

Application Note

Non-Contact Speed and Length Measurement of Gypsum Board

LaserSpeed 4000 Gauge



Benefits:

- Highest available accuracy helps you ensure the highest possible product quality
- Non-contact length and speed measurement technique ensures no damage to product
- Permanently calibrated for production line simplicity
- No moving parts eliminates need for on-going maintenance
- Flexible mounting options make installation quick and easy

Save money in gypsum board manufacturing

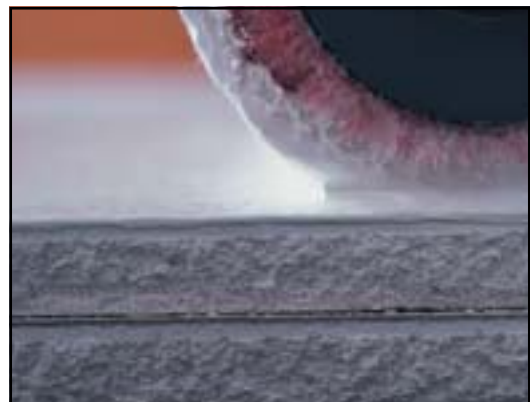
Every manufacturer wants to keep track of product quality and quantity during the production process. But when the manufacturer is producing gypsum board, that's not as easy as it may sound.

Understanding the Problem

Many manufacturers utilize encoders to measure product length and speed during production. But encoders may present problems when used to measure gypsum board. The most important concern is measurement accuracy.

Contact from any encoder can cause gypsum board to crumble during the production process. The crumbled board can then stick to the encoder, slowly changing the diameter of the roll wheel. If this continues for any length of time, the manufacturer will not only have inaccurate measurements, but will also have the added headache of a damaged product.

Inaccuracies in gypsum board lines may be as much as 2%. Even this seemingly low level of inaccurate measurements is not trivial. Measurement inaccuracies of as low as 2% may equate to 20 meters per kilometer (20 feet per 1000) of excess length — a direct and unnecessary cost to the manufacturer.



Gypsum Board Sample

Visit our website at:
www.betalasermike.com

BETA LaserMike

The Solution

Beta LaserMike offers a measurement solution that meets the specific needs of gypsum board manufacturing: the LaserSpeed 4000 Gauge.

The LaserSpeed 4000 provides you with non-contact length measurements through a unique, laser-based measurement technique. Since the highly accurate measurement is performed optically, there are no moving parts which could contact and damage the gypsum board. This highly reliable gauge is designed for heavy industrial environments, is easy to install, and doesn't require re-calibration.

The LaserSpeed 4000's measurement accuracy of 0.05% offers a fast payback in savings. For a nominal product giveaway reduction of 15 meters per kilometer (15 feet per 1000), the LaserSpeed 4000 can pay for itself in a matter of weeks.

How It Works

Adding the LaserSpeed 4000 Gauge to your production line is simple.

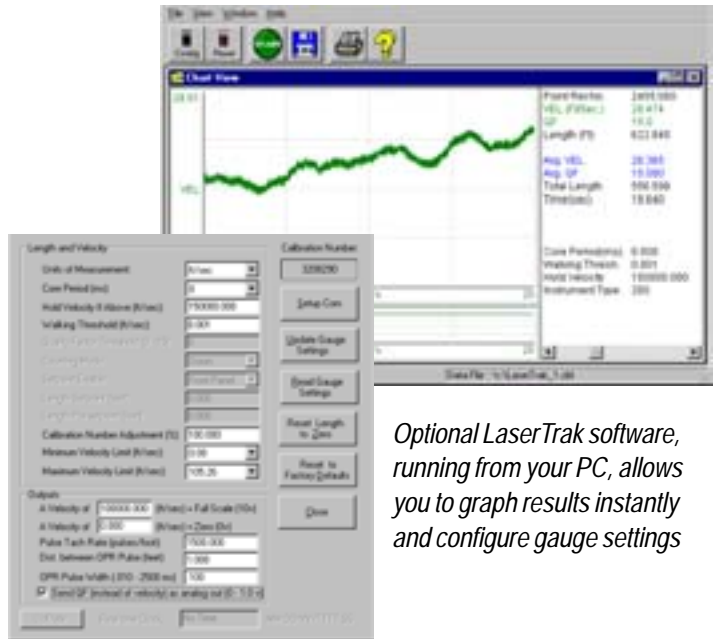
Just remove the existing encoder(s), and drop in the LaserSpeed 4000 in place. Make quadrature or pulse output connections from the LaserSpeed to your existing control system, ensure that the LaserSpeed is installed at an appropriate standoff distance, and configure the setting for pulses per foot/meter, as desired. Connect the LaserSpeed to power, turn it on, and start measuring immediately.

For dirty production line environments, an optional air-wipe or quick-change window may be recommended to ensure measurement accuracy. Discuss this or any other concerns you may have with your Beta LaserMike Sales Representative.

Optional Accessories

(for all LS4000 gauges)

- **Analog Converter:** Converts 0 to 2VDC speed output to; 0 to 10VDC, 0 to 5VDC, +/- 10VDC, +/-5VDC, 0 to 20 mA, 4 to 20 mA
- **Hot Object Filter:** For products over 500°C
- **Air Wipe:** Helps keep window clean in dirty environments
- **Quick Change Window:** For easy cleaning and maintenance of the window
- **Sensor Cable:** 3m, 10m, 20m, 30m, 50m lengths
- **Terminal Block:** Breakout box for sensor cable



Optional LaserTrak software, running from your PC, allows you to graph results instantly and configure gauge settings

To Learn More

This measurement system can do even more. For example, do you also need help measuring gypsum wallboard during other phases of production? The LaserSpeed 4000 can help you:

- Measure the speed and length of paper being applied to the wallboard
- Measure the length of individual wallboards as part of an automated rejection system

To find out more about how the LaserSpeed 4000 Gauge can help you dramatically reduce product giveaway, contact the Beta LaserMike office nearest you.

BETA LaserMike

Worldwide manufacturer of precision measurement and control systems.

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