



AkzoNobel 2017 Specialty Coatings - Film

Innovative film technology offers durable alternative to chrome plating or painting

AkzoNobel Films - general

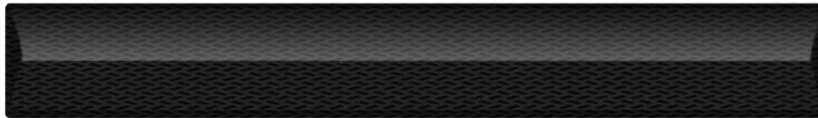


- Film production in Lancaster SC – USA
- R&D and design development on site
- Application lab for prototyping
- Global film team in USA, EU and Asia

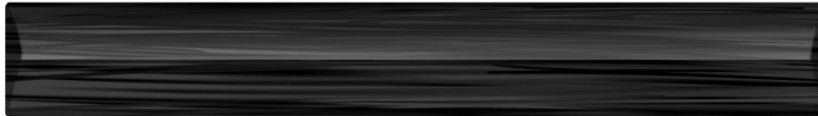


Extensive design possibilities

- Bodycolours matched to paint standards
- Printed films



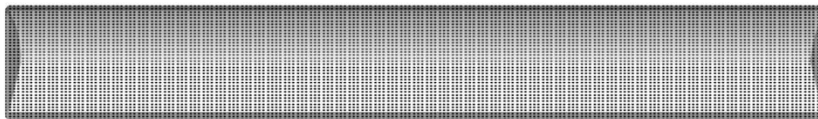
High gloss - low gloss



Organic



Technical



Textures



Woodgrains



Extensive design possibilities

- Brightfilm in various metal colours



- Brightfilm that can be backlit



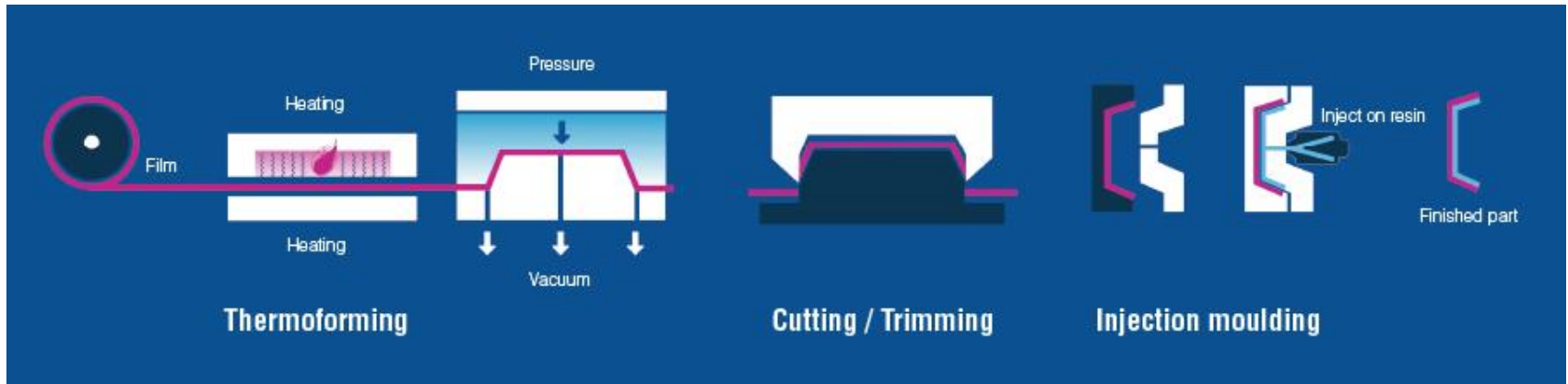
Different film technologies

From film to part



1. Film insert moulding
2. Thick sheet thermoforming
3. Forming over part

1. Film Insert Moulding



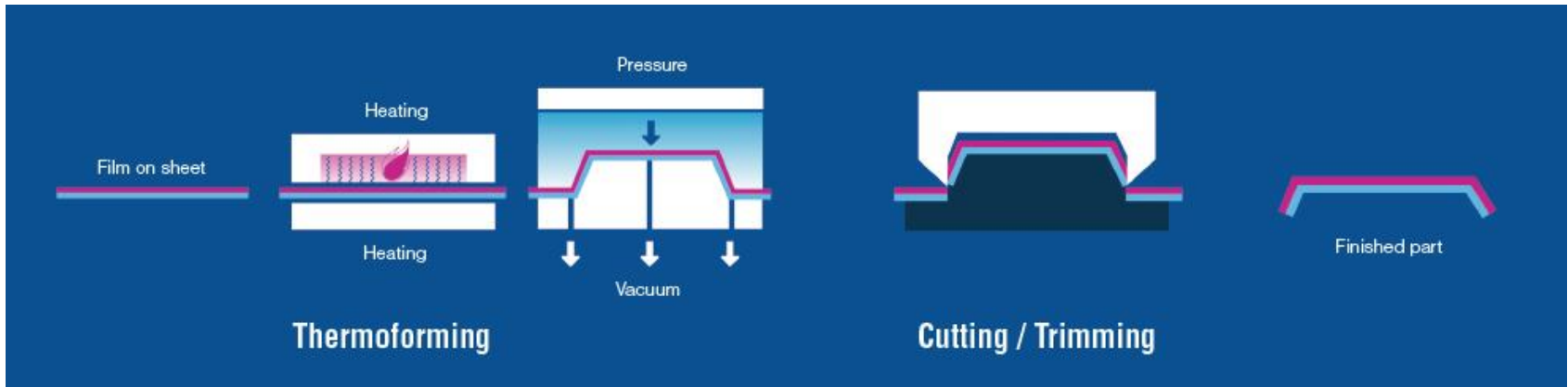
- Decoration of complex 3D geometries
- Decorating plastics like: ABS, ASA, PC, TPO , PP
- Variety of finishes like:
 - colours (uni, metallics and pearlescent)
 - patterns and textures
 - chrome, brushed metal
- Integration of different foils in 1 part (Multi-deco)



Film Insert Moulding - Examples



2. Thick sheet thermoforming



- Construction same as film for insert moulding but laminated to >2mm thick sheets
- Requires low tooling investment
- Suitable for large parts and low to medium size volume
- Available on substrates like TPO, ABS, PC & PETG



Thick sheet thermoforming

Examples



Suitcase with Brightfilm



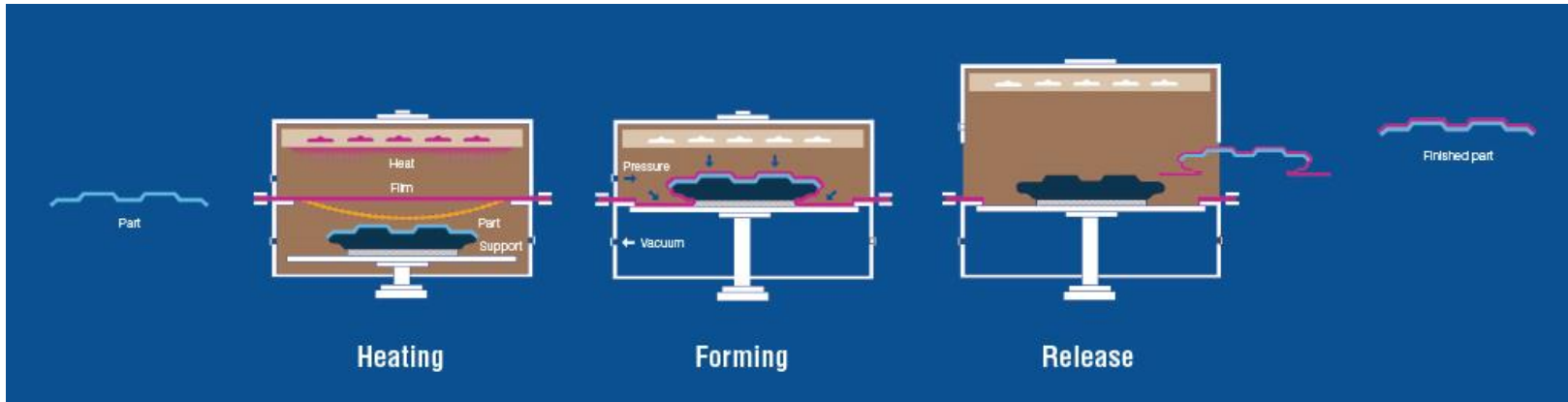
Bus sidepanel with Brightfilm



Sign that can be backlit



3. Forming over Part (FOP)



- Decoration directly on finished part
- No mould needed (only fixture)
- Post trimming needed
- Low to medium volume
- Suitable for plastic and metal parts



Whirlpool – washing / drying machine



AkzoNobel

Thank you

Safe Harbor Statement

This presentation contains statements which address such key issues as AkzoNobel's growth strategy, future financial results, market positions, product development, products in the pipeline and product approvals. Such statements should be carefully considered, and it should be understood that many factors could cause forecasted and actual results to differ from these statements. These factors include, but are not limited to, price fluctuations, currency fluctuations, developments in raw material and personnel costs, pensions, physical and environmental risks, legal issues, and legislative, fiscal and other regulatory measures. Stated competitive positions are based on management estimates supported by information provided by specialized external agencies. For a more comprehensive discussion of the risk factors affecting our business, please see our latest annual report, a copy of which can be found on the company's corporate website www.akzonobel.com

