SUCCESS STORY 86

BINDER RESIN CURE IN GLASS FIBER INSULATION

Q **How did a global manufacturer of insulation material optimize curing of their glass fiber insulation rolls to minimize scrap rates?**

A

Situation and background

A major UK-based building materials manufacturer turned to Datapaq® to reduce their level of scrap due to persistent under or over curing of their insulation rolls. This insulation material is manufactured by rolling accumulated glass fibers that have been impregnated with a binder resin, while passing through a cure oven. In the oven, the binder cures and forms the rigid or semi-rigid mat of insulation product, which is then cut to size. Customer issues included:

- Under cure: Binder does not give sufficient physical strength to the formed product, resulting in weak product that has a high risk of falling apart during transportation or use.
- Over Cure: Possible thermal breakdown of either binder or glass material and discoloration of the product.
- Poor temperature uniformity: Delamination of product where core temperatures did not achieve correct cure of binder.

The winning solution

- Using a Datapaq customized Q18 system with a low height thermal barrier, the system was able to pass safely through the process without risk of damage from rollers.
- The 6 channel capability allowed monitoring of the entire product profile across the width and at varying depths.

Savings made

- Reduced rejects, scrap and rework costs
- Optimized line speeds to maximize productivity
- Optimized running conditions to reduce fuel costs

KEY FACTS

Customer's End Product
Construction/building materials – insulation

Max Temperature Reached
200°C/392°F
Oven clearance between rollers: <30mm/1.2 inches

Duration of Process
3 to 10 minutes

PRODUCT AND BENEFITS

Datapaq Oven Tracker®
DQ1860 datalogger
TB2015 thermal barrier
Oven Tracker Insight™ software

- Curing and temperature uniformity optimized
- Operating costs reduced