

INSPECTION TECHNOLOGY | FPI<sup>FLOAT ST & TH</sup>



**FPI** float st & th

# Inline Stress and Thickness Measurement for Float Glass

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## INSPECTION TECHNOLOGY | FPI<sup>FLOAT ST & TH</sup>

### FPI float st & th

Combined machine for both applications including glass width and temperature

### FPI float st

Stress measurement by circularly polarized laser

### FPI float th

Thickness measurement by laser interferometer

### Inline analysis for float glass

Float glass producers are facing permanently increasing demands, requiring an absolutely stable production process. This is only possible, using advanced quality and process control methods.

### Stress analysis via birefringence measurement

A (circularly polarized) laser beam crosses the glass. When passing an area with stress, the beam's polarization status is modified, analysed with Glass temperature is included.

### Thickness measurement by laser interferometer

Laser interferometer measurement works in reflection from top side.

### Proceeding

All measurements are performed during a single traverse head movement. Constant traverse speed is supplied by a servo drive.

### Hardware

Multi processor system: FPI's advanced computer architecture combines several processors working in parallel, enabling high-speed measurement as well as complex calculations and evaluations. The results are transmitted to a downstream host system and database.

### Software

Advanced evaluation algorithms are a core element for reliable results. Multiple modes are available, e.g. a running top view shows the local stress distribution over the last 100 meters.

### Trend analysis

Trend analysis combines measurement data and data from the production line to a trend graph. The function also may alert the operator when production is running towards the limit of the process window, enabling corrective action to be taken long before substandard samples are produced.

The correlation of trend diagrams of various process parameters even allows determination of process deviation origins.

### Key features

- High density of measurement points in both directions, based on high traverse speed and sampling rate
- High traverse speed of measurement arrangement, glass width measurement without slowing down, change of direction < 1 second
- Traverse speed of measurement head: 1 m/s Sampling Rate: 1 kHz Distance of measurement points: 1 mm
- Water-cooled measurement head (top side) and illumination unit (bottom side)
- Compensates glass ribbon wander
- Database solution for easy correlation of measurements with line parameters and feedback to production
- Remote diagnosis and maintenance via Internet
- System adaptable for all types of flat glass: clear, coloured or coated (transmission rate > 25 %)