



Applications Notes

Moisture in Sand – Glass Batching Process

Moisture content of sand used to manufacture glass is critical; sand of too low a moisture content produces an excessive amount of dust in the furnace lowering the quality of the end product. Too much moisture leads to greater usage of energy through elevated melt temperatures and longer production times. Measurement of moisture will both minimise the cost and maximise the yield.

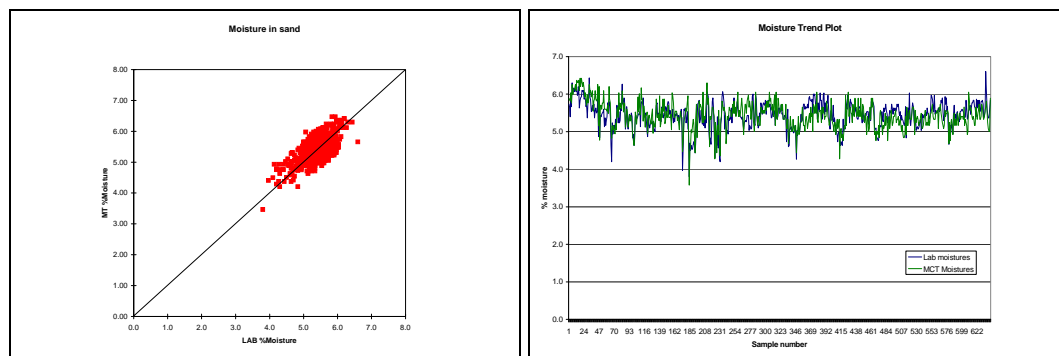
Glass Production

Sand, glass cullet and other materials, depending on the type of glass are fed into a mixer. Owing to the potentially large variation in moisture content of these constituents the quantity of water that needs to be added to a batch varies. By measuring the moisture content of the main constituents; sand and cullet sand, the guess work can be removed. A feed forward control loop can be used with the automatic water addition system.

Gauge Installation and Measurement Location

Typically the gauge is installed above the sand feed conveyor pre-mixer, approximately 8” from the product, this allows for variations in the sand bed depth. If the gauge is used in a control loop, or the gauge output is continuously recorded, it is important to use a gating device, such as a photo-electric eye. The photo-eye sends a signal to the gauge when it no longer sees product, this causes the gauge to hold its analog output until the photo-eye sees product once again.

Measurement Performance



Measurement	Location	Target	Typical Accuracy
Moisture in sand	Pre-mixer	0-5%	0.15%
Moisture in cullet		0-10%	0.3%