

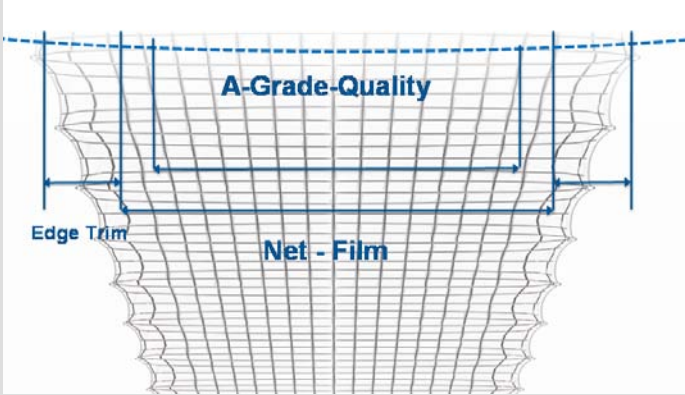
## BOPET thick film for optical and industrial use

Brückner's pilot line facility, the core of the company's unique technology center, was originally designed for simultaneous stretching of max. 50µm final film thickness. The line has been constantly extended and improved over the years to meet the ever-changing needs of the market, leading now to a thickness range up to 400 µm for simultaneously stretched BOPET film.

This film thickness is attainable via simultaneous stretching without any surface contact. The demonstration and test in combination with finite element simulation enables Brückner to design simultaneous film stretching production lines for the contact-free production of finest quality films in such extended thickness range.

LISIM® technology, the only simultaneous stretching system without maintenance-prone mechanical links, offers significant advantages, such as scratch-free stretching process and MD relaxation, for manufacturers of high value films for optical and industrial use, mainly applied in the fast growing flat panel display market. The trials on the pilot line help our customers to decide for an investment in LISIM® technology. Also an inline coating system is meanwhile available for customer trials on Brückner's pilot line.

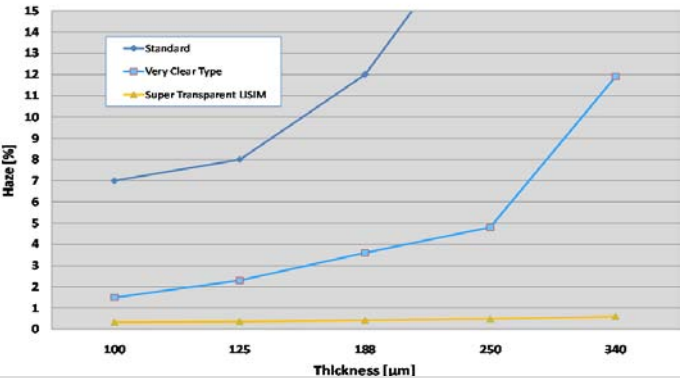
### Yield Optimization by Simultaneous Stretching



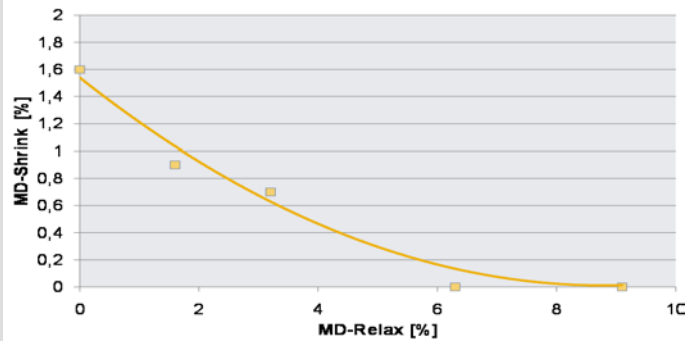
The first LISIM® lines for optical film are on stream, providing excellent BOPET films to the market. Further projects are in the engineering phase. **The key advantages are:**

- Better yield of A-grade quality
- No scratches due to non-contact stretching up to 400 µm
- Super transparent film properties
- Very low MD-shrinkage due to MD-relaxation

### Super Transparent Film



### Influence of MD-Relaxation on the MD-Shrinkage BOPET 75µm



## Stretching the Limits

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