Thickness gauges for film and sheet extrusion

SBI

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Thickness gauges and control systems for film and sheet production

Extrusion Line with SBI components

Componenfs for extrusion lines
Thickness gauges for film and sheet extrusion

Capacitive/Eddy Current Gauging System

**KAPA**

Application range:
- Flexible sheets
- 100 – 2000 micron thickness range
- Measuring width 0.5 – 3m

Thickness gauges > Flexible sheet
Laser Shadowing/Eddy Current Gauging System

SHADOW

Application range:
• Flexible sheets
• 100 – 3500 micron thickness range
• Measuring width 0,5 – 3m
Capacitive/Eddy Current Gauging System
KAPA II

Application range:
- Sheets (flexible at measurement position)
- Thickness up to 6000 micron
- Measuring width 0.5 – 3m

Thickness gauges for film and sheet extrusion
Capacitive/Eddy Current Gauging System

KAPA

Thickness gauges > inlet – outlet angle
Thickness gauges for film and sheet extrusion

**Links to other pages**
- Thickness over width
  - Green: actual
  - Black: average last 5 scans
  - Grey: frozen reference
  - Blue: target thickness
  - Red: set tolerances
  - Light blue: position of edge trimming

**Thickness over die-bolt number**

**Trend over last 24 hours**
- Average
- Maximum
- Minimum
- Tolerances

**Length profile control on/off**
Thickness gauges for film and sheet extrusion

Links to other pages

Numeric:
Green: actual
Black: average last 5 scans
Blue: target thickness
Red: set tolerances
Light blue: position of edge trimming

Thickness over die-bolt number

Controlling variable over bolt number
+100: heating of thermal bolts 100%
-100: heating of thermal bolts 0%

Control details per bolts
Different target thickness per bolt set-able (uneven set profile)
Thickness gauges for film and sheet extrusion

IR Multilayer Gauging System
Still under development

Application range:
• Film / flex. sheets
• Thickness up to 1500 micron
• Measuring width 0.5 – 3m
Thickness gauges for film and sheet extrusion

IR Multilayer Gauging System
Still under development

Absorption of IR light with different wavelength

Next steps
• Multivariate data analysis
  For user-friendly operation

• Performance of IR source
  For thicker and dark coloured sheet

Thickness gauges > EVOH Layer gauging
Thickness gauges for film and sheet extrusion

IR Multilayer Gauging System

Thickness gauges > EVOH Layer gauging
Thickness gauges for film and sheet extrusion

Total Thickness over width

Total thickness over die-bolt number

EVOH layer thickness

Thickness gauges Mainscreen (monitoring only)
Thickness gauges for film and sheet extrusion

- Total Thickness over width
- Coated layer
- Thickness over die-bolt number

Thickness gauges > extrusion coating
Laser Displacement sensors

Application range:
- Sheets
- 0,5 - 40 mm thickness range
- Measuring width 0,5 – 3m
SBI system: FRAD

Retrofitted extrusion-die
Existing extrusion-die retrofitted with FRAD
SBI system „Thermal Bolts“

SBI thermal bolts on extrusion-die for cast film

Die manufacturer
GMA
SBI components enhance quality in sheet extrusion

SBI has trust by all major extrusion-line manufacturers in Europe