

Glass Forehearth Temperature

Production of Bottles and Glass Containers



Q

Question

How can you control the glass forehearth temperature for the production of bottles and glass containers?



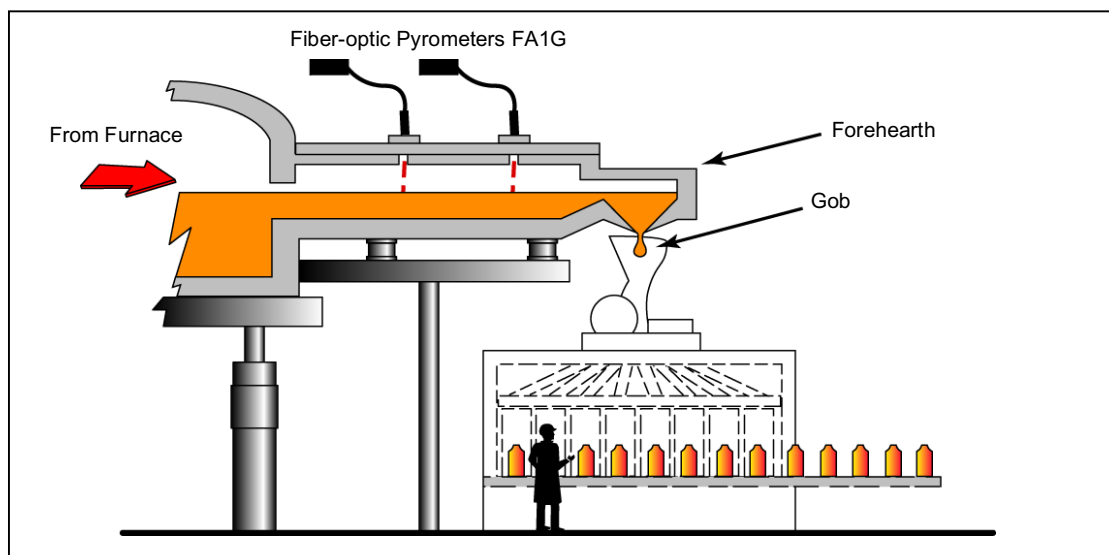
A

Answer

Situation Analysis

From the furnace, molten glass flows into one or more forehearths and is cut by a shearing blade to form a cylinder of glass called a gob. The gob is dropped into moulds where the initial forming is done by either a blowing process with compressed air, or a pressing process using a plunger and mold.

Maintaining the proper temperature in the forehearth is critical to insure that the molten glass is in the proper homogenous condition when it reaches the exit, particularly important for proper gob viscosity. A temperature difference of 1 K causes a viscosity deviation of 1%, so it is critical to locate temperature measurement sensors along the forehearth to monitor the molten glass temperature and control the forehearth zone temperatures.



Monitoring of the Glass Forehearth Temperature

A

Answer

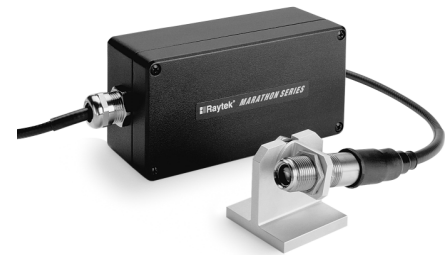
Solution and Improvements

The Raytek Marathon series FA1G fiber-optic pyrometer is the perfect match for temperature monitoring of the molten glass in the forehearth. The FA1G provides a superior temperature resolution of 0,1 K necessary for determining and controlling the viscosity of the molten glass.

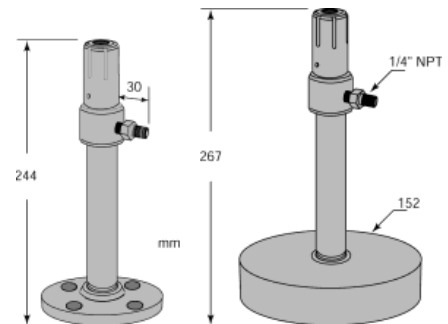
The FA1G has a very short response time of 10 mSec and is fast enough to monitor any temperature change.

The FA1G fiber-optic pyrometer with its small optical head and flexible cable, is the best choice for hard-to-reach locations and can be used without cooling in an ambient environment up to 315°C (600°F).

The Furnace Wall System (with flange) and the Roof Mount System (gravity-held) provides purging and a protective mounting for the optical heads on the top of the forehearth.



Fiber-optic Pyrometer FA1G



Furnace Wall Mount System and
Furnace Roof Mount System for FA1G

Raytek Product

- Fiber-optic Pyrometer FA1G

Benefits

- Viscosity-Control
- Reduced Scrap from Glass Breakage
- High Production Quality

Accessories

- Furnace Wall Mount System with Flange
- Furnace Roof Mount System (gravity-held)
- Air Purge
- Optional: Cooling Platform for Electronics Housing

For customized solutions to your process, please contact:

www.flukeprocessinstruments.com

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