



Application Review

Monitor Technologies LLC ^ www.monitortech.com ^ customerservice@monitortech.com ^ 1-630-365-9403

Product:

QuantiMass™ Mass Flow Measurement System

Market:

Building material industry / cement production

Application Description:

Iron-sulfate is suitable for neutralizing chrome-VI in cement production. Mixing iron-sulfate to the cement production process limits chrome-VI to 2ppm or less thus drastically reducing the risk of skin-related illnesses in the event somebody comes in contact with fresh concrete. In any case, contact with fresh concrete due to its alkaline content should be avoided since the natural skin protection against acids is jeopardized.

Adding iron-sulfate is done when the stocked cement is transported from the silo to the bag packaging area. It is essential to dose iron-sulfate to 0.5% in order to achieve the best possible result. Therefore, the material flow of the cement must be monitored continuously in real-time. From this data the correct mixing of iron-sulfate is calculated.

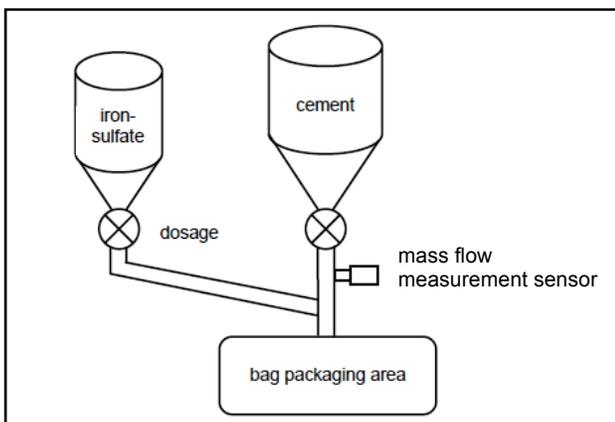


Chart of the Process

Benefits Achieved by The Measurement:

- > Accurate in-line cement mass flow measurement
- > Optimized mixing of iron-sulfate to achieve regulated limits
- > Less iron-sulfate is required for the process
- > Easy and fast installation of mass flow meter into existing process

Application Details:

A cement factory decided in favor of the mass flow meter as the best possible solution to measure the flow of cement. The sensor could easily be retrofitted to existing metallic pipes by welding a flange to the pipe and drilling a single 18mm hole through it. The whole installation could be completed quickly and would not require any intensive changes into the existing process.

The company packs about 6,000 cement bags per hour has a process that handles 4 independent flow lines each fitted with the mass flow meter for optimized mixing of iron-sulfate. Now, not only are proper formulas achieved but also overall production costs are lowered due to a significant reductions in expensive iron-sulfate.



Mass flow meter mounted at the pipe feed

Advantages of QuantiMass:

- > Contactless, in-line measurement of mass flow
- > Installed flush to inner wall of pipe thus not obstructing the flow
- > Easy and fast commissioning by simply welding a flange to the pipe
- > Suitable for pneumatic conveying systems and free fall applications
- > Adjustable measuring range from low kg/h to several t/h
- > Robust, compact, and service free sensor
- > Easy implementation of system into existing applications
- > Features analog 4...20mA and digital RS-485 outputs