

FLOATSCAN-Coldgauge & Stress Thickness & Stress Measurement In-line



Measurement Task

Accurate and reliable thickness and width measurement is essential in modern glass production. Because of its outstanding reliability and accuracy, the FLOATSCAN-Coldgauge is a major contributor to increased production.

The system is based on the well-known principle of double reflection at glass surfaces. The bidirectional measurement takes place in flow direction. The sensor head moves across the ribbon on a solid linear gantry and achieves its outstanding performance by using solid-state lasers combined with a self-testing function.

The perfect system complement is the FLOATSCAN-Stress module: Permanent stress depends on glass thickness, temperature distribution above the glass and the material constant. Stress is measured in-line using a sensor that consists of a transmitter, located below the glass ribbon, and a receiver, located above the glass. The sensor uses the differences in polarization of circular polarized light.

Advantages:

FLOATSCAN-Coldgauge

- Earliest possible online thickness and width measurement of the ribbon
- Supreme accuracy allows for thickness control closer to the lower tolerance level
- Reduced profile losses when production close to lower tolerance limit
- Reduced edge losses by accurate ribbon-width measurement

FLOATSCAN-Stress

- Enables optimised operation of the cooling Lehr
- Provides additional information on the production process
- Low maintenance operation
- Automated tonnage monitoring

User-friendly and modern operations

The user-friendly operator-interface combines easy system operation and modern process visualization. FLOATSCAN-Coldgauge and FLOATSCAN-Stress includes automatic operation, e.g. continuous profiling as well as powerful displays like profile diagrams, color-coded maps and trend displays. The interfacing to FLOATSCAN-QIS allows long-term data storage and analysis.

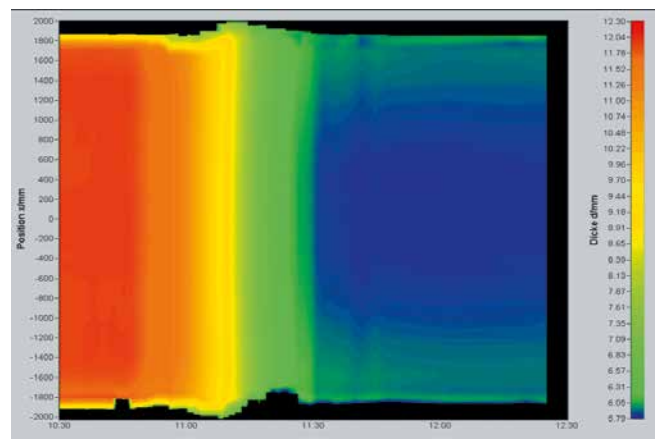
Features:

- Thickness measurement of the entire glass ribbon
- High accuracy up to 1.5 μm
- FLOATSCAN-Coldgauge and FLOATSCAN-Stress can be installed either as standalone systems or in combination

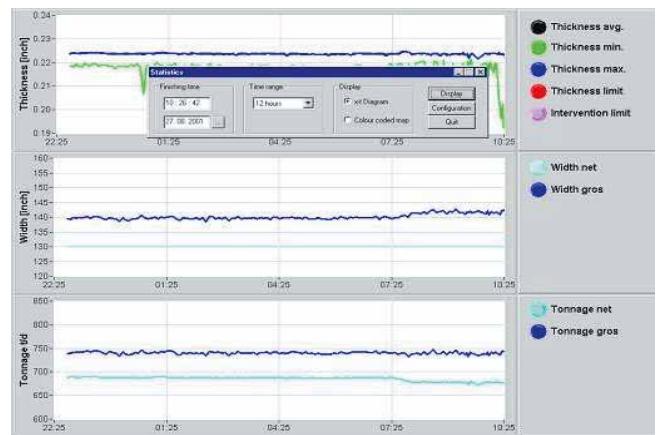
System Features:

- Absolute thickness profile
- Different stress profiles:
 - temporary stress
 - calculated stress
 - remaining stress
 - temperature
- Determination of ribbon width (gross and net width)
- Measurement of ribbon position
- Determination of tonnage (gross and net tonnage)
- Continuous cross or length profiling
- Trend-displays
- Color-coded maps
- Interface for the FLOATSCAN-QIS (Quality Information System)

Measuring range	0.8 – 20 mm, Option 32 mm
Glass transmission	> 35 %, Option > 8%
Measuring resolution	0.1 μm (for thickness measurement)
Spatial resolution	1 mm (for thickness measurement)
Approx. cycle time	85 s (45 s at high speed mode)



Color-coded map of thickness change



Trend display



Thickness and stress profile

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