

# What is Label/Labelling ?

The part of the product which is attached directly or indirectly and carries information about the product or the seller is known as a **Label**. Labels provide information to the customer. The process of putting identification marks on the package is known as **Labelling**. Labelling includes information like the name of the products, expiry and manufacturing date, instructions for use, weight, price, etc.



# Labelling Technologies Comparison



Wrap



Shrink Sleeve



Wet Glue



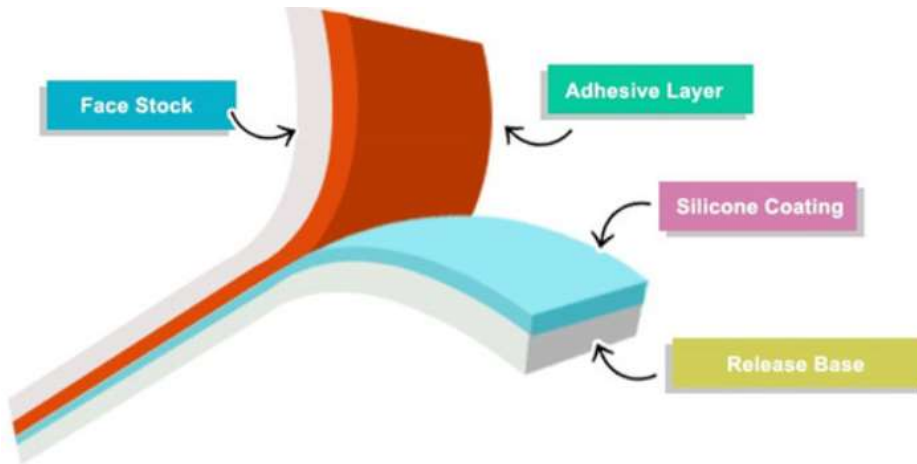
In-mould



Direct Print

	Wrap	Shrink Sleeve	Wet Glue	In-mould	Direct Print
Pro's	<p>No backing liner waste</p> <p>Easiest separation due to small adhesion zone</p>	<p>No backing Liner waste</p> <p>Perfs can be added to provide manual sorting</p> <p>Container lightweighting / rContent color variation</p>	<p>No backing liner waste</p>	<p>No backing liner waste</p> <p>Single polymer plastic makes recycling easier (Container and label are PP)</p>	<p>Zero label waste</p>
Con's	<p>Limited material options, low quality look &amp; feel</p> <p>HM Contaminant</p>	<p>360 Coverage impacts optical sorting process</p> <p>PETg and PVC Sleeves do NOT separate through PET recycling process (sink / float)</p>	<p>Limited to Paper face - can disintegrate and contaminate wash water</p> <p>Not proven through Plastic recycling process (only Glass)</p>	<p>Limited availability of PP recyclers</p> <p>Label cannot be separated from container</p> <p>Risk of ink contaminating the wash process</p>	<p>Ink's have a high risk of contaminating the recycling washing process</p> <p>Typically rejected by Recyclers</p>

# What is a Pressure Sensitive Label (PSL) ?



**Construction of a label**



**Printed die punched labels**



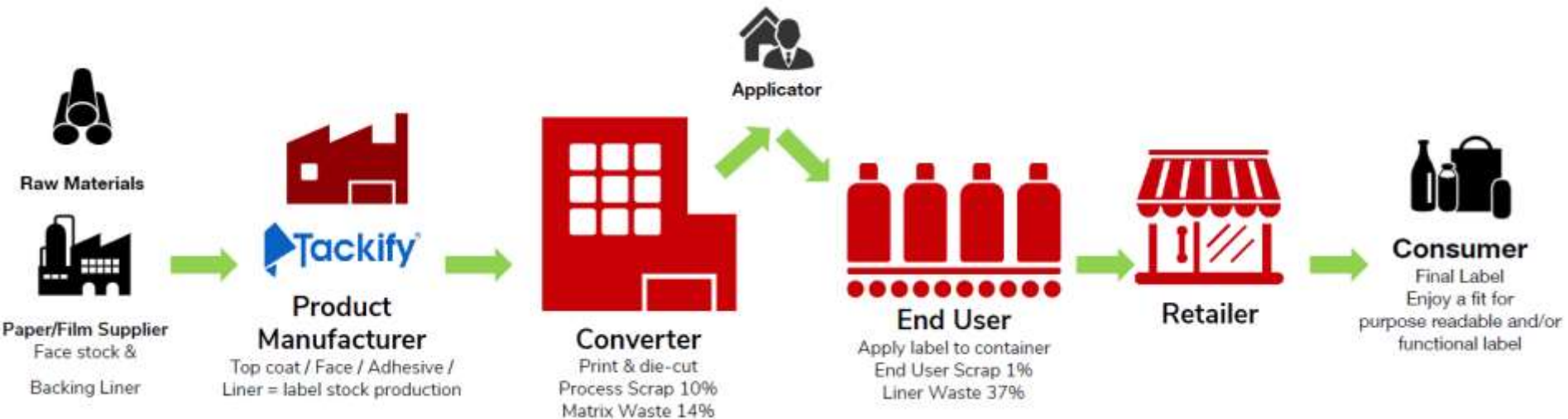
**Label applied on bottle**

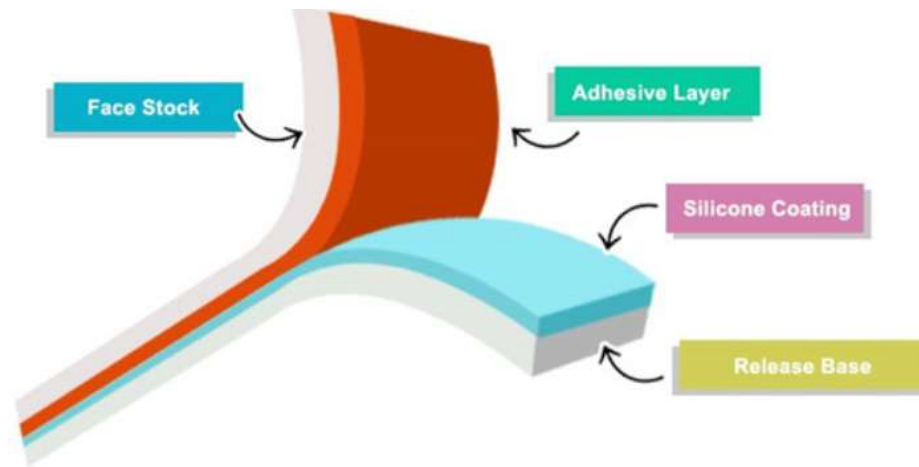
Pressure sensitive Label (PSL) is a type of decoration to brand your product or put information on your product (Barcode/QR code label), Labelstock consist of 3 layers: Facestock, Adhesive, and Release paper or film. In some cases an over-laminate film may also be applied over the facestock.

# Advantages of PSL

- **Premium Shelf Appeal**
  - Stand out on Shelf (>90% purchasing decisions made at shelf)
  - Enables Clear On Clear (no label look)
  - Suits Squeezable Containers
- **Increased Versatility**
  - Almost unlimited range of label substrates & embellishments
- **Added Functionality**
  - Enable container recyclability
  - Security Features
  - Moisture resistance
- **Productivity Optimisation**
  - High Speed application capability
  - Fast setup and label changeover (little downtime)
- **Low Total Applied Cost**
  - Lower TAC cost v's typical Wet Glue / Shrink Sleeve decoration

# Tackify in the PS Value Chain





# Different Type of Facestock

## FACES

### PAPER

- Semi Gloss
- High Gloss
- Uncoated
- Silver Metallized

### FILMS

- Polyethylene
- Polypropylene
- Polyester

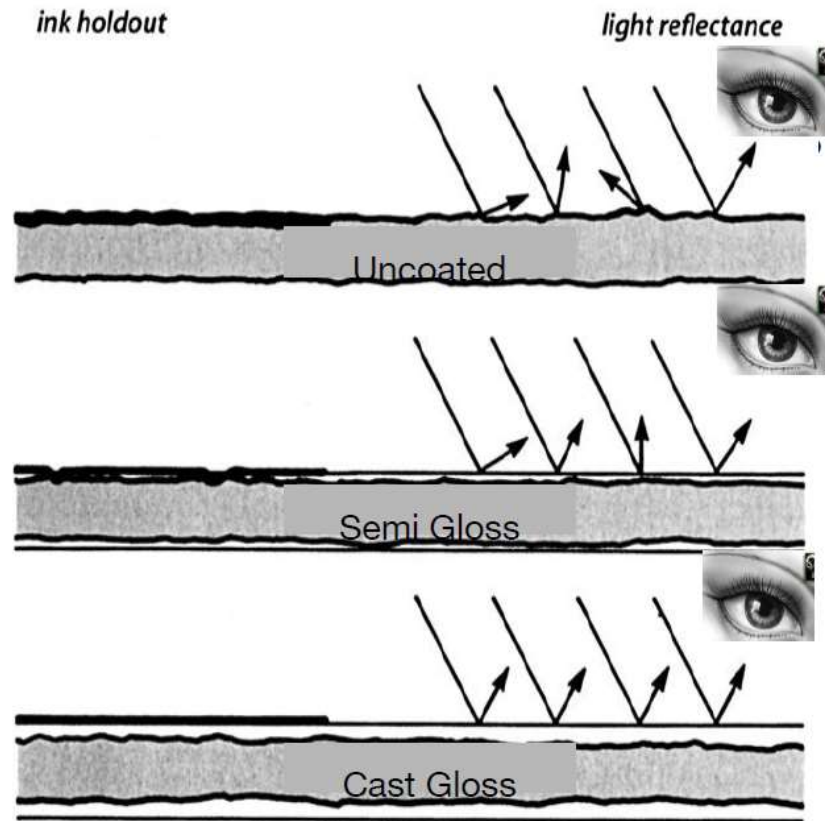
### VARIABLE INFORMATION

- Direct Thermal
- Thermal Transfer



# Types of Paper-PSL

1. Uncoated
  - a. rough surface
  - b. matt finish
  
2. Semi Gloss
  - a. medium gloss - 65% to 75%
  - b. smooth surface
  - c. can be coated on both sides
  
3. Cast Gloss
  - a. high gloss - > 82%
  - b. most smooth surface







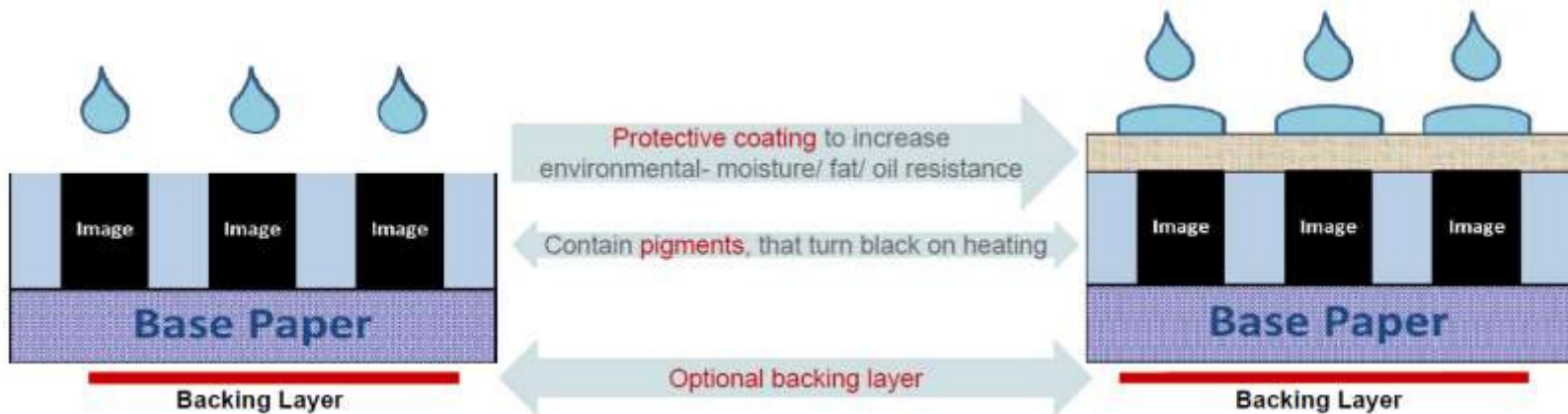
# Variable Information Paper-Direct Thermal

## Direct Thermal Non Top Coated (NTC)

- Direct Thermal Coat
- Paper
- Optional 3rd backing layer to prevent adhesive migration

## Direct Thermal Non Top Coated (TC)

- EPC Overcoat
- Direct Thermal Coat
- Paper
- Optional 4th backing layer to prevent adhesive migration



# Variable Information Paper-Thermal Transfer



**Thermal-transfer printing** is a digital printing method in which material is applied to paper by melting a coating of ribbon so that it stays glued to the material on which the print is applied.

The print life through Thermal Transfer is higher compared to Direct Thermal Printing



# Types of Films-PSL

Film Type	Shrink Resistance	Solvent resistance	Conformability	Dispensing	Die-cut-ability	Printability
PP	5	3	3	5	5	5
PE	3	3	5	4	4	4
PET	5	5	1	5	5	5

# PP Films-PSL



PP white



Metallised PP



Matte PP white



PP clear

- High Gloss
- Good clarity
- Cost Effective
- Moderate Chemical Resistant
- Moderate Temperature Resistance
- Comes in White, Clear and Silver Finish

# PE Films-PSL



PE white



PE Clear



Metallised PE

- High Conformability
- Used in applications demanding squeezability
- Low clarity
- Comes in White, Clear and Silver Finish
- Moderate to low Chemical Resistant
- Low Temperature Resistance

# PET Films-PSL



**PET white**



**PET clear**

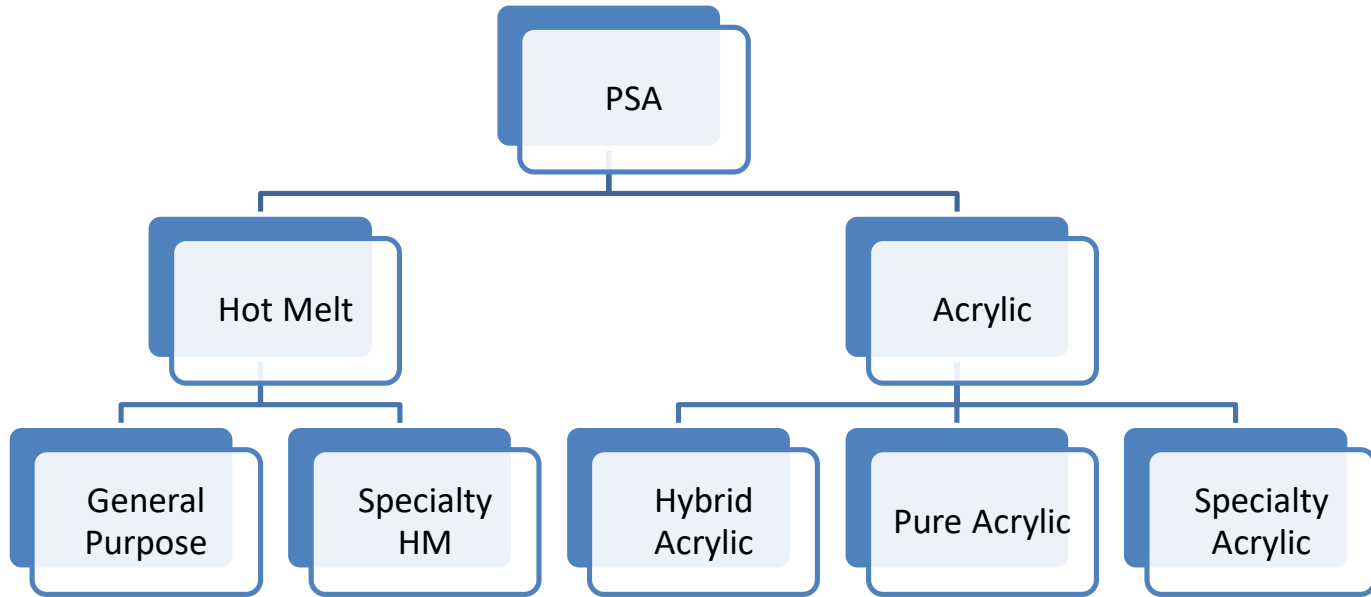


**Metallised PET (matte)**

- High stiffness and excellent dimensional stability
- Excellent clarity
- Excellent Chemical Resistant
- Excellent Temperature Resistance
- Comes in White, Clear and Silver Finish



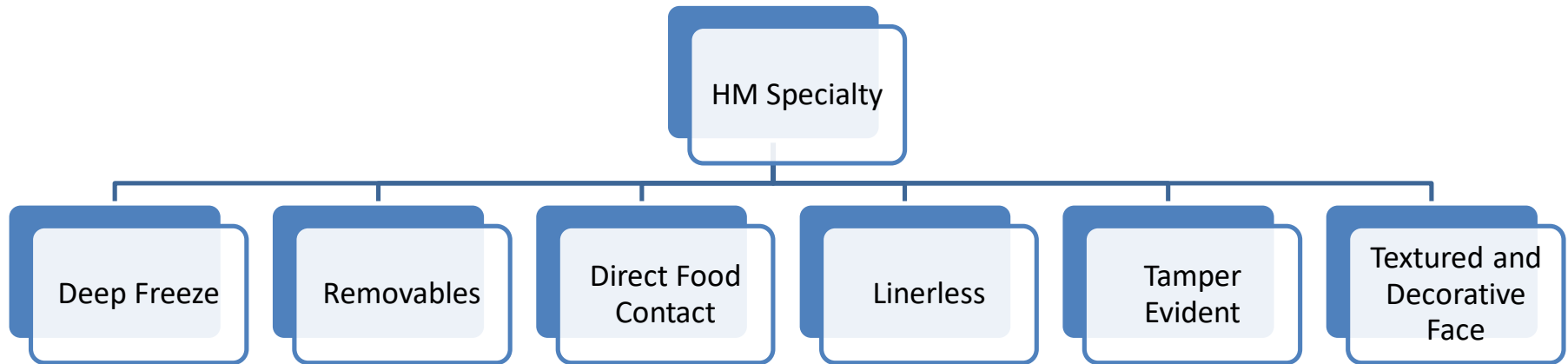
# Adhesives



Properties	Hot Melt	Acrylic
UV Stability	Poor – Fair	Good - Excellent
Aging Stability	Fair - Good	Good - Excellent
Die Cutting	Fair - Good	Good - Excellent
Wide Web Converting	Fair - Good	Good - Excellent
Initial Adhesion	Medium - High	Low - Medium
Ult. Adhesion	Medium	High
Quick-Tack	Medium - High	Low - Medium
Cohesive Strength	Fair - Good	Good - Excellent
Clarity	Poor - Fair	Good - Excellent

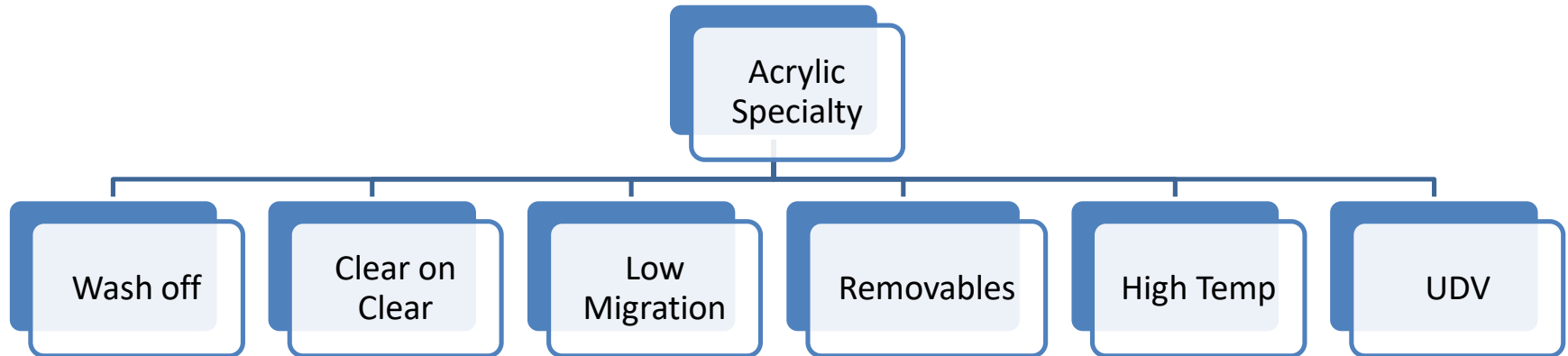
- No adhesive is good or bad, Selection depends on application
- Hot Melts have high initial tack and thus whenever there is a need for quick bond formation, Hot melts are preferred choice
- Acrylic adhesive are more robust adhesives and can withstand high temperatures and have good repositionability

# Hot Melt Specialty Portfolio

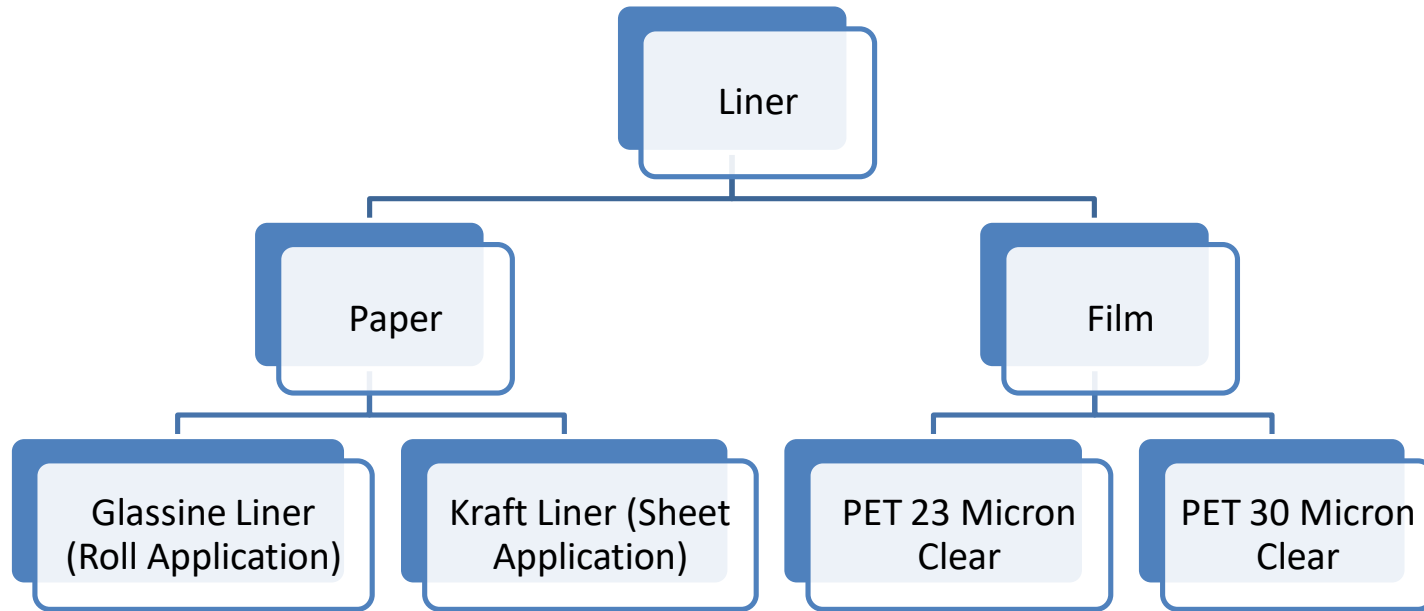


- Deep Freeze: Applications in Frozen Food and Pharma Applications
- Removables: Hot Melt Removable for general purpose applications
- Direct Food Contact: Fresh produce and other food applications
- Linerless: This can be a big game changer as this is a more sustainable option
- Tamper Evident: We will make use of printing facility to make customised void along with other voids which can be made on our coating line
- Textured and Decorative Face: Applications include Wine Labels, Premium Decoration application. We will procure Textured Papers and

# Acrylic Specialty Portfolio



- Wash off: Enables recycling of glass bottle by easy removal of labels in caustic soda bath
- Clear on Clear labels: No label look on the container
- Low Migration: Product meant for Pharma industry for regulated market (Majorly for ophthalmics)
- Removables: Applications include ultra removable products
- High Temperature Exposure Labels: Applications in durable/automotive segment wherein labels are subjected to high temperature exposure
- UDV: Tamper evident labels



- Carrier of the labelstock
- Die Punching (The shape in which the label is cut) is calibrated on the thickness of liner
- Line speeds depend on the quality and consistency of the liner