

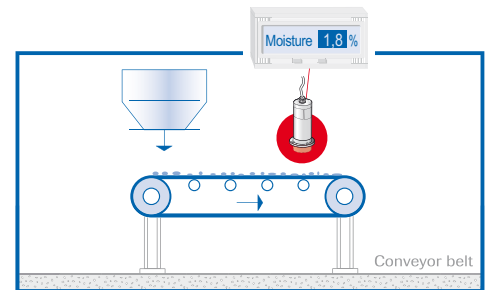
Application

During the process of cement production cement powder is burnt to clinker. This process takes place in a kiln. For the operation of this kiln different combustibles are used, amongst others sewage sludge. The heating value of sewage sludge depends on its degree of dryness. Sewage sludge normally has a high moisture content when it is delivered to cement plants, therefore it must be dried before being burnt in the kiln. The drying process works as follows. Inside the drying plant the sewage sludge is transported by a conveying belt. The drying process takes place by circulating air. During this process the moisture degree of the material is constantly measured. With the help of the measured humidity the process parameters (speed of conveyor belt, temperature of circulating air) are regulated.



Process data

Client:	Schwenk Zement (Karlsdorf, Germany)
Material:	Sewage sludge
Transport device:	Conveyor belt
Installation place:	Conveyor belt in drying plant
Material humidity:	10 %



Solution

The M-Sens 2 measures the degree of humidity of the sewage sludge used in the process. The so obtained value is used as a continuous measuring signal for the process regulation. During the drying process the speed of the conveying belt and the temperature of the circulating air are changed and adapted to the process, depending on the measured humidity.

In this application the variation of the humidity content in the sewage sludge must be considered. Humidity ranges between 0.1 % to well over 60 % are not detectable with only one sensor, because of physical reasons. The absorption property of H₂O for different materials is an important factor, which influences this selection. To equip such a process with the right sensor, SWR does a material pre-test. For this purpose the Easy-Tester is used.



Customer benefit

- management and simplification of the drying process
- optimization of calorific value of the used sewage sludge, thereby optimization of plant efficiency
- fast and easy selection of sensor by using Easy-Tester



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