INNOVATIVE MDO SOLUTIONS FOR FLEXIBLE PACKAGING

Using MDO film, Polysack has enabled packaging producers to significantly reduce their costs while gaining an enhanced packaging material with multiple benefits.

Why Machine Direction Orientation films?

**Enhanced mechanical properties** such as tensile strength, puncture resistance, stiffness, dead-fold, easy tearing in one direction, control over elongation on the machine-direction, and high machine-direction shrinkage.

**Enhanced optical properties**: film can be tailored to meet specific requirements such as high transparency and gloss, low or high haze and light polarization.

**Enhanced barrier properties**, enabling the production of down-gauged films while retaining the same oxygen and water barrier properties of thicker films.

**Film down-gauging** requiring less desirable materials, less packaging and less transportation costs, thus reducing CO₂ footprint, while retaining and improving film properties.

**Elimination of secondary conversion processes**, by replacing a laminated structure with a specifically designed MDO film, carrying inherent MDO properties like increased modulus, barrier, strength and gloss.
MDO film manufacturing process

The main steps in manufacturing MDO film are:

- **Preheating**: Film enters the MDO stretching unit and is evenly preheated to a required temperature.
- **Orientation**: Film is nipped between a series of rollers revolving at various speeds.
- **Annealing**: Film is stabilized, and its altered properties are locked and retained.
- **Cooling**: Film is cooled to near room temperature.

Among Polysack MDO solutions

- **Polyphane FIT** – Roll-fed, machine direction sleeve labels
- **Polyphane TWIST** – Candy wrapping with “no-memory” effect
- **Polyphane POP** – Lollipop wrapping
- **Polyphane FOLD** – Dead-fold wrapping films
- **Polyphane LIFT** – Thin films for pack carrying
- **Polyphane LID** – A very thin lidding film with high barrier properties
- **Polyphane TEAR** – A straight tear film with inherent properties for easy open packaging
- **Polyphane FRESH** – An anti-fog film designed for form fill sealing of chilled products