

Features and Benefits of Extrusion Lamination and Coating for Semi-rigid and Flexible Packaging

- **Melt Quality**
- **Dependent on Extruder Screw Geometry**
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- **Custom Configurations**
 - Monolayer Single
 - Co-ex Single
 - Monolayer Tandem
 - Co-Ex Tandem
 - Co-Ex can be AB,ABA,ABC
 - Co-Ex for Aseptic Packaging is very complex:
 - Three Extruder Outputs Distributed in Five Layers
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- **Profile Uniformity**
 - Extruder Melt Output Conveyance to Feed block through the Pipe:
Advanced Melt Temperature Measurements and Controls
 - Feed block: Layer Structuring and Percentages-Depends on Packaging
Laminates Planned
 - Die: Two Basic Types
 - Coat Hanger Die :Old Concept
 - T-Die :New Concept
- **Machine Automation :**
 - Splicing at Primary Unwind, Secondary Unwind and Rewind at Full
Machine Production Speed
 - Advanced Tension Control
 - Auto Gauge Control of Extrudate- Dependent on Die Design
 - **Flexibility: Operator Friendly Controls**

USE OF EXTRUSION COATING IN PACKAGING

Extrusion coating represents a major portion of the food, consumer and industrial packaging products made in this country. It is a multibillion-dollar industry on the leading edge of technology, producing products such as milk cartons, drinking cups, aseptic packaging, flexible packaging (particularly for Snack Foods), Condom Wraps, Lami tubes for tooth paste, ketchup, mayonnaise, ointments, cosmetic creams, Pharmaceutical Strip Packs, Rice Bags, Pet Foods and much more.

Product structures include lightweight paper, heavyweight paperboard, film (BOPET, BOPP, BON, CPP, MET PET, MET BOPP, MET CPP, PE), AL foil, and woven and non-woven fabrics.

- Processing knowledge is critical to successful packaging business with extrusion coating.
- Knowledge must focus on the equipment, raw materials and processing parameters such as corona treatment level, primer coating, drying of the substrate post anchor coating, proper extrudate melt at the correct temperature, required air gap for right oxidation of the film from the die, extrudate thickness and uniformity in lateral and longitudinal directions vs. line speed, nip pressure, chill roll temperature and wrap angle, rubber roller hardness etc.

- Emphasis is placed on the extruder and processing conditions, resins and process setup and troubleshooting.

- **CONTENT**
 - **Overview of a Typical Extrusion Coating Line**
 - Unwind; Priming; Gauge measurement; Extruder; Laminating station; Secondary unwind; Tandem extruder station; Moisturizing units; Post treating; Winders
 - **Raw Materials**
 - Polyethylene; Polypropylene; Adhesive, barrier, and high-temperature resins
 - **Substrates**
 - Paper; Paperboard; Foil; Film
 - **Extruder**
 - Screw; Barrel
 - **Processing**
 - Rheology; Coextrusion; Engineering calculations; Troubleshooting
 - **Die**
 - Types; Design Products