USE CASE | MiniStar Application

High-speed transmission measurement for architectural glass manufacturer

An architectural glass company manufacturing coated glass products for commercial and residential markets.

CHALLENGE

The manufacturer required an accurate, in-line method to measure light transmission of an optical coating applied to glass during their production process. The operation moves through the production line at high speeds, requiring a spectrometer to collect reliable transmission data with very short integration times.

The customer had an existing measurement solution incorporating an expensive light source which introduced limitations to the production process. Their uniform light source lacked sufficient brightness to support spectrometer measurements at the required production speeds, limiting performance and measurement accuracy.

SOLUTION

SOLUTION SEARCH
To overcome these limitations, a custom integrating sphere solution was required. Labsphere engineers evaluated the production environment, optical requirements, and system constraints to identify a solution capable of meeting the high-speed measurement demands.

LABSPHERE SOLUTION
Based on the application assessment, Labsphere implemented a solution utilizing its LED-based MiniStar radiant source. The MiniStar provided significantly higher brightness than the existing source, delivered a broad spectral range, while maintaining excellent stability and uniformity—critical for precise transmission measurements. Space constraints in the production line made the compact footprint of the MiniStar an ideal fit.

RESULTS

- Enabled accurate transmission measurements at full production speed
- Provided high brightness to support short spectrometer integration times
- Delivered a stable, uniform radiant source for consistent measurement results
- Fit seamlessly into the production line due to its small footprint

OUTCOME

By replacing the traditional light source with Labsphere's MiniStar radiant source, the customer achieved reliable, real-time transmission measurements on their high-speed production line, improving quality control of their coating process without impacting throughput.