Leseprobe

- 1 Definition of Polymers
- 2 Manufacturing of Polymer Resins
- 3 Classification of Polymers (Plastics)
- 4 Plastics Additives
- 5 Required Performances of a Plastic Packaging
- 6 Polymers for Packaging
- 7 Legislative aspects for Polymers
- 8 Extruder Polymer melting machine
- 8.1 Technology of Extrusion and Co-extrusion
- 8.2 Conti-Process
- 8.2.1 Manufacturing of blown film (flexible films)
- 8.2.2 Manufacturing of cast films
- 8.2.2.1 Chillroll-films (flexible films)
- 8.2.2.2 Calendering of sheets (rigid sheets)
- 8.2.2.3 Water bath Sheets
- 8.2.2.4 PVC-Sheets
- 8.2.3 Tubes as Packaging material
- 8.2.4 Special films
- 8.2.4.1 Monolayer Films
- 8.2.4.2 Multilayer films
- 8.2.4.3 Oriented films
- 8.2.4.4 Biaxial oriented films (sequentially and simultaneously)
- 8.2.4.5 Double-Bubble Process
- 8.2.4.6 Tripple-Bubble Process
- 8.2.4.7 Shrink films
- 8.2.4.8 Stretch films
- 8.2.4.9 Extended films
- 8.3 Disconti-Process
- 8.3.1 Injection-Moulding
- 8.3.2 Injection-Blow-Moulding
- 8.3.3 Extrusion- and Coextrusion-Blow-Moulding
- 8.3.4 Stretch Blow-Moulding
- 8.3.5 Thermoforming
- 8.3.5.1 Processing of Polymer Sheets
- 8.3.5.2 Thermoforming Machines
- 9 Technology of Sealing
- 9.1 Direct Heating
- 9.1.1 Heated Jaw Sealing
- 9.1.2 Electrical Impuls Sealing
- 9.1.3 Hot Air Sealing

- 9.2 Indirect Heating
- 9.2.1 Highfrequency-Sealing
- 9.2.2 Ultrasonic Sealing
- 9.2.3 Induction-Sealing

Part 3: Converting of Polymer Packaging (Composite Packaging)

- 10 Technology of coating
- 10.1 Extrusion Coating
- 10.2 Coextrusion Coating
- 10.3 Lacquering
- 11 Laminating
- 11.1 Extrusion Laminating
- 11.2 Coextrusion Laminating
- 11.3 Adhesive Laminating
- 11.3.1 Solvent based Laminating
- 11.3.2 Solventless Laminating
- 12. Vacuum Deposition of Packaging Material
- 12.1 Material and Substrates
- 12.2 PVD-(Physical Vapour Deposition)
- 12.2.1 El. Resistance Heating
- 12.2.2 Electron Beam Gun
- 12.2.3 Plasma Deposition
- 12.3 CVD (Chemical Vapour Deposition)
- 12.3.1 Al- and Si-Oxides
- 12.3.2 Organic Siloxanes
- Part 4: Special Topics
- 13 Collapsible tubes
- 14 Sealing problems in different Packages
- 15 Composite bonding
- 16 Migration and Permeation
- 17 High Barrier Solutions