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## **EXPO in Lengerich** **28./29.10. + 01./02.11.2010**

### **Enhanced Film Properties with MDO (Machine Direction Orientation)**

*Better film properties and saving raw materials is what the MDO (Machine Direction Orientation) unit from W&H is all about. At the company's in-house EXPO, which runs parallel to the K 2010, the MDO unit will process a 3-layer COC (cyclo olefini copolymer) film from manufacturer TOPAS Advanced Polymers. The film will be oriented in a 1:3 ratio (thickness 140 µm down to 47 µm) and will be used for bottle labeling after processing.*

*Through machine direction orientation, film properties and characteristics can be enhanced and tailored to specific applications. After MDO processing, film has higher tensile strength and stiffness as well as improved gloss and transparency. The process reduces film thickness (downgauging) and thereby passes on savings in raw material costs.*



MDO processing is suitable for a broad range of films, including breathable films for hygiene articles, films for construction purposes, heavy-duty shipping sacks, self-adhesive tapes and labeling as well as for snack packaging and stand-up pouches – to name just a few.

Customers interested in testing their films on an MDO can contact W&H for trials on an off-line unit located at the company's lab in Lengerich. The unit is capable of handling film rolls of up to 1,200 mm in diameter with a maximum unwinding speed up to 100 m/min. The maximum stretching ratio of the unit is 1:12 and the stretched film can be rewound at speeds of up to 350 m/min.

In order to permit a specific tailoring of film properties, the line is equipped with individually adjustable heat transfer medium circuits for each roller. Test results indicate that a 40 µm thick film fed through an MDO features a 30 % higher barrier effect than a non-stretched film. This equates to substantial resource savings.

Windmüller & Hölscher is an international leader in the design, manufacturing and distribution of machinery for the flexible packaging industry and is based in Lengerich, Germany. The product range includes flexographic and gravure printing presses, blown and cast film extrusion systems, multiwall equipment, plastic sack and bag making machines, as well as form-fill-seal machinery.



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**PR 1297**

W&H house EXPO included the demonstration of 3-layer COC film orientation with a ratio of 1:3, for use as shrink sleeves for bottle packaging. A look at the supermarket shelves shows that printed sleeves are increasingly competing for the customers' attention and choice.



**PR 1298**

Monoaxial machine direction orientation of polymer film with the W&H MDO (Machine Direction Orientation) unit allows for optimization of film properties to the specific final use of the film.