Multilayer Co-extruded Blown Films

Multilayer co-extruded blown films are used for a wide range of flexible packaging of food and dairy products for the mass market. These films are surface printed with a variety of colours for branding and product information. These films are supplied in roll form to the end users who use Form - Fill - Seal (FFS) technology for packaging their products. Food grade Polyethylene (LDPE / LLDPE / mPE) is widely used along with barrier layers like Nylon and EVOH. The thickness of the films can be as low as 30 microns to as high as 200 microns.

- India’s demand for milk will be 155 million tonnes by 2016 and 200 million tonnes by 2021 (National Dairy Development Board)
- Share of packaged milk is growing at a fast pace due to longer shelf life, hygiene considerations, growing urbanization and branding.
- More than 100 million milk pouches are consumed every day in India – growing at 8% per year.
- Volume of edible oil market in India by 2015 will be around 22 million tons per year and more than 60% will be in packaged form
- Majority of packaged edible oil will be sold in refill pouches and rest in PET bottles & HDPE Jars.
3 Layer Co-extruded Blown Films are used for mass market flexible packaging. Main end applications include Milk Pouches, packaging of Atta, Sugar, Salt, Pulses, Rice, Vanaspati etc.

5 Layer Barrier Films incorporate a Nylon or EVOH barrier layer in the middle. Typical construction is LDPE / Tie / Nylon or EVOH / Tie / LDPE. Nylon and EVOH barriers highly reduce transmission of oxygen and moisture through the package thus protecting the perishable food products from deterioration and increasing their shelf life. Main end applications include Edible Oil pouch, Pure Ghee pouch, Dairy products, Frozen vegetables, Frozen ready-to-fry snacks, Basmati Rice, Confectionary, Lamination film etc.

7 Layer High Barrier Films are widely utilized for Modified Atmosphere Packaging (MAP) applications. MAP is extensively used for packaging of the products that are highly oxygen sensitive and need to be stored in controlled atmospheric conditions. 7 Layer High Barrier Films incorporate a combination of high barrier polymers like Nylon and EVOH. Main end applications include Edible Oils that require longer shelf life, Cheese bags and Dairy Products, Frozen Meat and Marine Products, Processed and Snack Foods, Vacuum pouches for Cashew Nuts, Dry Fruits and Spices, Aromatic and Beverage products like Tea and Coffee, All types of Ketchups, Curries & Pastes, Laminated Tubes like toothpaste, Shampoo, Detergents etc.

We are a leading Project & Technical Consultancy organization in the polymer field. We can provide manufacturing know-how and related technical services for the planning & implementation of the project – preparing Project Feasibility Report, Techno-Economic Project Report, Selection & Sourcing of Equipment, Utility & Support facility, Installation & Commissioning, Compounding & Processing, Quality Control & Testing, Trial run of plant, Marketing advice etc.
**Manufacturing Process:** Plastic melt is extruded through an annular slit die, usually vertically, to form a thin walled tube. Air is introduced via a hole in the centre of the die to blow up the tube like a balloon. Mounted on top of the die, a high-speed air ring blows onto the hot film to cool it. The tube of film then continues upwards, continually cooling, until it passes through nip rolls where the tube is flattened to create what is known as a 'lay-flat' tube of film. This lay-flat or collapsed tube is then taken back down the extrusion 'tower' via more rollers. On higher output lines, the air inside the bubble is also exchanged known as IBS (Internal Bubble Cooling).

**Dr. ANOMITRA CHAKRAVARTY**
KPS Consultants & Impex Pvt. Ltd.
812 Devika Tower, 6 Nehru Place
New Delhi - India
(T): +91-11- 2621 3885, 4161 6899
(e) : kpspltd@gmail.com
(w) : www.kpsimpex.com