

First Installation of Laser Caliper Measurement Performs Successfully at St. Marys Paper



“Our machine operators at St. Marys Paper trust the new Laser Caliper Measurement system on SC 6 even more than the traditional caliper sensor. They say that they are getting superior results without having to worry about defects being caused by paper surface irregularities.”

Dan MacKay, PM 5 Line Assistant, St Marys Paper

Benefits

Honeywell was already a preferred Quality Control Solution (QCS) supplier at St. Marys Paper. The company had a good working relationship with Honeywell, was familiar with Honeywell’s project implementation practices and had confidence in Honeywell’s technological capabilities, so it was natural to extend the PM5, SC5, 6 and 7 QCS project to include the Laser Caliper.

The Laser Caliper non-contacting caliper measurement system was proposed to St. Marys to solve its caliper defect problems because:

- Laser Caliper can accurately measure caliper in an environment where the application can be abrasive
- Paper surface roughness or stickiness will not adversely affect the measurement or the sensor
- Not having a contacting element reduces sensor wear and the potential for dirt buildup, and eliminates maintenance issues related to contacting equipment
- Laser Caliper has been proven to be as effective in measuring caliper as traditional contacting caliper sensors without compromising paper quality

Background

St. Marys Paper Ltd. operates a 240,000-tons-per-year paper mill producing SCA premium, SCA and SCB paper grades under the trade names Sequence, Sequel and Synpress. Paper produced at the mill is primarily purchased by magazine publishers and large retail companies for high-quality advertising inserts, flyers and catalogs.

The mill dates back to 1911 when Lake Superior Paper Company began construction of the area’s first newsprint machines.

Located at the hub of the Great Lakes in Sault Ste. Marie, Ontario, Canada, St. Marys Paper’s shareholders include some 400 employees along with Belgravia Investments Ltd. and TD Capital.



Paper machine 5, St. Marys’ largest producer, supplies paper to supercalenders 5, 6 and 7.

Challenge

St. Marys Paper makes SCA/SCB uncoated groundwood paper with a high percentage of ash content. This grade of paper can include coarse material that is mechanically retained in the sheet, which can present a challenge in the measurement of caliper. Specifically, if there is an irregularity in the surface properties of the sheet, a contacting caliper measurement system can cause defects in the paper.

“Accurate caliper measurement is important in our operation for efficient supercalender runnability, proper reel building and downstream converting operations,” said Todd Black, Engineering/Maintenance Manager, St. Marys Paper.

Based on a long and successful history with Honeywell, St. Marys Paper believed that Honeywell had the technology and expertise to devise a viable solution that would overcome the contacting caliper measurement shortcomings and achieve the objective of accurate caliper control.

Solution

After a detailed development plan was presented by Honeywell sales, service, projects, engineering, marketing and support organizations, St. Marys agreed to be the first site to install and test the new Laser Caliper non-contacting measurement system.

For a period of few months, St. Marys encountered increased defects caused by foreign particles. During the project, Honeywell proposed several interim solutions to improve the performance of the traditional caliper measurement system for the rest of the mill so production would not be compromised while the new solution was being implemented.

“This type of customer service from Honeywell reinforced our decision to go forward with the project. We had no interruption of production through the entire project, there were no unexpected costs and all the final outcomes were positive”, stated Black.

Dan MacKay was pleased to report, “At the end of the entire QCS upgrade project, Honeywell demonstrated that it would follow through on project commitments and had the Laser Caliper running successfully on control.”

The Laser Caliper was installed on SC6, which is one of three supercalenders that are fed by paper machine 5. Once the new sensor was operational, there were significantly less caliper-related defects on SC6 than on SC5 and SC7. Operators are very confident with the accuracy of the caliper measurement on SC6. In fact, they claim that it runs truer to caliper than the two other contacting gauge lines.

“Overall, the non-contacting Laser Caliper measurement system has given St. Marys more operational options, including an increased tolerance of furnish quality variances and sheet characteristics. This in itself is a huge advantage to us,” concluded MacKay.

More Information

To learn more about Laser Caliper and related Honeywell solutions, visit www.honeywell.com/ps, or contact your Honeywell account manager.

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