MOISTURE MEASUREMENT IN BRICK PRODUCTION

Online process monitoring on the conveyor belt

BERTHOLD

ONLINE MOISTURE MEASUREMENT
OF RAW CLAY

In the production of many types of building products, the moisture content of both the raw materials and the finished product plays an important role. In the production of bricks, too much water in the mixture causes a change in the geometry of the bricks, while too little water affects the stability.

To ensure an ideal mixture of materials, microwave technology is used to measure the moisture content on the clay conveyor belt downstream of the granulator. By precisely measuring the moisture content in the material mix, the addition of water, usually in the form of steam, can be controlled more precisely. This can lead to reduced production costs, maintain product quality, and minimise production downtime.

Moisture measurement on perforated bricks / Poroton®

Berthold's measuring systems are successfully in use at Wienerberger, specifically on the clay conveyor belt for Poroton®. Horn antennas are used under and above the conveyor belt to transmit a microwave signal. When retrofitting existing conveyor systems, spiral antennas can also be used if necessary. Contact us and see for yourself!

Wienerberger

The measuring principle

The microwave measuring system uses the special dielectric property of water. The measuring system generates microwaves that interact with the water molecules. This interaction causes an attenuation of the microwave energy, which can be detected as phase shift and attenuation. Since the phase shift and attenuation are directly proportional to the water content in the product, the water content of the medium can be determined with high accuracy.

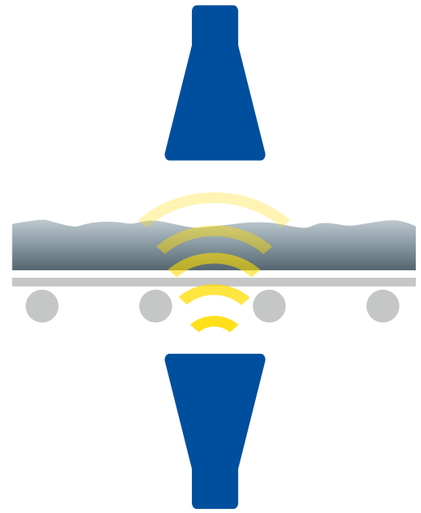
Berthold's superior multi-frequency technology ensures very stable and reliable measurements that are unaffected by interfering reflections or resonances. The microwave power of a measuring system is so low (max. 10 mW) that the material to be measured is neither heated nor changed in any way.

Customer Benefits

- Precise determination of the moisture on the clay conveyor belt
- Energy savings in drying processes
- Safeguarding and increasing product quality
- Wear and maintenance-free
- Reduction of costs and downtimes

Technical Features

- Moisture measurement of the entire material cross-section
- Non-intrusive measurement
- Highly representativeness due to microwave transmission through the product
- Simple installation and commissioning
- Smooth handling and operation
- Robust system design



Schematic representation of the microwave measurement on the conveyor belt

THE EXPERTS
IN MEASUREMENT TECHNOLOGY

Berthold Technologies stands for excellent know-how, high quality and reliability. The customer is always the focus of our solution. We know our business!
Using our varied product portfolio, our enormous specialized knowledge and extensive experience, we develop suitable solutions together with our customers for new, individual measurement tasks in a wide variety of industries and applications.

We are here for you – worldwide!
The engineers and service technicians from Berthold Technologies are wherever you need them. Our global network assures you fast and above all competent and skilled assistance in case when needed. No matter where you are, our highly qualified experts and specialists are ready and waiting and will be with you in no time at all with the ideal solution for even the most difficult measurement task.

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