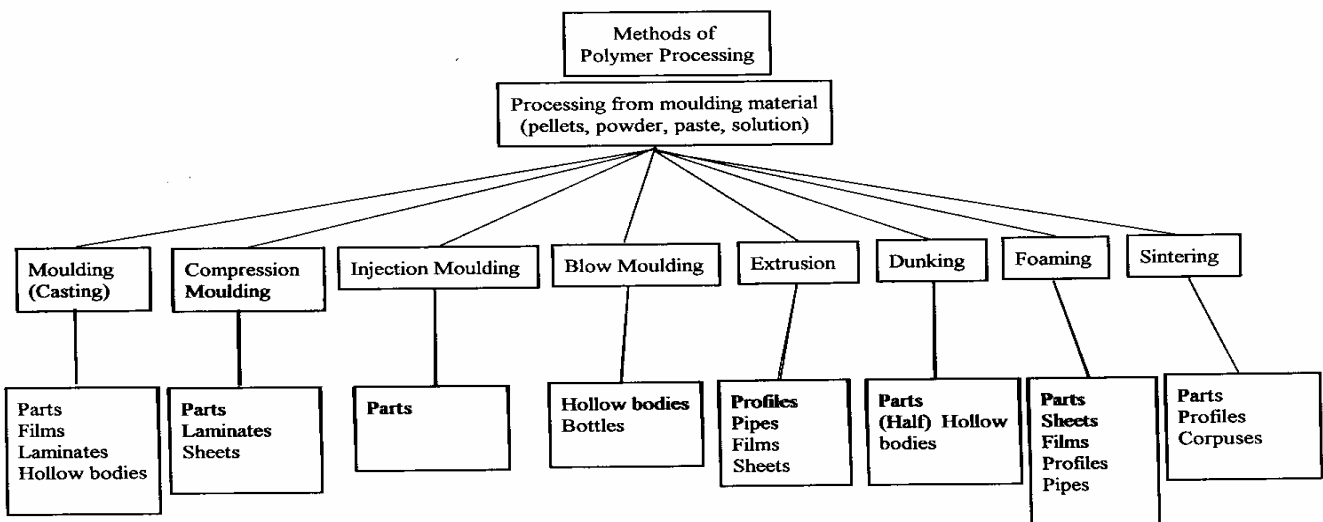
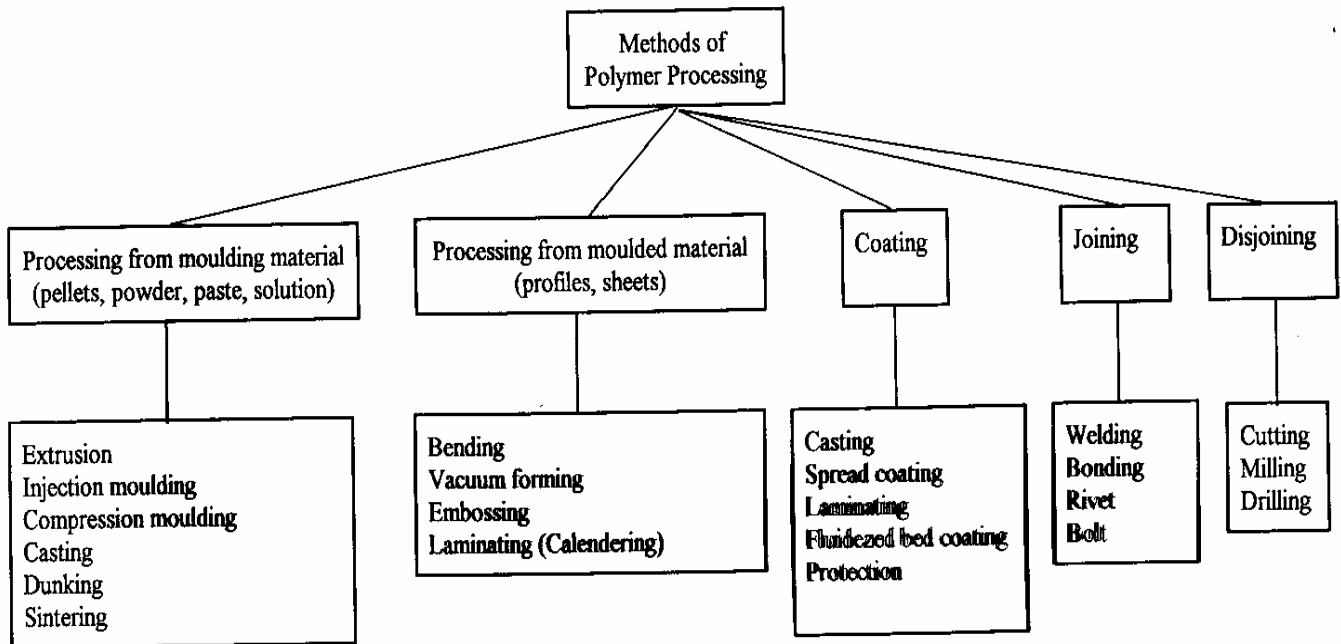


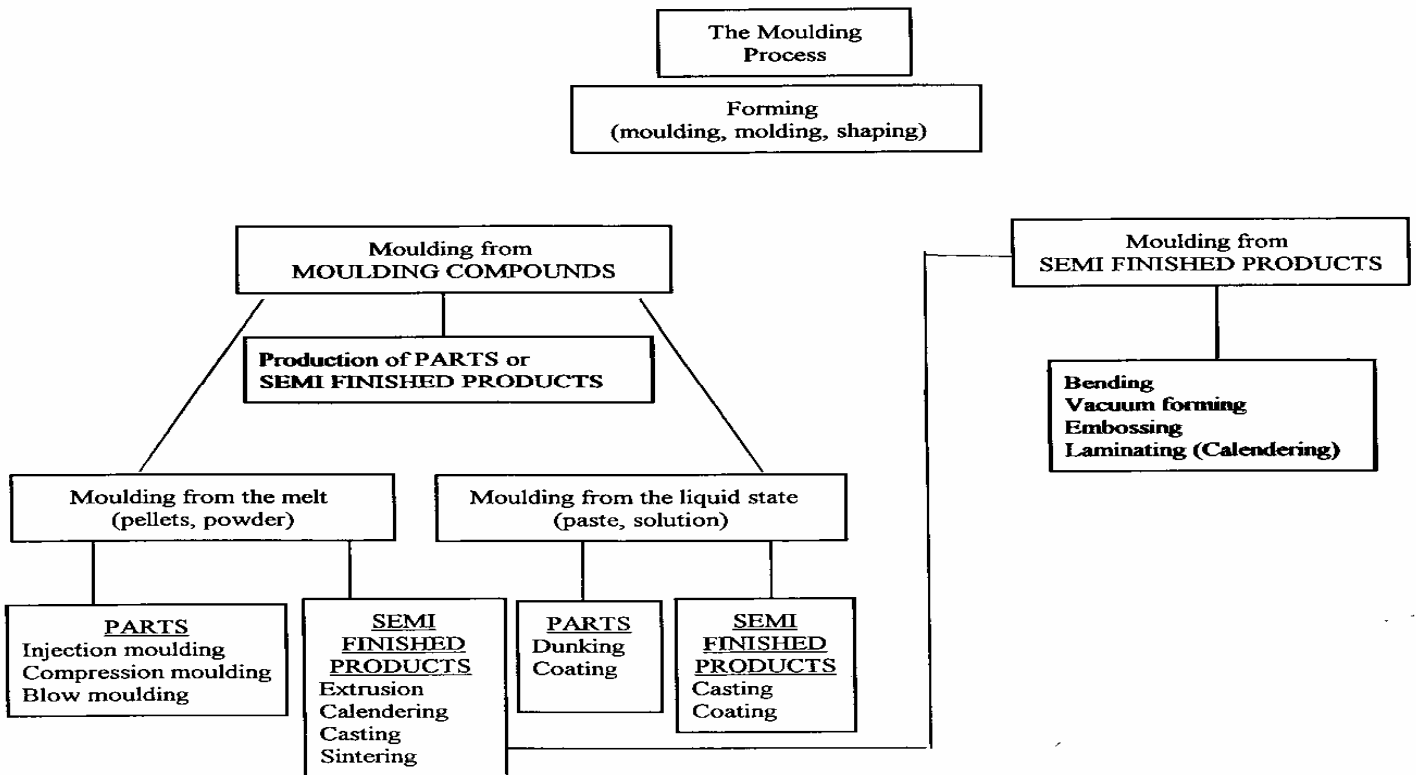
Polymer Processing

Basics



Polymer Processing

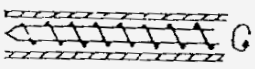




Basics



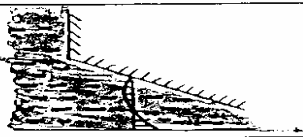
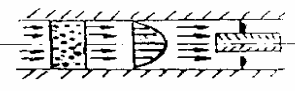


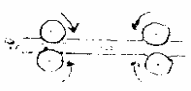
Polymer Processing

Basics

Action Pairs in Polymer Processing

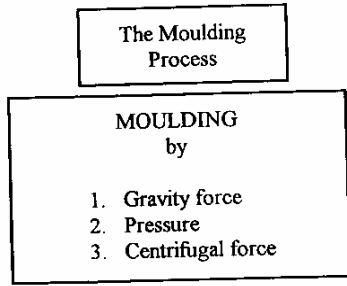
Screw	-	Cylinder		Extruder, Injection moulding machine
Plunger	-	Cylinder		Extrusion press, Injection moulding machine
Roll	-	Roll		Roll mill, Calender
Scaper	-	Pad		Coating machine
Rotor	-	Wall		Kneader, Mixer

Basis Flow in Polymer Processing

Spread flow		Basis model for kneader, extruder, calender, coating
Pressure flow		Basis model for flow in moulds, channels, dies
Film running flow		Basis model for coating
Shear flow		Basis model for Rheometer, extruder, plastizing units
Extensional flow		Basis model for film, blowing, film stretching, thread stretching

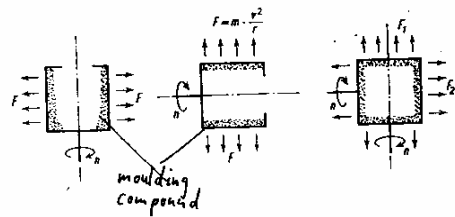
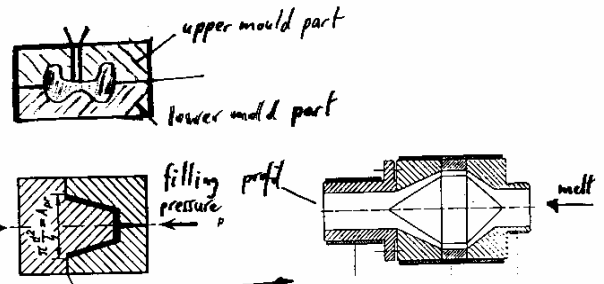
Polymer Processing

Basics



Examples:

1. Casting of paste or solutions without pressure
 - a) in open moulds for parts production or
 - b) free for production of sheets, films etc.
2. a) Transport of melt into closed moulds and forming under pressure
 - compression moulding
 - injection moulding
 - blow moulding
- b) Transport of melt through dies and forming under pressure
 - extrusion
3. Distribution of powder/melt or paste over the inner surface of a mould
 - rotational casting
 - rotational sintering



The Fixation Process

Physical process

Cooling
Heating

Chemical process

Polymerisation
 Polycondensation
 Polyaddition
 Crosslinking
 Vulcanization (Rubber)