IM: Autodesk moldflow

• Autodesk moldflow Synergy simulation Demonstration

• Autodesk moldflow Adviser hands on
**IM: Autodesk moldflow**

- **Autodesk moldflow Adviser mesh types**

**Dual domain mesh**
- Hollow body covered with a surface shell.
- Overall the part is thin walled with few thick areas. L and W a least 4 (10) x the thickness.
- Results through the thickness of the part.

**3D mesh**
- Part has many thick sections, 3 L and W is < 4x the thickness.
- Accurately model non-laminar flow around corners and features.
IM: Autodesk moldflow

- Autodesk moldflow Adviser – general workflow
  1. Import geometry & select mesh type
  2. Set type of simulations to “fill”
  3. Select the correct material
  4. Set injection location
  5. Process settings
     1. Uncheck the automatic V/P switchover and set value to 100%
     2. Set the injection time based on the given volume flow rate
  6. Start analysis
IM: Autodesk moldflow
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![Image of Autodesk moldflow software interface]

### Databases

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Trade name</th>
<th>Description</th>
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**Note:** The image and table content are for illustrative purposes only.

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**KU LEUVEN**
Polymer extrusion

Mech 550
UBC Vancouver
dr. ing. Bart Buffel PhD
Application: Extrusion

- Process description
- Balancing a profile die: manual calculation
- Melting of polymers on an extrusion screw
Extrusion: process description

Haul off unit  Caliber and cooling  Extruder

Direction of production

Equipment at KU Leuven: production of tubes with 30mm outer diameter
Maximum output: 14kg/h
Extrusion: process description

• Screw extrusion is the most used method of melt preparation in industry
Extrusion: process description

Continuous process

Products constant cross section

High surface quality
Extrusion: process description

Caliber + cooling
Extrusion: process description

Haul off unit

Caterpillars pull the product through the line
Product is cut to size
Extrusion: process description

Film blowing

Multilayer: each layer has a different function
  Color, Printing, air seal, food approved,...

Film thickness: 15-500µm
Extrusion: process description

Blow molding

1. Extruder
2. Blow Pin
3. Extrusion Blow Moulding
4.
Extrusion: process description

Blow moulding alternative:

1. Injection moulding

2. Blowing

+ end customer does not have to buy an injection moulding machine
+ cost of transport for PET preform is low
Extrusion: process description

Extrusion calendering to make large plates = sheet extrusion