

Non-Contacting Radar Technology Improves Cullet Level Measurement Reliability and Reduces Maintenance Costs

RESULTS

- Improved accuracy and reliability of the level measurement
- Reduced maintenance time and costs
- Increased process efficiency



APPLICATION

Glass cullet level in a silo

Application Characteristics: Glass pieces are irregular shapes, $\frac{1}{8}$ - $\frac{1}{2}$ inch (3 to 10 mm); dusty when filling. Dielectric constant is 2 to 2.5

CUSTOMER

A major colored glass manufacturing plant in India

CHALLENGE

This glass manufacturing plant uses cullet glass as raw material. Cullet is broken waste glass that is melted and reused. Knowing the correct amount of glass in the silo was important for an efficient operation.

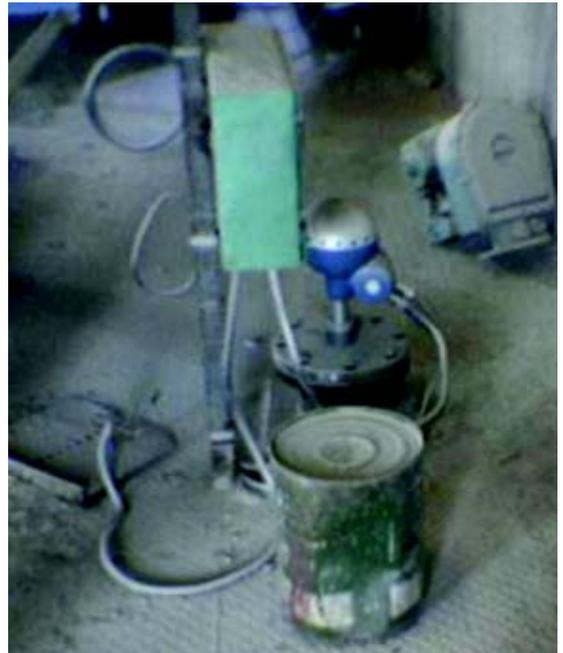
The plant had tried both a bob and tape system and ultrasonic technology to measure the cullet. Unfortunately, there were frequent maintenance problems and the operators did not always have the level information when they needed it.

The measurement of solids is a difficult level application because the inclination of the level surface minimizes returned reflections to top-down devices. In addition, many solids have a low signal reflection for radar due to their lower dielectric values. This particular application was further complicated due to the presence of dust in the vapor space. The dust interferes with the signal of ultrasonic technologies and created maintenance for the moving parts of the bob and tape system.

SOLUTION

The silo had an 8" (approx. 200 mm) opening in the roof, and a Rosemount 5600 Radar Level Transmitter with an 8" cone antenna was installed.

At the manufacturing plant, dust inside the vessel made level measurement difficult but the Rosemount 5600 was able to provide an accurate and consistent reading despite the conditions. This was achieved because the Rosemount 5600 is an intelligent non-contacting radar level transmitter. Its high performance microprocessor allows for advanced signal processing and smart echo tracking features. State-of-the-art



Rosemount 5600 mounted on the 16.5 ft. (5 m) tall cullet glass silo.

microwave technology provides the highest reliability and precision of the level measurement. The performance and reliability of the Rosemount 5600 has increased the efficiency of the process and has been in maintenance-free operation since its installation, which also led to reduced maintenance costs.

RESOURCES

Rosemount 5600

<http://www.emersonprocess.com/rosemount/products/level/m5600.html>

Rosemount Technical Note - Measuring Solids with a Rosemount 5600 Non-Contacting Radar

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