

Using Viscosity Measurement to Achieve Consistent Coatings



“In 10 years, we have never had to recalibrate the Cambridge Viscosity viscometers. We are very pleased with the results and the consistency that we have been able to achieve with our coatings. The ability to more precisely monitor viscosity has allowed us to reduce waste by nearly 80%.”

— Mike Sullivan
Senior Development Engineer

“As an engineer, it is great to install equipment that doesn’t have to be serviced every day. The VISCOpro viscometers are reliable and require almost no maintenance as they are self-cleaning. Although we rarely have to clean the viscometers, when we do, it takes us less than five minutes.”

— Paul Malberg
Control Systems Manager

APPLICATION

Monitoring the viscosity of coating products to achieve higher product quality and reduce maintenance downtime

CHALLENGE

Controlling the viscosity of coating products is a significant challenge for manufacturers across a wide range of applications, from optical and medical to drum coating. The fluids are often difficult to work with and must be formulated and used within strict parameters to achieve the desired film weight, thickness, and image characteristics.

Incorrect film thickness can result in off-spec products that have to be reworked or scrapped, contributing to waste and unnecessary expense. Operational characteristics—such as temperature changes, blending variations in coating materials, and process-driven evaporation—make off-line measurements impractical.

Madico, a global manufacturer of laminating and coating solutions, needed a more efficient way to manage viscosity for their high-tech applications in solar, photovoltaic, safety, and security. Viscosity is an excellent method for managing coat weight, as it correlates tightly with the level of solids in a fluid. When they know their solids are correct, they know the wet coat will be correct, and, once cured, the dry coat will be correct. The company’s existing viscometers—based upon vibration technology—were routinely experiencing coating build-up, which threw the calibration off and required ongoing maintenance and repair.

SOLUTION

Madico replaced their existing viscometers with ViscoPro viscometers from Cambridge Viscosity by PAC. Based upon oscillating piston technology, the constant motion of the piston keeps the measurement sample fresh while mechanically scrubbing the measurement chamber. The patented self-cleaning design ensures continuous monitoring and operation without costly maintenance and frequent re-calibrations. The automated, in-line ViscoPro viscometers are integrated into the company’s programmable logic controller (PLC) so that they can easily retrieve data and track performance.