



# Richard Howlett Product Leader Accraply

## Ensuring the best results

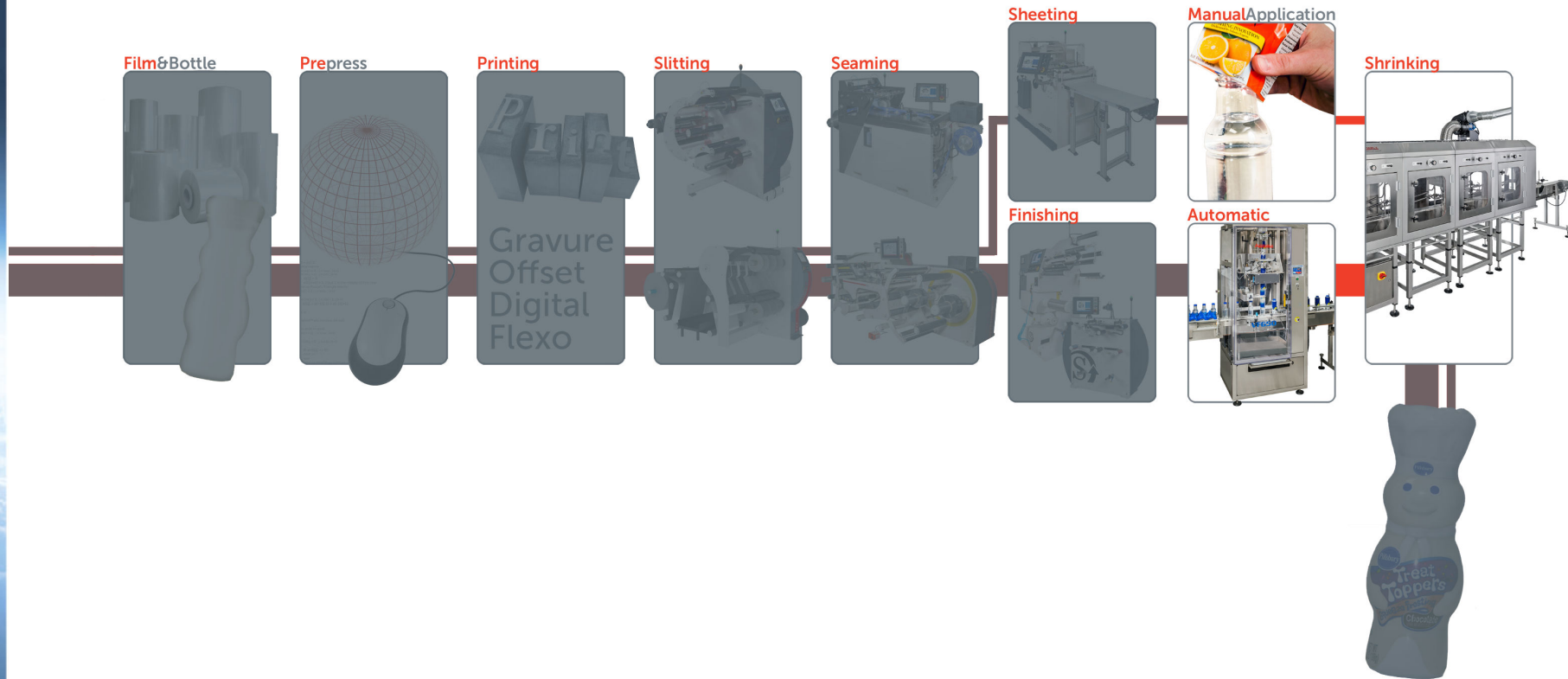


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# Application & Shrinking



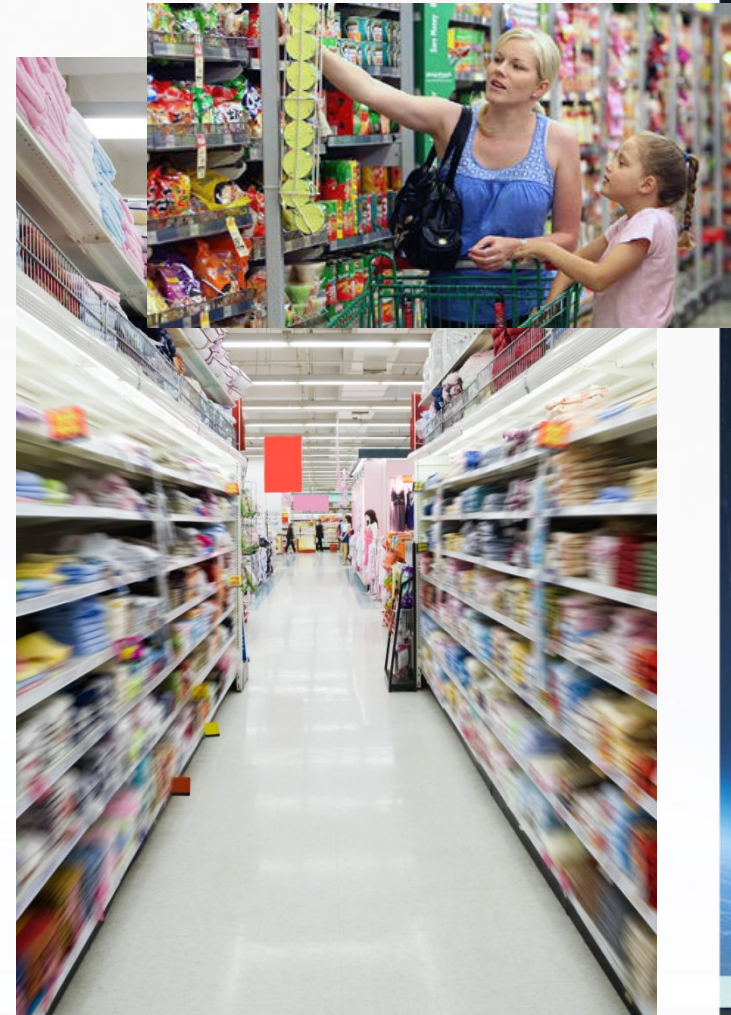
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## Shrink Sleeve What consumers see and where

1. Over 40,000 new FMCG products launched each year.
2. Up to 75% of purchasing decisions are made at point of purchase.
3. The average consumer's product attention lasts only 10 seconds.
4. Innovative Print and Packaging IS an important contributory factor in Brand success.
5. Commercials reach 13m consumers each week.
6. Walmart reach 150m consumers each week.
7. Market force study – caught my eye in store, biggest influence.
8. We see in order - colour, shape, numbers then words.
9. Larger landscape – 360 degree, top-to-bottom decoration.
10. Adopted in a wide range of end uses - Durable in most environments.
11. Brands that put energy into creating strong package designs gain a tremendous competitive advantage.
12. Package design is the least expensive and most essential part of the marketing mix, helping to drive trial, repeat purchase and brand equity.



**COLOUR - SHAPE - NUMB3R5 – WORDS =**



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# Agenda

- Shrink Sleeve Decoration Type
- Shrink Sleeve Process Conditions
- Overview Sleeve Application Systems
- Overview Shrink Systems
- Fault Finding and Troubleshooting
- Successful Case Studies
- Limitations for Growth
- Latest Opportunities
- Conclusion



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# Decoration Type | Tamper Evident



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# Decoration Type | Part Body & Shoulder



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# Decoration Type | Full-Body



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# Decoration Type | Tamper Evident & Full-Body



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# Decoration Type | Multi-Packing & Bundles



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## Shrink Sleeve Application Process Conditions



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# Shrink Sleeve Process Conditions | Before Starting

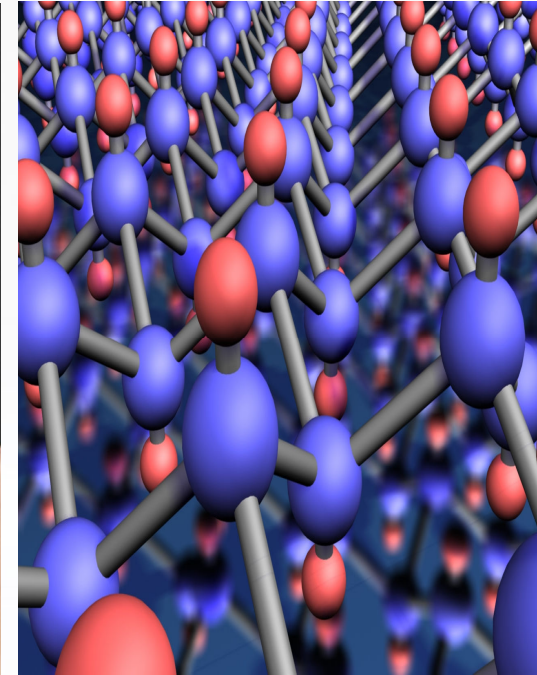
Container Material



Process Conditions



Film Material



Successful Combination

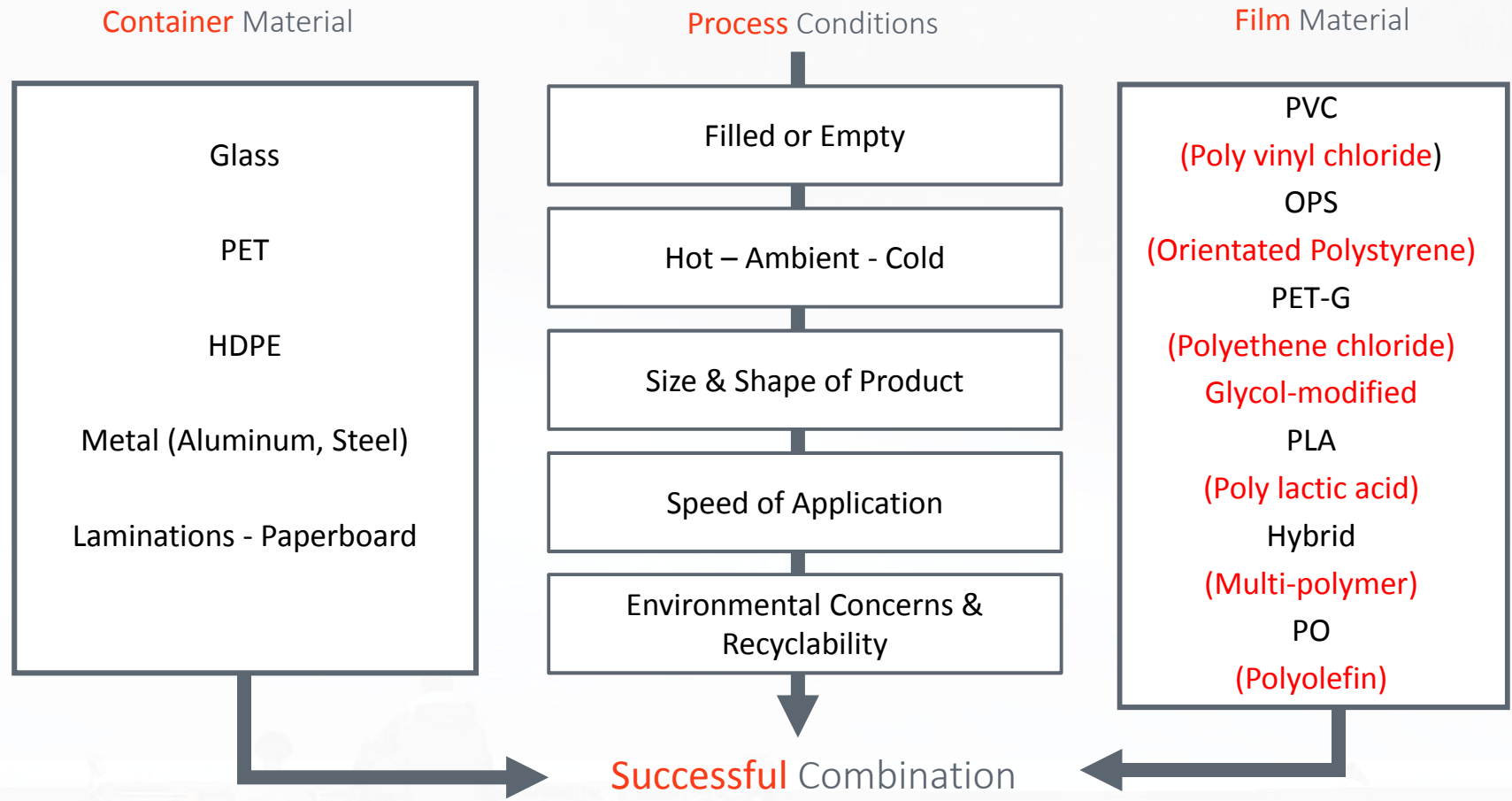


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# Shrink Sleeve Process Conditions | Before Starting



## Shrink Sleeve Process Conditions | Film Considerations

COMPARISON TABLE	PVC	OPS	PET-G	Hybrid	PLA
Shrinkage Factor - % shrink potential	G	G	E	E	E
Low Temperature shrinking	E	G	E	G	E
Clarity	E	G	E	E	E
Weld strength	E	E	E	G	G
Natural shrinkage	E	F	E	E	E
Moisture permeability	G	F	G	G	P
Gas barrier properties	G	F	G	G	F
Moisture barrier properties	G	F	E	G	F
Recycling ability – flotation systems	P	F	P	P	P
Incineration preferences	G	G	G	G	G
Resistance of direct sunlight	G	F	G	G	G
Antistatic properties	P	P	P	P	P
Resistance to scratching	G	F	G	G	G
Printability	E	E	E	E	E

E = Excellent	G = Good	F = Fair	P = Poor
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## Overview Sleeve Application Systems



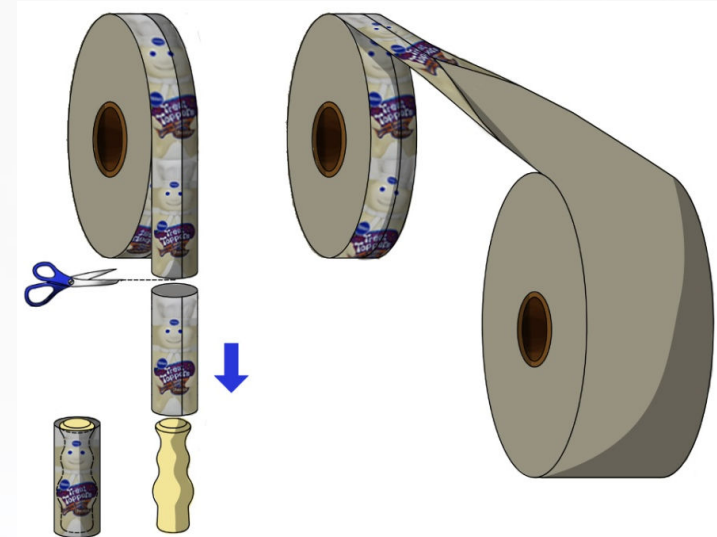
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# Before Starting | Application Methods

- **Manual Approach**
  - Manual Systems Require Minimum Entry Costs
  - Low Tech, Simple, Adaptable, Easy To Change Over
  - Suitable for Pre-Form and Pre-cut Consumables
  - Requires Higher Labor Input
  - Modest Output Capability:
    - 20 to 30 per minute per operator
- **Automatic Systems**
  - Automatic Systems Require a Capital Investment
  - High Tech, and part of an Integrated Packaging Solutions
  - Suitable For Tamper Seals & Full Body Sleeves
  - Low Labor Input
  - Maximum Output



# Application Systems | Agenda

- Carousel/Rotary Applicator
- Direct Apply Applicator
- Mandrel “Bullet” Style Applicator



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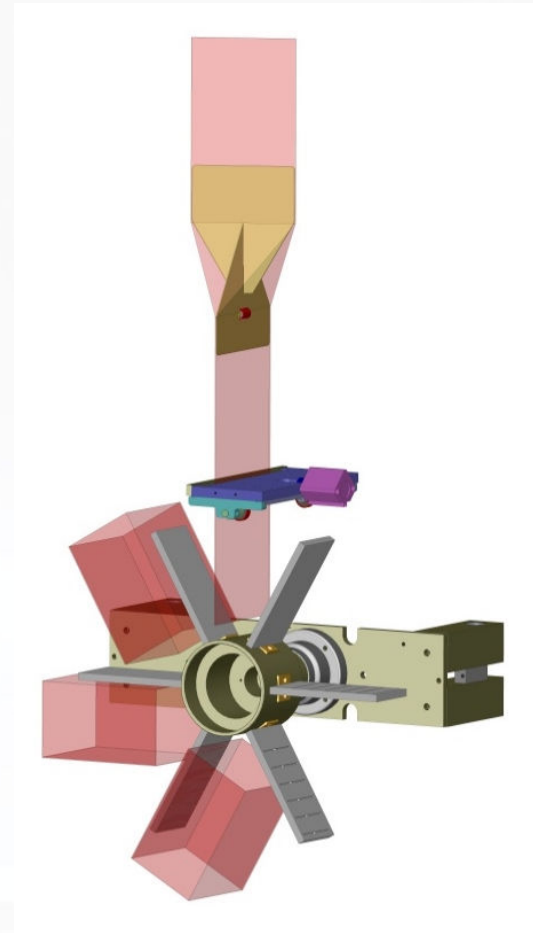
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# Application Systems | Carousel/Rotary

- Lower Cost Change Parts
- Low to Intermediate Speed
- Non-Round/Shaped Containers
- More Tolerant Of Materials
- Better Suited To Frequent Change-Overs



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## Application Systems | Direct Apply

- Low To Intermediate Speeds
- Low Cost (Generally Low Tech) Change Parts
- Often very compact design with small footprint



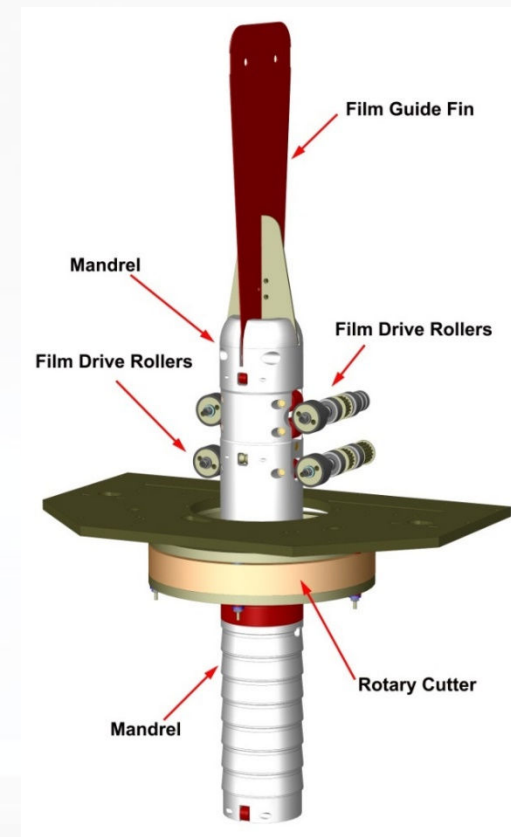
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# Application Systems | Vertical/Mandrel

- Generally Higher Capital Cost
- Change Parts are more Sophisticated
- Intermediate to High Speed
- Suited for Round or Cylindrical Containers
- Often Chosen for Continuous 24/7 Duty
- Quality Materials Required



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## Shrink Tunnels



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# Shrink Tunnels | Agenda

- Hot Air Shrink Tunnels
- (Convection)
- Radiant Shrink Tunnels
- (Radiation)
- Steam Shrink Tunnels
- (Conduction)



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## Application and Shrink

### Convection - Industrial hot air blowers.

Advantages	Disadvantages
Temperature controllable	Poor stability of temperature
Relatively inexpensive	Poor energy efficiency
Highly adaptable	Affected by ambient conditions
Adjustable air flow	
High temperatures possible	
Various nozzle accessories available	



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## Application and Shrink

### Convection - Hot air re-circulating tunnels.

Advantages	Disadvantages
Efficient energy use	High ambient heat
Directable heat	Higher capital outlay than individual blowers
Good temperature control	Not suitable for pre-heat of products
Low heat emission to production environment	Can be difficult to adjust when hot
High velocity air	Build up of eddy currents
Heat zones possible	



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## Application and Shrink

### Radiant - Infra-red heat tunnels.

Advantages	Disadvantages
Temperature controllable	High ambient temperature, particularly in the upper part of the tunnel
Energy efficient (with air re-circulating system)	Higher capital outlay than individual blowers
Food heat transfer properties	Difficult to direct heat
Selective heating possible	Heat resistant conveyors required



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## Application and Shrink

### Conduction - Steam tunnels.

Advantages	Disadvantages
Excellent heat transfer properties	Extraction required
No pre-heat required	Multiple services required
Uniform shrinking onto contoured containers	Careful selection of location required
Product subjected to lower temperatures	



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## Fault Finding and trouble shooting



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# Fault Finding and trouble shooting.....

- Container Shape
- Material
- Pre-press
- Printing / Ink
- Slitting
- Seaming / Welding
- Application
- Shrinking



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# Hints and Tips for Shrink Sleeves

- Shrink Slowly (But Sometimes Fast Is Better!)
- Shrink From the Bottom Up To Exclude Air (But Sometimes Top down!)
- Pre-Heating Of Glass/Metal Containers Often Helps
- Rotation/Spinning Can Improve Finish
- Pin-Perforate Sleeves If Necessary To Eliminate Air Entrapment
- Lock Sleeve At Container Base To Prevent Lifting
- Ensure Sleeve Layflat & Cut Length Are Correctly Sized
- Record All Settings So Conditions Can Be Replicated
- Use Your Machine & Material Suppliers' Expertise



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## Container Shape...



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# Container Shape...



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# Film Material...



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# Film Material...



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# Pre-Press...



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# Issues of Ink/Printing...



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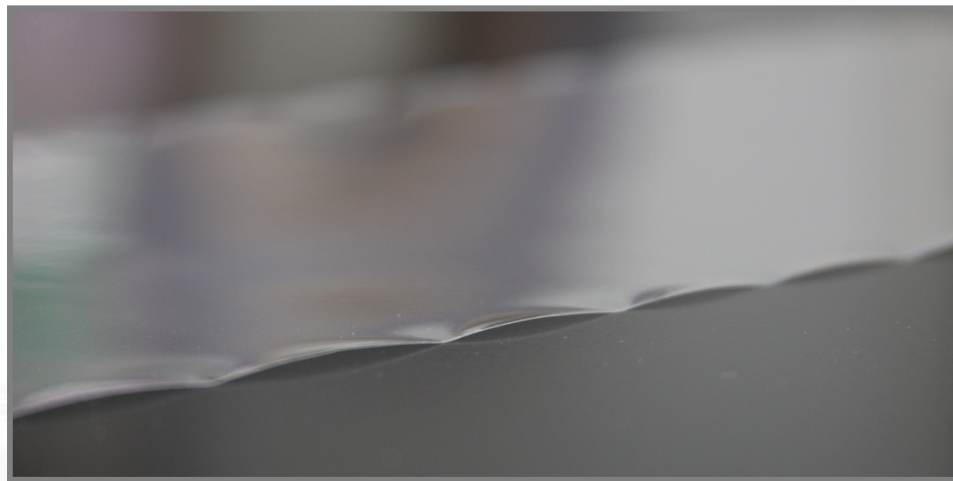
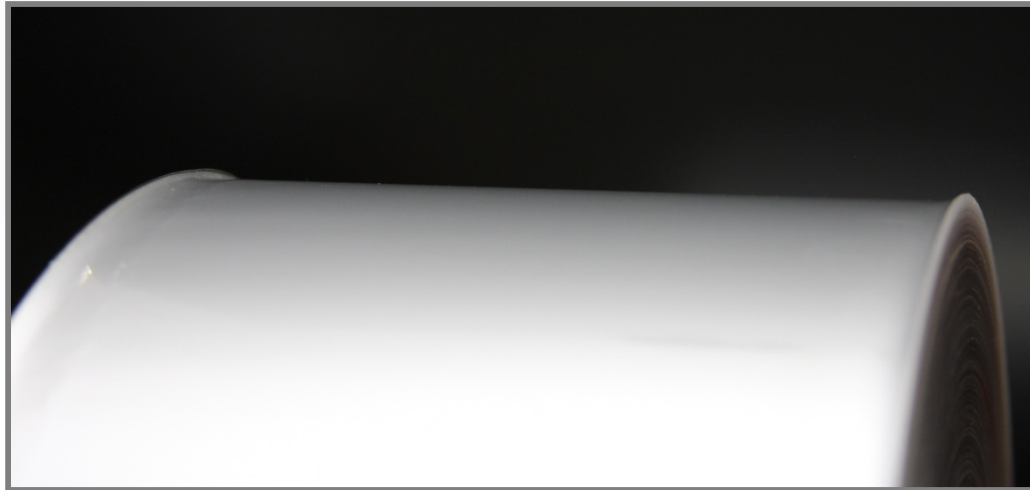


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# Slitting...



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# Seaming/Welding...



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# Seaming/Welding...



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# Application/Product Handling...



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# Application/Product Handling...



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# Tunnel/Shrinking...



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# Tunnel/Shrinking...



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# Tunnel/Shrinking...



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## Tunnel/Shrinking...



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## Successful Case Studies



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# Successful Case Studies

- Container Shape
- Material
- Pre-press
- Application
- Shrinking



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## Grupo Clesa (Parmalat)

<b>Country</b>	<b>Spain</b>
<b>Sleeve Application</b>	<b>VF650</b>
<b>Shrink Tunnel</b>	<b>Steam</b>
<b>Production Speed</b>	<b>200 PPM</b>
<b>Product Type</b>	<b>Plastic</b>
<b>Product State</b>	<b>Filled</b>
<b>Material Type</b>	<b>PETG</b>
<b>Material Cut Length</b>	<b>250mm</b>



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## Consol Glass Ltd

<b>Country</b>	<b>South Africa</b>
<b>Sleeve Applicator</b>	<b>VF650</b>
<b>Shrink Tunnel</b>	<b>Steam/Radiant Infra Red</b>
<b>Production Speed</b>	<b>350 PPM</b>
<b>Product Type</b>	<b>Glass</b>
<b>Product State</b>	<b>Empty</b>
<b>Material Type</b>	<b>PETG</b>
<b>Material Cut Length</b>	<b>195mm</b>



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## Diageo Baileys

<b>Country</b>	<b>UK</b>
<b>Sleeve Applicator</b>	<b>VF650</b>
<b>Shrink Tunnel</b>	<b>Steam</b>
<b>Production Speed</b>	<b>400 PPM</b>
<b>Product Type</b>	<b>PET</b>
<b>Product State</b>	<b>Filled</b>
<b>Material Type</b>	<b>PETG</b>
<b>Material Cut Length</b>	<b>94mm</b>



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Fred Olsen Agencies Ltd

<b>Country</b>	<b>UK</b>
<b>Sleeve Applicator</b>	<b>RF250</b>
<b>Shrink Tunnel</b>	<b>Steam</b>
<b>Production Speed</b>	<b>120 PPM</b>
<b>Product Type</b>	<b>Glass</b>
<b>Product State</b>	<b>Filled</b>
<b>Material Type</b>	<b>PVC</b>
<b>Material Cut Length</b>	<b>200mm</b>



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## H J Heinz

<b>Country</b>	<b>Ireland</b>
<b>Sleeve Applicator</b>	<b>RF250</b>
<b>Shrink Tunnel</b>	<b>Steam</b>
<b>Production Speed</b>	<b>100 PPM</b>
<b>Product Type</b>	<b>Plastic</b>
<b>Product State</b>	<b>Filled</b>
<b>Material Type</b>	<b>PETG</b>
<b>Material Cut Length</b>	<b>101mm</b>



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## Cross & Blackwell (Premier Foods)

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<b>Sleeve Applicator</b>	<b>VF650</b>
<b>Shrink Tunnel</b>	<b>Steam</b>
<b>Production Speed</b>	<b>340 PPM</b>
<b>Product Type</b>	<b>Metal</b>
<b>Product State</b>	<b>Filled</b>
<b>Material Type</b>	<b>PVC</b>
<b>Material Cut Length</b>	<b>112 mm</b>



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## Tiger Foods

<b>Country</b>	<b>South Africa</b>
<b>Sleeve Applicator</b>	<b>RF150</b>
<b>Shrink Tunnel</b>	<b>Steam</b>
<b>Production Speed</b>	<b>180 PPM</b>
<b>Product Type</b>	<b>Plastic</b>
<b>Product State</b>	<b>Full</b>
<b>Material Type</b>	<b>PVC</b>
<b>Material Cut Length</b>	<b>80 mm</b>



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Henkel

<b>Country</b>	<b>UK</b>
<b>Sleeve Applicator</b>	<b>RF250</b>
<b>Shrink Tunnel</b>	<b>Radiant Infra Red / Convection</b>
<b>Production Speed</b>	<b>60 PPM</b>
<b>Product Type</b>	<b>Tapes</b>
<b>Material Type</b>	<b>PVC</b>



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## Icelandic Water

<b>Country</b>	<b>UK</b>
<b>Sleeve Applicator</b>	<b>RF250</b>
<b>Shrink Tunnel</b>	<b>Radiant Infra-red</b>
<b>Production Speed</b>	<b>150 PPM</b>
<b>Product Type</b>	<b>Bottle</b>
<b>Product State</b>	<b>Full</b>
<b>Material Type</b>	<b>OPS</b>
<b>Material Cut Length</b>	<b>138mm</b>



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**Huhtamaki – Wilsanco - Boxmore**

<b>Country</b>	<b>Ireland</b>
<b>Sleeve Applicator</b>	<b>VF650</b>
<b>Shrink Tunnel</b>	<b>Radiant Infra Red / Convection</b>
<b>Production Speed</b>	<b>280 PPM</b>
<b>Product Type</b>	<b>Pots</b>
<b>Product State</b>	<b>Empty</b>
<b>Material Type</b>	<b>OPS</b>



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## Masterfoods

<b>Country</b>	<b>Czech Rep.</b>
<b>Sleeve Applicator</b>	<b>RF200</b>
<b>Shrink Tunnel</b>	<b>Hot Air</b>
<b>Production Speed</b>	<b>200 PPM</b>
<b>Product Type</b>	<b>Plastic Pot</b>
<b>Product State</b>	<b>Full</b>
<b>Material Type</b>	<b>PVC</b>



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## Implementations to Growth



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# Limitations for growth - A poorly delivered brand image!!



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# Limitations for growth - A sleeve that looks like a self-adhesive label !!



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## Latest Opportunities



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# Where Shrink Sleeves Can Go Award Winners



## Pre-Press

- Graphic Design – 360°
- Alignment – bar codes
- Specialty Inks

## Printing

- Print Quality
- Complexity – multiple features, tactile, foiling
- Ink Performance – adhesion, COF



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# Where Shrink Sleeves Can Go Award Winners



Slitting/Seaming

Seam Quality

No rough edges

No score lines

Shrinking

Shrink Quality

No wrinkles

No smiles

Cut length

Orientation

Haze



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# Opportunity...



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**In Conclusion**

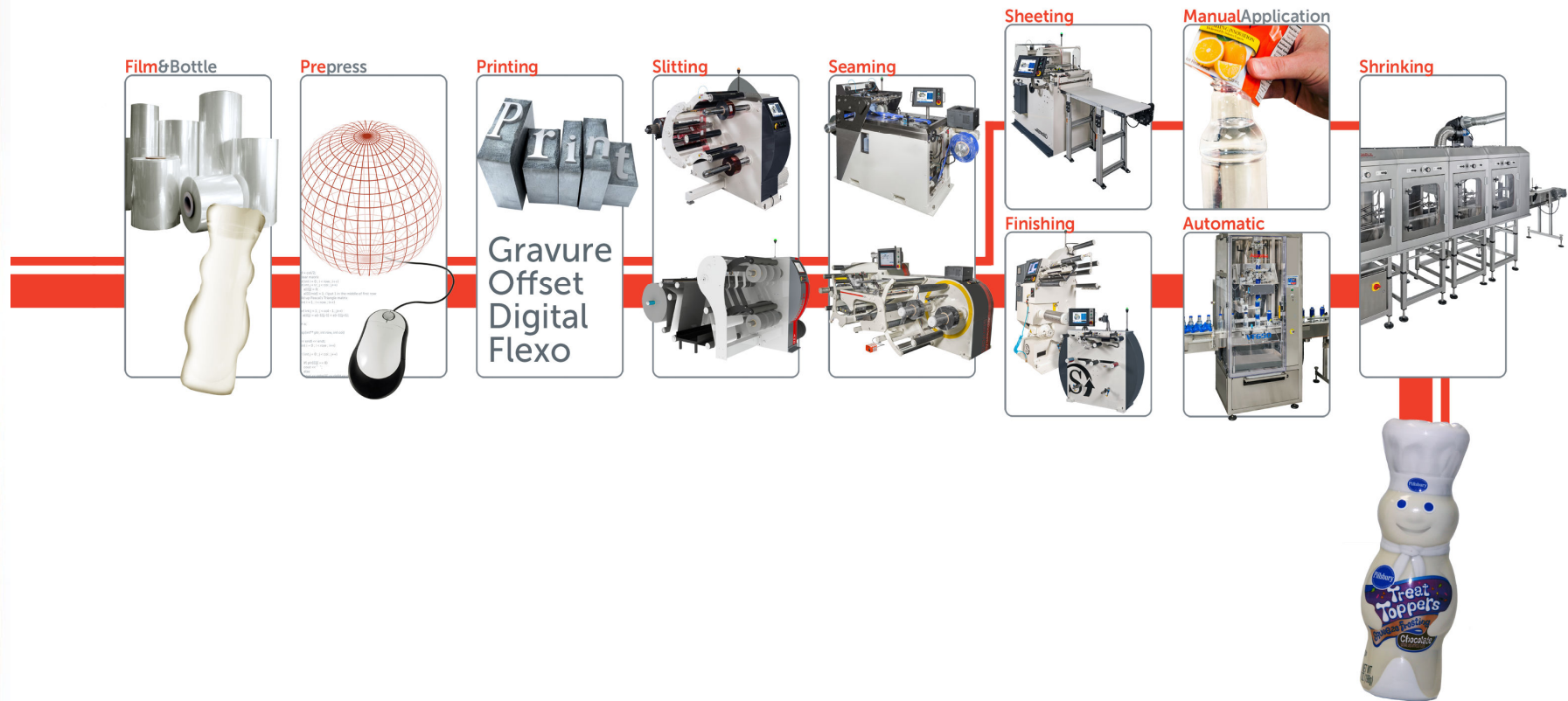


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# Why did we lead you through this Roadmap?



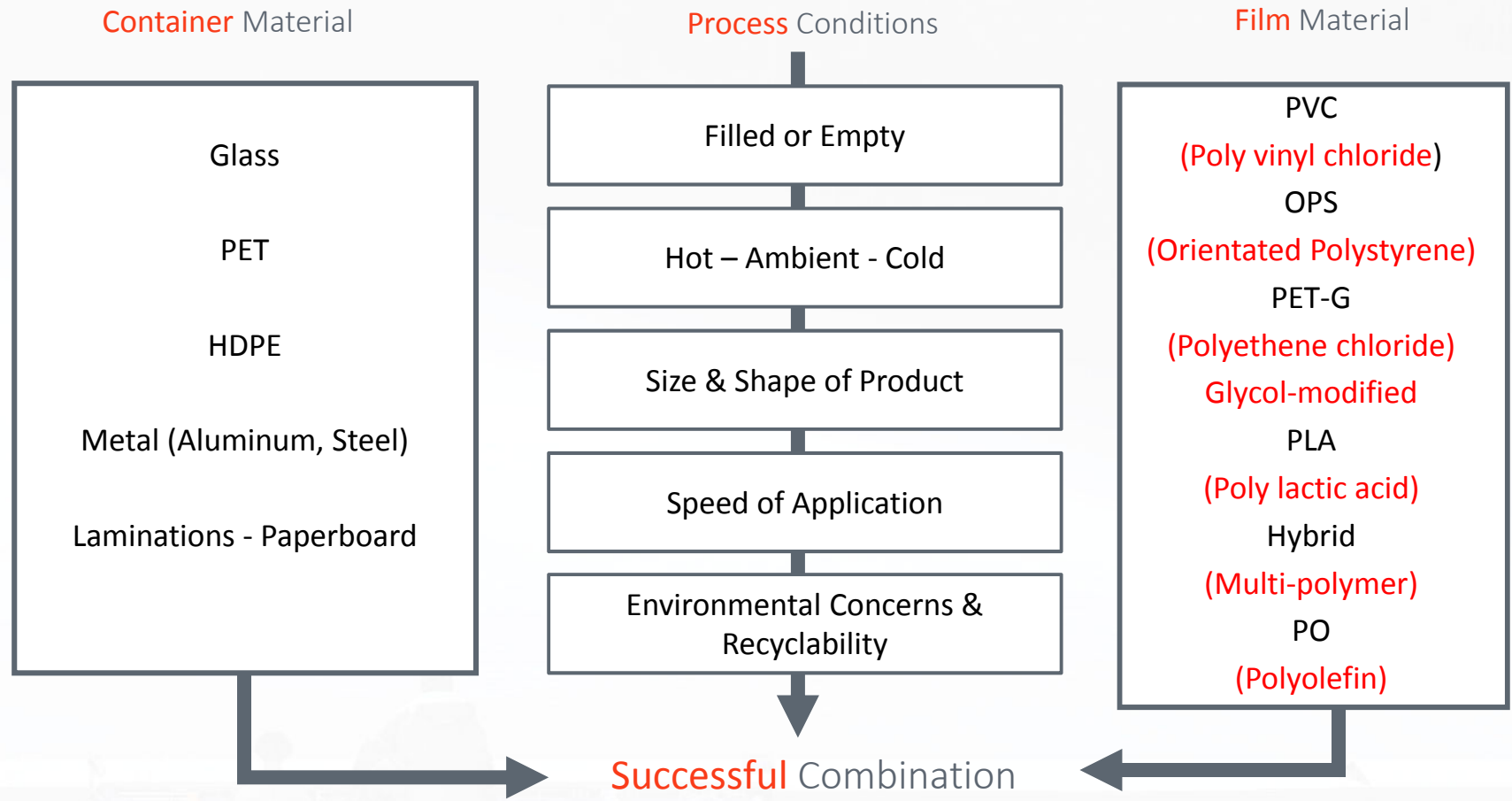
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# Shrink Sleeve Process Conditions | Before Starting



# Ingredients for Success

- This is a partnership.
- Involve everyone in the process right from the beginning of the project.
- A successful shrink sleeve project depends on EVERYONE.



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# Shrink Application | Questions?

Thank you for attending

**Richard Howlett**

Shrink Sleeve Product Line Leader



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