



**Reifenhäuser**

BLOWN FILM PLAMEX

The Extrusioners

# Multibubble Extrusion Lines

The optimal mono and biaxial orientation of thermoplastic polymer structures follow the same basic physical laws. Decades of research and development by Reifenhäuser Blown Film Plamex led to mature aggregates tailored to each step of the process and specific raw material requirements.

In recent years the R&D of Reifenhäuser Blown Film Plamex focused on two major areas:

- Increasing throughputs and automation, whereas today standard line speeds of biaxially oriented sausage casings rate at 150-200 m/min
- Extrusion of new resins and multilayer combinations for entering new markets for BO-films, e.g. permeable film structures and the substitution of non-oriented films to achieve better optical and / or physical properties with less material input



### Process- and line description

1. First step is the production of an amorphous primary product, the most important precondition for each orientation to follow. Therefore Reifenhäuser Blown Film Plamex developed a vacuum cooling device, which brings the cooling media uniformly with high throughput to the melt.
2. The primary tube is then tempered to the thermoelastic area. Depending on the extruded resins Reifenhäuser Blown Film Plamex offers a combination of water and IR-tempering.
3. The heated tube gets biaxially oriented in the orientation unit where the degree of orientation (MD and TD) and the required diameter of the bubble is automatically controlled.
4. Thermofixation takes place in an oven by means of hot air or alternatively, steam. Thermofixation is necessary in order to avoid shrinkage of the wound up film later on. Alternatively Reifenhäuser Blown Film Plamex offers thermofixation by heated rolls.
5. Perfect reel quality is assured by reversing nips and sophisticated winding technology. The complete process up to the finished reel is automatically controlled.

### Biax - fields of application

- Mono and multilayer sausage casing lines
- Shrink bag film line
- Lines for the production of biaxially oriented lid-films
- Lines for the production of biaxially oriented heavy duty bags

### Related fields of application

- MDO-Aggregates
- Strapping tape lines
- Monofilament lines
- Lines for the production of monoaxially oriented tapes
- Lines for the production of biaxially oriented tapes

