Float Glass

Production of Flat Glass in a Float Glass Process

Q
Question

How can the quality of float glass production be maximized?

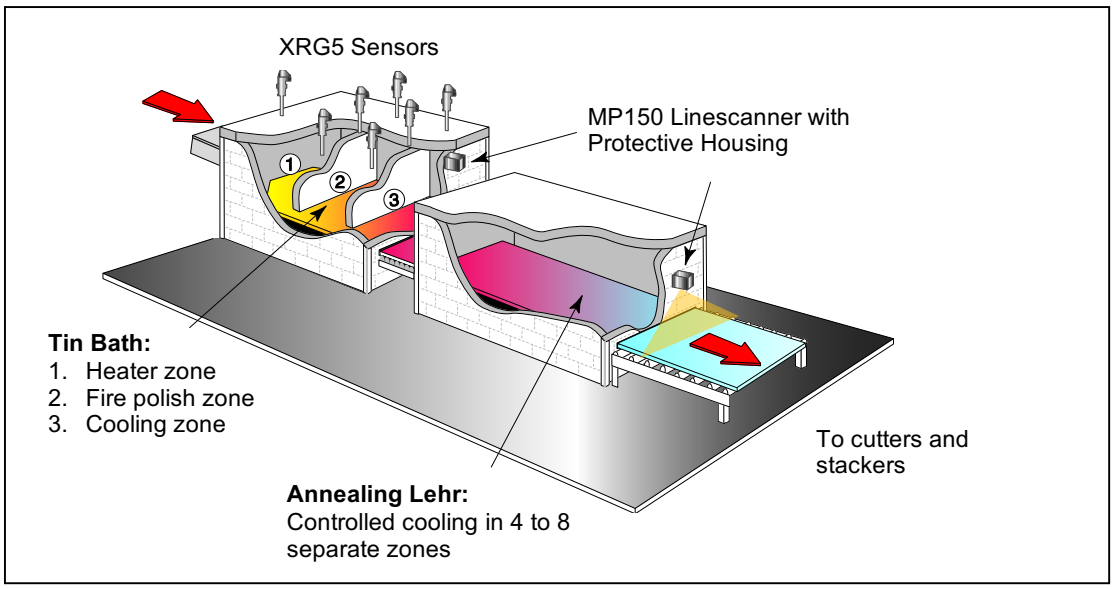
A
Answer

Situation Analysis

1100°C (2012°F) hot molten glass is fed into the float bath (tin bath). The glass flows out onto the tin surface, forming a floating ribbon with a perfectly smooth glossy surface on both sides. The tin bath is separated into three different zones: heating zone, fire polish zone and cooling zone.

As the glass flows down the tin bath, the temperature is gradually reduced down to 600°C (1112°F) until the sheet can be lifted onto rollers. It then passes through the annealing lehr, where it is gradually annealed so that it cools down without strain and does not crack from the change in temperature. The glass is machine cut after it exits the annealing lehr.

Temperature monitoring is critical for every step of the production process. Incorrect temperatures or rapid temperature changes cause uneven expansion and contraction, resulting in improper annealing.



Manufacturing Plant for Production of Float Glass

Raytek®
Fluke Process Instruments

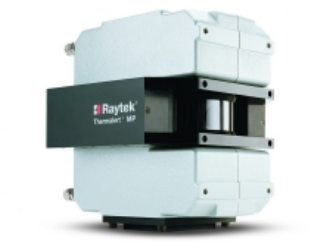
A
Answer

Solution and Improvements

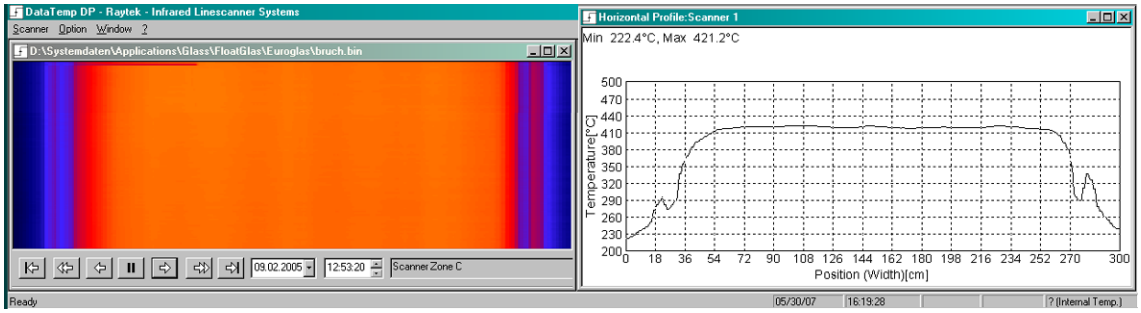
For temperature monitoring of the three different zones of the tin bath, the Raytek XRG5 or MMG5 sensors are the preferred solution. Both models have a spectral response of 5 µm specific for temperature measurement of glass surfaces. Viewing through long sight-tubes may require the 70:1 optical resolution offered by the MMG5.

The MP150 linescanner captures complete temperature profiles across the glass ribbon and can detect glass breakages and impurities. With its protective housing, the MP150 linescanner can be used at very high ambient temperatures. The small size of the MP150 linescanner allows trouble-free installation. With the easy-to-use DataTemp® ES150 software, you can quickly detect non-uniformities before they become a problem.

XRG5 Sensor



MP150 Linescanner



Temperature Profile of Float Glass with DataTemp ES150 Software

Raytek Product

- XRG5 Sensor
- MMG5 Sensor
- MP150G5 Linescanner

Benefits

- Continuous Temperature Monitoring
- Reduced Scrap
- Increased Glass Quality
- Improved Profitability of the Float Glass Machine

Accessories

- Cooling Housing for either XR or MM
- DataTemp ES150 Software
- Protective Housing for Linescanner
- Adjustable Mounting Base for Linescanner

For customized solutions to your process, please contact:

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