SUCCESS STORY 102

Wicket Oven Temperature Monitoring Guaranteeing Safety of 3-Piece Cans

Q **How can I efficiently prove that the internal lacquer cure process is performed correctly to required regulations, guaranteeing 3 piece food can product quality and safety?**

A

Situation and background

A large metal can manufacturer has used the Datapaq® WicketPaq system for many years as a key tool for monitoring their wicket coating cure ovens. This tool has been so valuable that they are now using the third generation of this system monthly across the group to help them comply with coating cure for food safety regulations.

The winning solution

- Q18 data logger features 6 measuring points and sampling interval down to 0.05s, providing comprehensive resolution of process
- Adaption of Q18 data logger (trailing thermocouple through vertical oven) to allow monitoring of post coating lines
- Small TB0045 barrier to fit easily between wicket frames
- Barrier installation without machine downtime
- Rapid test setup thanks to fast response exposed junction thermocouples permanently attached to test sheet, allowing repeat test conditions run to run

Benefits

- Product temperature data collected over the whole wicket sheet allows identification of hot or cold spots that create risk of under or over cure issues:
  - over cure: >445 / 230 °F PMT coating scorching and tin reflow
  - under cure: a poor protective barrier between metal can and food contents can create a risk of interior corrosion and food spoilage
- Rapid efficient new process setup for new lines, products or coatings
- Process parameter optimization using a bake ladder method, allowing selection and validation of the optimal conditions
- Rapid fault finding when process errors occur, such as cold spots due to either open doors or blocked air inlets or baffles (sheets having fallen off the line)
- Full oven profile data provided as either hard copy report or digital file, which can be archived for as long as required.

KEY FACTS

Customer's End Product
Steel and aluminum 3-piece food cans

Max Temperature Reached
200°C/400°F

Duration of Process
Typically 15 to 30 mins

PRODUCT AND BENEFITS

- 6-channel data logger DQ1860
- Barrier: TB0045 wicket barrier designed to fit on wicket frames traveling through the oven
- Probes: exposed junction type K thermocouple secured directly to wicket sheet test piece
- Insight™ software providing fully certified and traceable validation reports