1. **Coex Blown Film Dies - new improvements technical paper**

**ABSTRACT:**

An improved plate style coex blown film die design has been developed that more efficiently channels polymer flow inside the die. The improved layout shortens the overall flow path between the die inlet and exit at the die lips. In addition the design uses round cross section flow passages up to the spiral distribution zone to prevent dead zones and hang-up locations. These improvements have also reduced the overall size and thermal mass of the die which in turn has reduced the polymer residence time for more efficient processing and faster changeover.

The use of more accurate manufacturing techniques has also been incorporated into the design to yield more consistent flow channels. The elimination of slip fit joints coupled with high precision grinding technology results in more uniform annular passages. A more uniform thickness of film around the bubble is achieved without requiring complicated measurement and feedback control systems.

2. **Influence of Processing Parameters on Peel Seal Performance**

**ABSTRACT:**

The design goals for peel seal resins are ease-in-processing, reliable film and sealant properties, and consistent peel performance at the consumer level. Careful material choice has also resulted in secondary features such as high clarity and high temperature performance.

For cohesive failure sealants, process parameters that influence blend morphology can have a critical impact on seal strength, and the degree of this influence is dependent on the resin design. For instance, for certain designs, high draw down rates can reduce peel strength, while other designs give the opposite effect. Thus, material design, process, and end use must all be considered to produce reliable peel seal performance in packaging.

3. **Evaluation of Sealants for High Temperature Packaging Applications**

**ABSTRACT:**

There are a growing number of flexible packaging applications where food products are cooked or re-heated directly in the package using microwave, hot water submersion or convection ovens. These applications are growing in both consumer and food service segments for liquids, vegetables, meats or various mixed foods. The films used for re-heated foods must withstand high heats and internal pressures without rupture in addition to performing well on packing lines and through the distribution chain. Propylene copolymer sealants are frequently specified for re-heated films due to their perceived high temperature resistance.

This study evaluated water-filled VFFS pouches made from coex films containing different sealants for their ability to maintain integrity during or immediately after heat exposure. The results suggest that traditional sealants such as plastomers and ultra-LLDPEs are generally not suitable for re-heated. Certain Octene copolymer LLDPEs offer equivalent or better package integrity compared to propylene copolymer after thermal exposure. The work also examined various thermal characteristics of the sealants such as Vicat softening point to predict seal integrity as a function of exposure temperature.
4. Antistatic Additive for Packaging

ABSTRACT:

Static builds up as a result of electric charges being exchanged between objects, which can be generated by direct contact, friction or separation of two surfaces. Static buildup is greatly affected by the surface material’s inherent resistance to electric charge exchanges. In packaging applications, static buildup can occur at different steps, from film conversion to product shipment, and between different materials, from film resins to consumer products. In particular, polyolefin-based packages are challenged by static buildup due to their insulative nature and require antistatic additives.

This presentation aims to provide a better understanding of antistatic additives for packaging. Associated problems with conventional migrating additives as well as benefits of non-migrating additives will be covered. Most importantly, information will be presented on a novel permanent polyolefin-based antistatic additive with excellent compatibility with other polyolefin resins that provides superior aesthetics and processability in typical conversion applications, particularly blown film.

5. Optimizing Time in the Air Gap in Extrusion Coating for Improved Adhesion

ABSTRACT:

Time in the air gap (TIAG) in extrusion coating is one of the most important properties that must be fully understood in order to produce quality finished material. This study takes a comprehensive look at currently published TIAG recommendations in extrusion coating, for optimal adhesion, to determine if these current recommendations are still valid.

The study also takes a detailed look at how TIAG affects adhesion in many different scenarios, from processing different polymers and substrate types, to various processing conditions. Lastly this study also examines how commonly used extrusion coating additives impact overall adhesion and what effect they have on TIAG in the extrusion coating and lamination process.