

Glass Wool

Production of Insulation Material



How do you monitor the production of glass wool to avoid hot spots in the mat?



Answer

Situation Analysis

The glass furnace contains molten raw materials. including sand. natural recycled glass and fluxing agents, such as soda ash. From the furnace, the molten batch is fed into a channel where the glass has to reach the required temperature of ~1450°C (2642°F) to be converted into fibers. After heating, the fiberizing process is applied. Using a centrifuge, the molten glass is drawn through a rotating device or spinner that is drilled with a large number of holes. At the spinner, hot clusters of glass are formed (often 100 mm (4 in.) in diameter) and as they exit the spinner, they are fall onto the mat and are encased in the



Principle of Glass Wool Production Line

insulation. The mat is then cured at $\sim 200^{\circ}$ C (392°F) to the desired shape and firmness. While warm, the mat is rolled in paper and stored in the warehouse. If the temperature is too hot, the glass clusters will ignite the paper wrapping, leading to fire that can destroy the warehouse.





Solution and Improvements

To measure the temperature of the glass fibers at the spinner, the Raytek MP150 linescanner is the best solution. With the 90° field-of-view, the MP150 can target the falling glass fibers very fast with up to 150 lines per second. Depending on the possible mounting distance, the MP150 linescanner can monitor more than one spinner. The MP150's alarm output is triggered when the defined temperature threshold for a hot cluster is exceeded.

The MP150 linescanner can work with easy-to-use DataTemp ES150 Windows software. This system supplies thermal images, which are used to apply a dedicated evaluation function called "Max of Area".

Due to the extremely dusty environment, the MP150 linescanner's built-in air purge needs to be applied.



Glass Fibers at the Spinner Exit



Hot Clusters in the Glass Mat



MP150 Linescanner

Raytek Product

 MP150LT Linescanner with Air Purge Assembly

Accessories

DataTemp[®] ES150 Software

Benefits

- Reduced Risk for Warehouse Fires
- Increased Product Quality by Optimizing Glass Flow and Spinner Settings

For customized solutions to your process, please contact:





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