

PRODUCT APPLICATION NOTE

SN0305

Industry: Chemical and Allied Products

Type of Application: Level monitoring of gels

Optech Equipment Used: Sentinel 3100.

Accessories: Articulating Mounting Bracket

Application Description: The customer required continuous and accurate monitoring of a gel application process

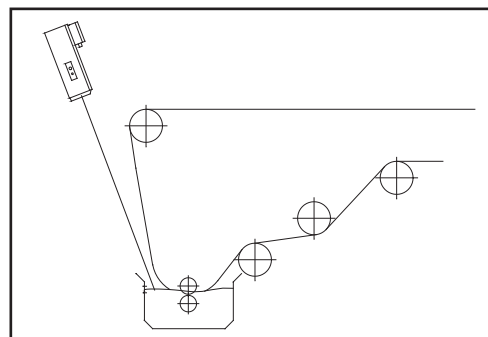
A manufacturer of flooring products needed to accurately measure and control the level of gel as it is applied by rollers to vinyl sheets. Controlling the gel level is critical to ensure a consistent thickness and a quality end-product.

Originally, a capacitance probe was used to monitor the level of the gel but it was found to be ineffective for several reasons. The process used several types of gel, all of which had different physical properties. This required changes in process settings for each particular gel, which resulted in increased setup times and lower productivity. Additionally, the customer wanted a non-contact monitoring device in order to avoid possible damage to the rollers caused by inserting a mechanical probe into the holding tray.

The extremely tight geometry of the process ruled out wide beam divergence gauges such as ultrasonic or radar. However, the application was ideal for the Sentinel 3100 laser-based level monitor. The Sentinel was mounted above the rollers by an Optech articulating bracket which simplified alignment of the laser. The narrow beam divergence of the laser could aim directly into the gel holding tray without interfering with the rollers or other equipment. The analog output from the unit was routed to a programmable logic controller (PLC) to regulate the flow into the holding tank, ensuring a consistent gel supply and a quality end-product. The handheld programmer allowed for easy calibration and set-up of the unit.

KEY ADVANTAGES OF LASER TECHNOLOGY IN LEVEL MEASUREMENT

- Continuous non-contact level measurements
- Narrow beam divergence to accommodate tight geometry
- Measurements unaffected by off-gas layers
- Measurements unaffected by vapour pressure
- Measurements unaffected by changing physical properties of the material
- Measurements unaffected by low dielectric constant of material



300 Interchange Way • Vaughan, ON • Canada L4K 5Z8

Tel: [905] 660-0808 • Fax: [905] 660-0829

Web: www.optech.ca • Email: inquiries@optech.ca