

# Filmtest 3 G

Offline Thickness Gauge for Process Optimization and Quality Control

**KÜNDIG CONTROL SYSTEMS**  
The Gauge Manufacturer for Film Extrusion  **SWISS MADE**

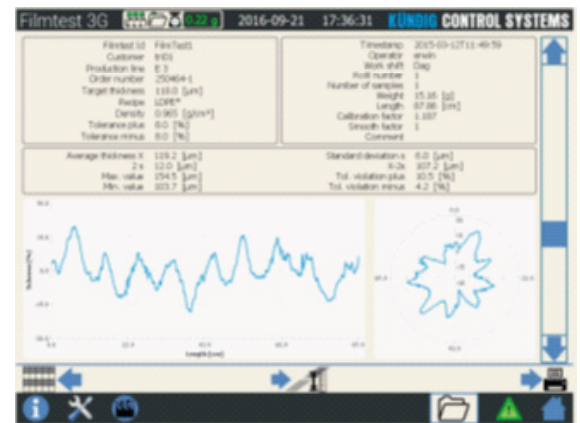
The Filmtest is an offline thickness measuring system for extruded films, used for process optimization and quality control labs. The combination of several measuring functions in one system makes the Filmtest a valuable tool for QC labs.

Due to fast and easy operation, it is possible to perform measurements at every roll change. Consistent measurement means you can provide your customer with more assurance that delivered production is within specification. Operation of the system is easy enough that any operator can do it.

The Filmtest helps to reduce the work in the laboratory. For example, in addition to the thickness measurement, the unit weight of the sample is also calculated as well as the sheet weight test, eliminating the need to prepare samples and run these tests individually.

## How it works:

- A sample of film is cut with an included template.
- When the sample is fed into the unit, variespeed optical sensors detect the sample edges to facilitate perfect sample loading to the units internal capacitive measuring device.
- Length and weight of the sample are measured
- The square meter weight is calculated using length, width and weight of the sample, then the average thickness is calculated based on the sample density.
- The thickness profile is measured with a high resolution capacitive sensor.



*Kundig International based in the USA supplies and services this excellent solution for measuring and optimizing film gauge.*

## Filmtest 3G Benefits

- The square meter weight is determined using length, width and weight. Then the average thickness is calculated based on the density. This method allows a much more precise thickness profile measurement than other systems on the market.
- If the sample consists of several pieces, they can be measured one after the other, the software will create one complete profile.
- A zoom function allows the operator to analyze even the smallest deviations.
- In case that the film sample has a crease, the operator can use a filter to eliminate the crease and then recalculate the profile.



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## New Feature: Sheet Weight (ISO 4591)

In many labs the quality of the film is checked by cutting and measuring circular areas. The measured values of the circular areas from a sample must not exceed a specified tolerance band. The new function Sheet Weight, which is now included in the Filmtest 3G Software Quality Analyzer, calculates these values graphimetrically according to ISO standard 4591.

This film sample has a length of 920mm and a thickness of 32µm. The software calculates with the selected settings the following measuring values for 8 circular areas:



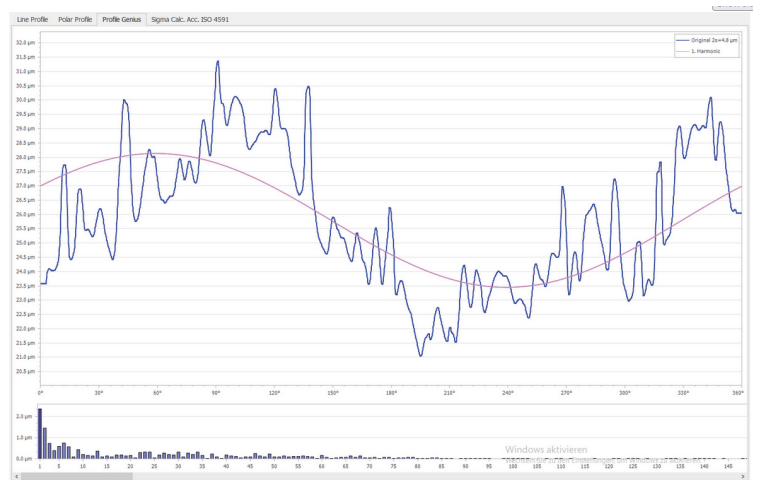
Line Profile						Polar Profile		Profile Genius		Sheet Weight (ISO 4591)	
Configured Sample Count:										Maximum	
2s:										3.6 µm	
2s:										11.2 %	
Samples											
<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>											
Sample Number		Weight		Avg. Sample Thickness		Sample Area		Area Weight		Volume	
1		0.28 g		29.9 µm		99.9 cm²		28.428 g/m²		0.299 cm³	
2		0.28 g		29.5 µm		99.9 cm²		27.983 g/m²		0.294 cm³	
3		0.31 g		32.3 µm		99.9 cm²		30.648 g/m²		0.322 cm³	
4		0.33 g		35.0 µm		99.9 cm²		33.237 g/m²		0.350 cm³	
5		0.32 g		33.5 µm		99.9 cm²		31.859 g/m²		0.335 cm³	
6		0.30 g		31.6 µm		99.9 cm²		30.040 g/m²		0.316 cm³	
7		0.30 g		32.1 µm		99.9 cm²		30.462 g/m²		0.320 cm³	
8		0.31 g		32.6 µm		99.9 cm²		30.967 g/m²		0.326 cm³	
N = 8		Ø = 0.30 g		Ø = 32.1 µm				Ø = 30.453 g/m²			

The number of circular areas can be specified according to the sample length, or the software automatically determines as many circular areas as possible from the respective film sample.

## Profile Genius

The harmonic analysis can help to identify problems in the extrusion process. The following graph shows a thickness profile measured with the Filmtest 3G and analyzed with the Profile Genius feature:

This chart shows clearly that the biggest disturbance in the profile is the first harmonic, represented by the purple graph. The profile tolerances could be significantly reduced by centering the die.



### Specifications

Power supply **110 - 240 VAC, 50/60 Hz**  
Power consumption max. **100 VA**  
Measuring principle **Capacitive**  
Suitable for all electrically non-conducting material  
Sample size **150 mm wide**  
Measuring range **10 to 300 micron (0.4 - 11.8 mil)**  
Linearization error **< 0.5 %**  
Measuring interval **50 ms**

Resolution **0.1 micron (0.004 mil)**

Accuracy average thickness **1%**

Linearity **better than 2%**

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