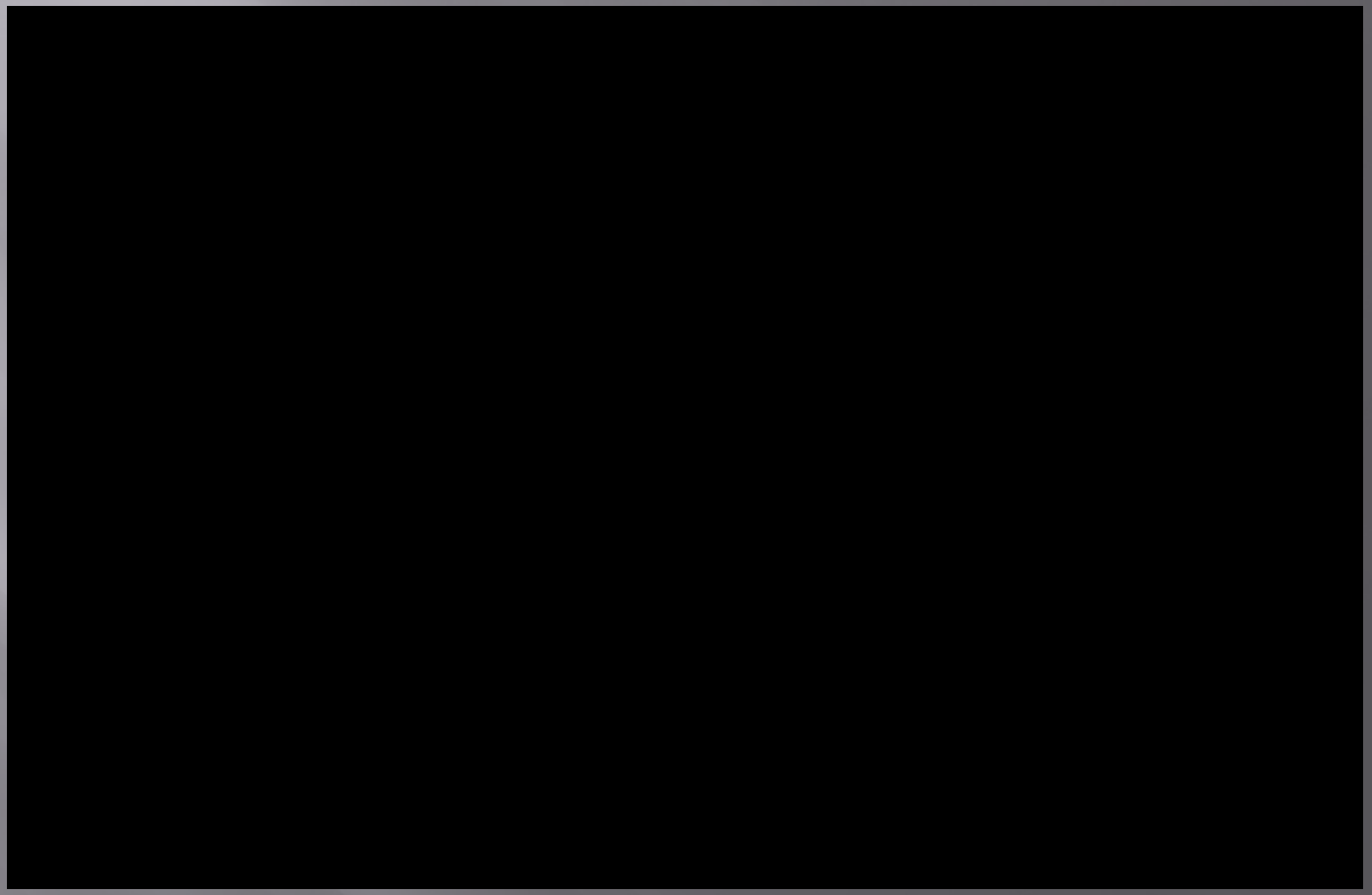
Tooling – Seal plate Two up Die



Tooling – Component Tray



Sealing Methods – RF Machine Video



https://www.youtube.com/watch?v=pqO7B8zt-Uo

references: http://www.cosmos-kabar.com/

Sealing Methods – Hot-Cold Machine Video

https://www.youtube.com/watch?v=ibIfcJvVdLQ

references: www.starview.net/

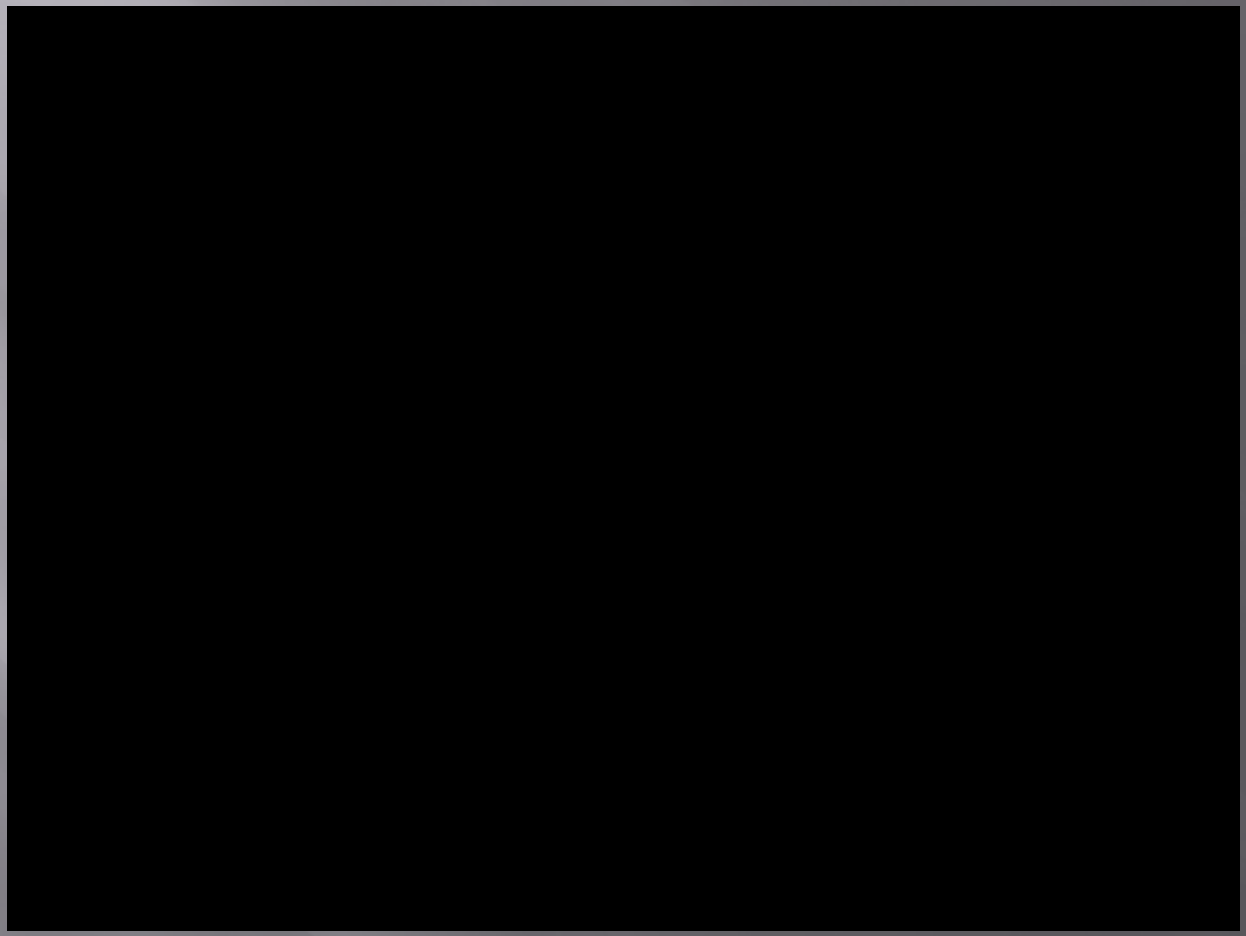
Other Sealing Methods

- Skin packaging
  - Product is placed on a substrate base then treated/heated PE (Polyethylene) skin film will contour around the product.
  - Video – next slide
- Stretch pak
  - Similar to skin packaging

with the blistercard included

Reference: CardPak

Skin Packaging Video



https://www.youtube.com/watch?v=dtXaVtle3CM

Reference: Pyramid Packaging Inc.

Automation

- Fully automatic Carousel machines
  - Hot and cold sealing methods
  - RF sealing methods
  - One bottom blister feed station
    - Tooling
  - Heat sealing station and Cooling station
  - Bottom blister card feed station
  - One insert card feed station
  - One top blister feed station
- Robotics
  - Denso
  - Rethink
  - Bosch Packaging – Pick and Pack

Reference:
http://www.starview.net/starview-packaging-clamshell-sealers.html

Blister Seal – Automation

https://www.youtube.com/watch?v=yruQWgzNwzk

Reference:
http://www.starview.net/starview-packaging-clamshell-sealers.html

Shrink Wrapping

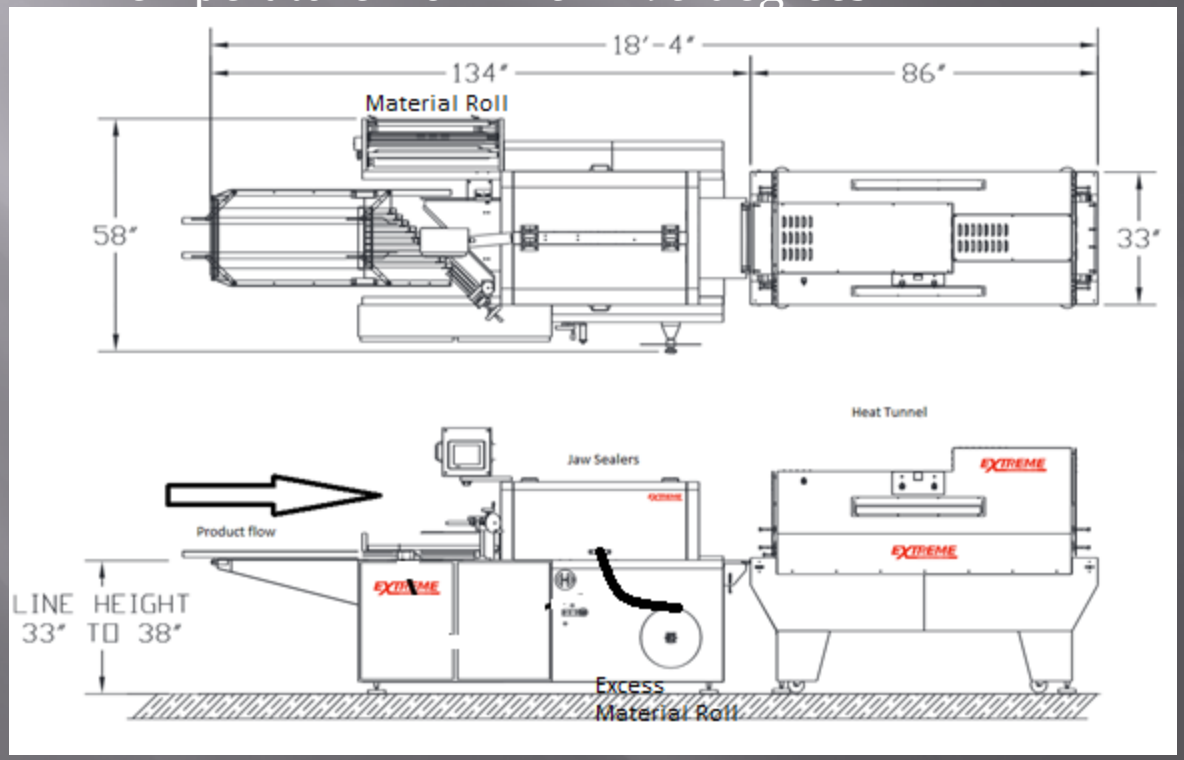
- Side End Seal
  - LDPE material
  - Twin pack
  - Triple pack
  - Bundles to prevent scuffing in distribution.
- Lap Seal – Flow wrapper
- Bulls eye packaging

Challenges

- Customer requirements
- Annual Quantities/Volume
- Consistent product sizes and weight

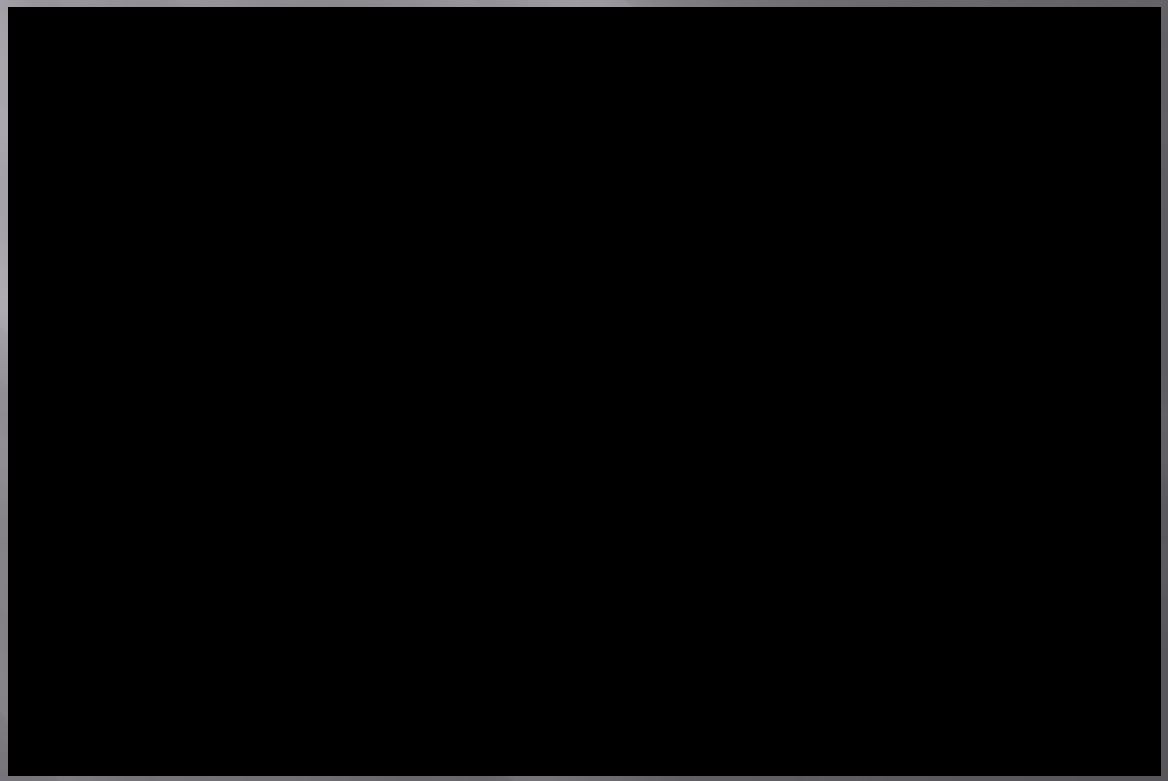
Side End Seal Machinery

- In-feed system
  - The secondary cartons are together prior to the side end seal machine.
    - Example twin pack
- Heat tunnel
  - Depending on the material thickness your temperature will vary
  - Temperature from 275 – 295 degrees



Side End Seal Machinery

- Video examples
  - https://www.youtube.com/watch?v=Y-NTGP0nK7s – Extreme machine



Reference: Extreme

Side End Seal Machinery

- Video examples
  - https://www.youtube.com/watch?feature=player_embedded&v=M5v_6d15i34#t=73 – Texwrap

reference: Texwrap

Side End Seal Machinery

- Video examples
  - https://youtu.be/De2bnxOV__I?t=53 – Showing the Heat tunnel process fully

Side End Seal Machinery

ADVANTAGES

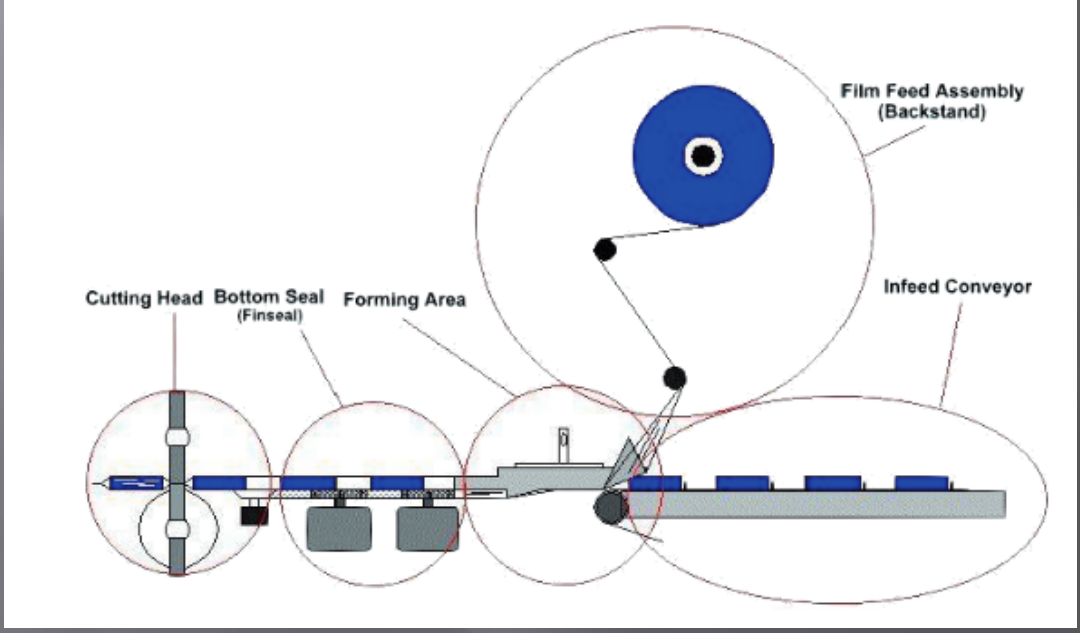
- More Versatile – Folded films therefore you can use multiple product sizes
- Stocked film rolls are available

DISADVANTAGES

- Excess scrap of the plastic material
- 3 sided seals (marketing issue)

Lap Seal – Flow wrapper

- There is no side seal required
  - Good for products that have graphics on all sides of the package.
- Finseal
  - Products enter a former where the sealing film is wrapped and cut through the finseal wheels.



Lap Seal – Flow wrapper

ADVANTAGES

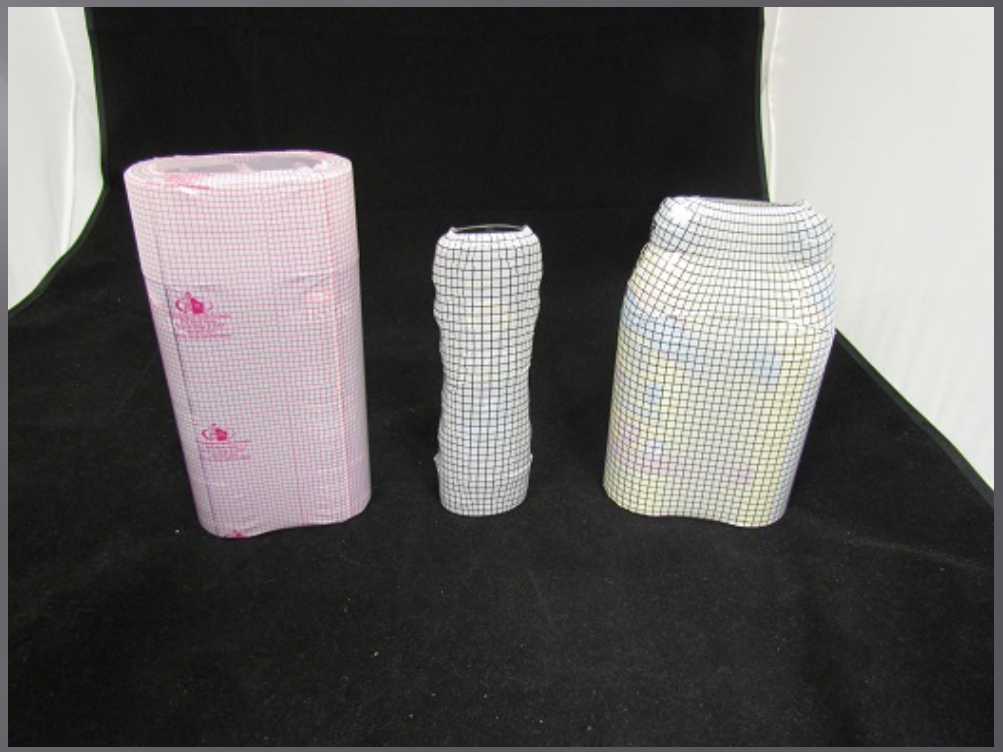
- 2 end seals
- Conforming
- No scraping of material

DISADVANTAGES

- Tooling requirements (forming plow for each of the width size products)
- Dedicated film size

Shrink Sleeve

- Variety of Pack-outs
  - Twin
  - Triple
  - Bonus product
- Materials
  - PETG
  - PETG-LV
  - PLA
  - OPS
  - PVC
- Automation
  - ROI?



Shrink Sleeve

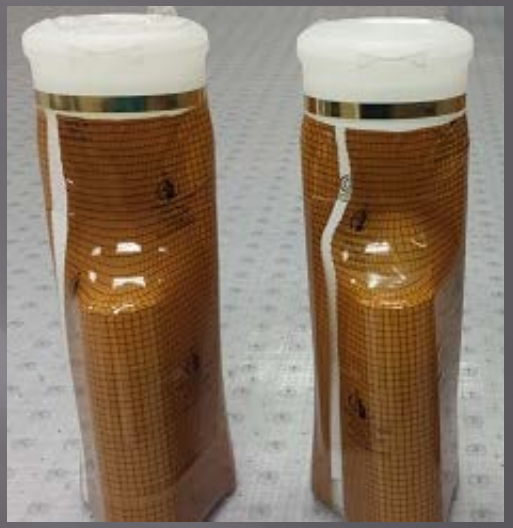
- Materials based on primary packaging
  - The configuration/conformation of the product line.
  - Cut Height – The length of the shrink sleeve from bottom to top (Vertical Measurement)
  - Lay flat- The measurement from Left to the right (horizontal measurement) ½ of the circumference +3-10 mm

Shrink Sleeve – Example

Cut height – 205mm

Customer not approved

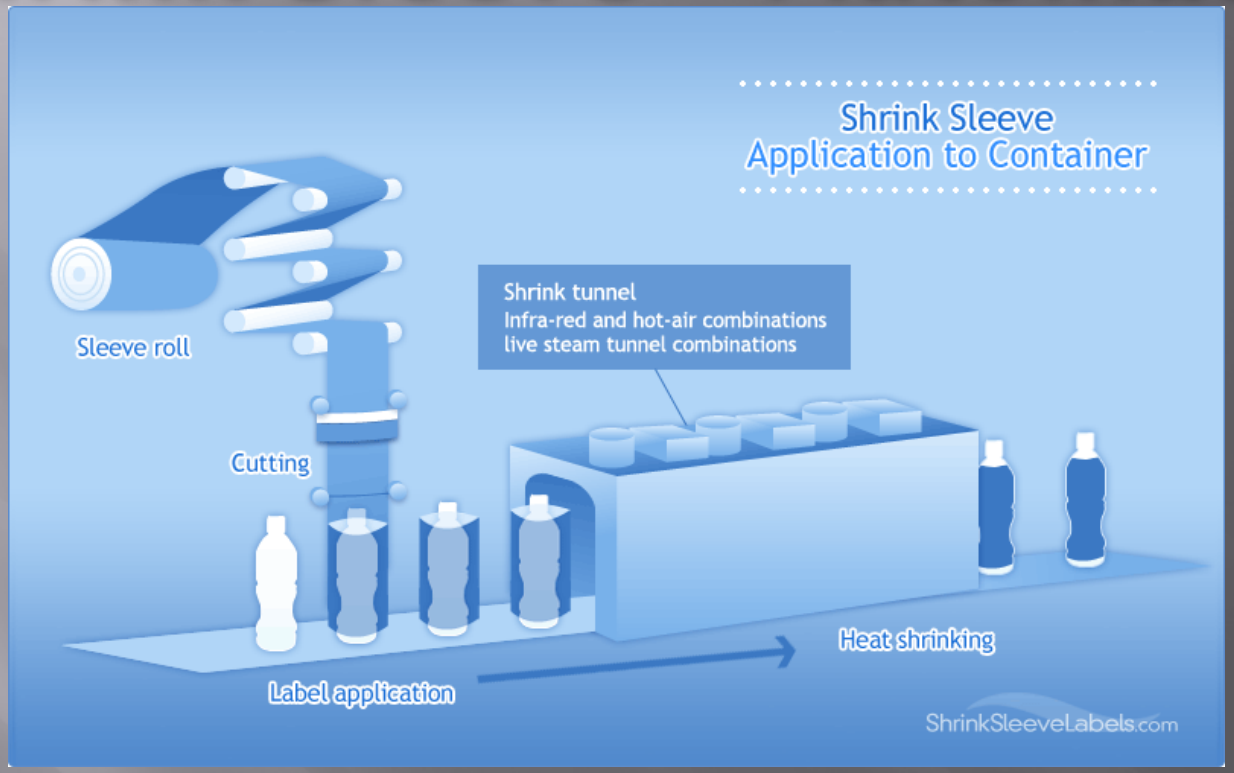
Cut height – 215 mm



Customer Approved

- The difference of 10 mm provides a failure to approval from the customer.
- It's vital to provide lead times of 2-3 weeks of sampling work to ensure the shrink sleeve size is appropriate for both customer based and manufacturing.

Shrink Sleeve – Automation



- http://www.axoncorp.com/products/multipacking/

Shrink Sleeve – Automation

ADVANTAGES

- Large volumes will maximize the amount of special packs. 1-4 different sizes only
- Speeds up to 120-200 depending on machine and conveying speed.
- Small sq foot would be required.
- Flexible to use either heat tunnel or steam tunnel for shrinking.
- Shrink sleeves would be on a roll.

DISADVANTAGES

- Tooling required for different shrink sleeve sizes.
- Small quantities will not be efficient.

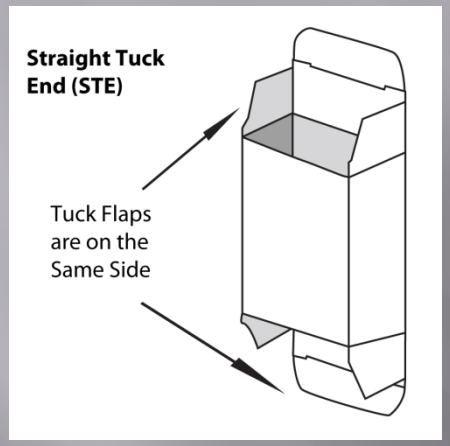
Special Carton Packages

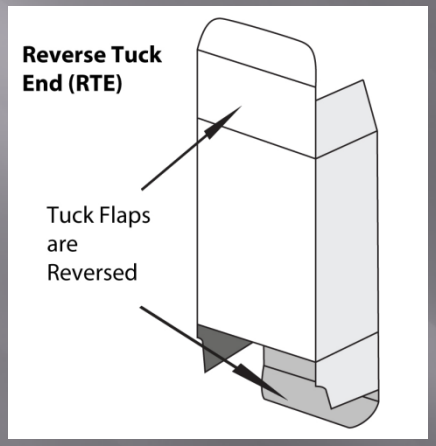
- Multiple Products placed into SBS or fluted cartons
  - 24 pt SBS cost saving idea CCNB or SUS?
  - 32 ECT (Edge Crush Test) values being used.
- Simple way to integrate the production line.
- Automation
- Seasonal

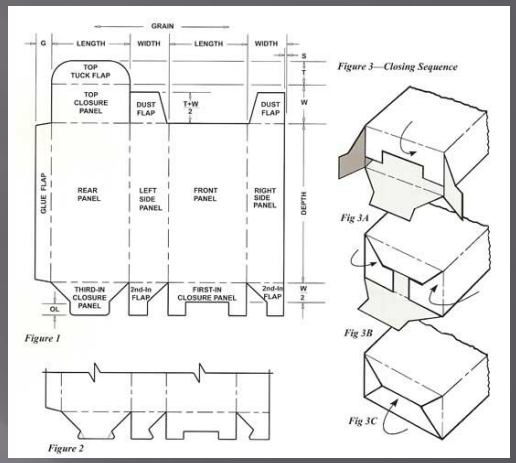
Special Carton – Material /Designs

- Paperboard- SBS, CCNB, and SUS
  - Straight tuck in, reverse tuck in, auto-bottom/tuck in top,
    - 20-24 pt board – suggested
  - Fillers/dividers (chipboard material)
    - 16-18pt board – suggested
- Corrugated – E- flute, B-flute, & C-flute
  - Glue side flaps pre-glued (save labor cost if manually completed)

Special Carton – Material /Designs





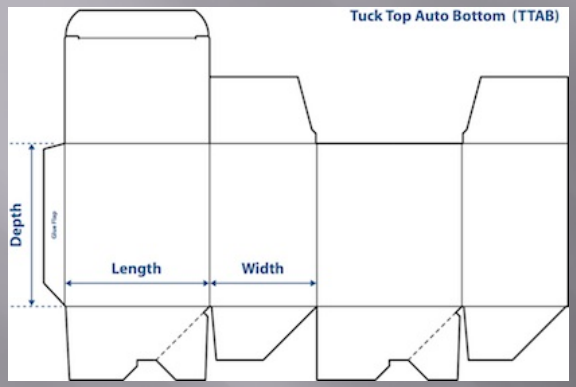


Tuck Top Snap lock bottom

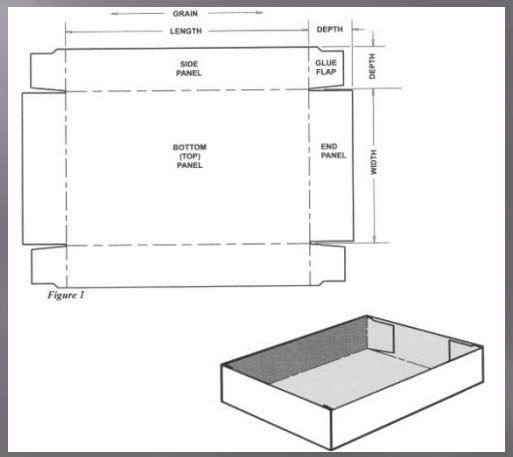
Mailer box/ SIOC

Photo references: howtobuypackaging.com; http://boxtemplatesstore.com; http://www.deprintedbox.com/corrugated-printed-mailer.php

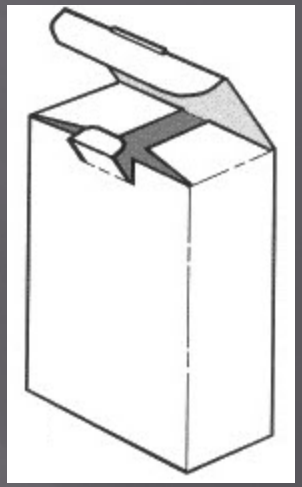
Special Carton – Material /Designs



Brightwood tray



Tuck lock carton



References:
http://www.johnsbyrne.com

Special Carton – Automation

- Variables to account for the appropriate machine
  - Volumes
  - Carton size
  - Flexibility
  - Machine Footprint

Combination

- SBS sleeve then shrink wrapped with LDPE material.
- SBS boot with a clear shrink sleeve
  - Provides flexibility with artwork layout and rework
- Special pack carton with shrink wrap
  - This will provide protection in transit for possible scuffing
  - This provides another option to go with instead of chipboard dividers

Special Pack Conclusion

- Blister pack
  - Security
  - Advertising
  - Marketing
- Shrink wrap
  - Flexible
  - Small volumes or High volumes
  - Change overs
- Shrink Sleeve
  - Different Materials
  - Product sizes
- Cartoning
  - Materials
  - Design Styles

Questions?

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