

### Coating Thickness Measurement

#### Film Thickness Measurement (Individual & Total)

On-Line, Real-Time, Non-Contact, Non-Nuclear, No Calibration Required



Utilizing StraDex™ Spectral Coherence Interferometry (patented technology)

### StraDex in Polymer Production

The StraDex Sensor family allows **FACTS** to effectively measure thin films and coatings from 5um to 300um at production speeds.

Following the ON-CAL line of calender gauge sensors, **FACTS** utilizes StraDex thickness measurements from mounted, non-contact sensors as feedback to add closed loop control to the mechanism creating the layer - be it a spray, roll-transfer, multi layer die, mechanical feeder, or calender roll.



### Benefits and Payback

- Reduce Scrap and adjust when out of tolerance.
- Collect data for verification of product for customers.
- Minimize material use by tightening tolerances.
- Allow motivated workers to operate at peak efficiency.

### The Technology

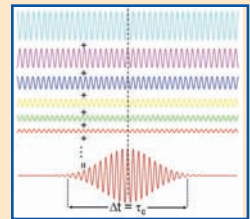
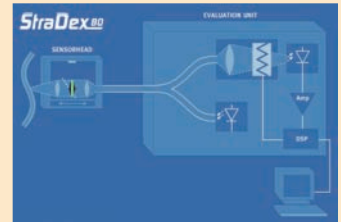
Interferometry is the science and technique of superposing (interfering) two or more light waves,

Two equal waves that coincide with the same wave phase will add to each other while two waves that have opposite phases will cancel each other out.

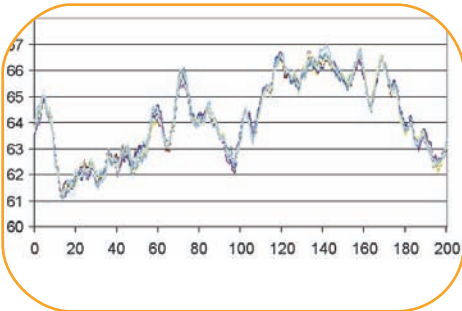
In the StraDex thickness measurement application, Light waves are bounced off of the target material leading face and far face- giving two (or more) wave sets with which to compare phases.

Spectral Coherence Interferometry uses more than one light wavelength source and combines their resultant interference patterns to create wide light pulses of different frequencies. This existence of lower, multiple frequency light patterns, or lack there of, is measured by fast processing units to interpolate physical distances between reflections from the measured surface.

Spectral Coherence Interferometry uses no radiation source whatsoever, and only outputs light.



# MULTI-LAYER FILM & COATING THICKNESS MEASUREMENT SYSTEMS



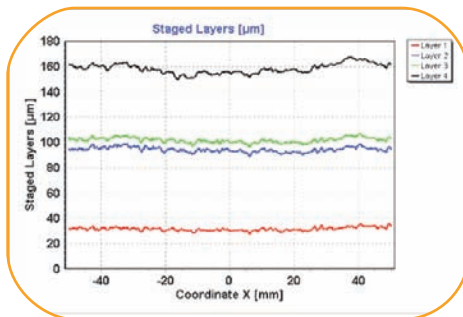
Repeatability



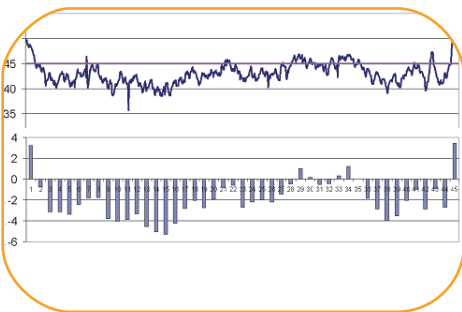
## StraDex Sensorhead Family

Model	Layer Thickness	Working Distance
F-2 (Standard)	5um-300um	2mm-22mm
F-24	15um-350um	24mm-44mm

Multi-Layer Measurement



Control to Setpoint



## StraDex (Standard) Specifications

- Working distance: 2-22 mm
- Working range: 20 mm
- Measurement spot diameter: 12  $\mu\text{m}$
- Measurement rate: 4kHz
- Min. layer thickness: 5  $\mu\text{m}$
- Max. deviation total thickness: <0.2  $\mu\text{m}$
- Max. measurement deviation single layer: < 1  $\mu\text{m}$
- Max layer thickness: 300  $\mu\text{m}$
- Max. production speed: 1200 m/min (total thickness)
- Max production specs: 600 m/min (single layer)

**FACTS** Inc. is the leader in process control technology for the polymer market. In fact, we wrote the book on extrusion control—literally. For the Society of Plastics Engineers, **FACTS** penned the chapter on Extrusion Control in the “Guide on Extrusion Technology & Troubleshooting.”

**FACTS** Inc. routinely provides new and existing process lines with complete electronic control systems and integrated HMI. Controls provided include, but are not limited to: temperature, speed and pressure control; sequence control; drive and heater systems; profile measurement on control.

**FACTS** Inc. offers you experience at your fingertips with 24/7 support via Internet or modem.

**FACTS** Inc. provides the tools to control your bottom line. Contact us today.

