

Botswana Ash achieves safer silo contents management using Rosemount® 3D Solids Scanners

RESULTS

- Highly reliable level measurements in any weather
- 3D mapping of the material surfaces allows remote visibility
- Live 3D view of the soda ash surfaces allows remote monitoring of the surface and build-up
- Safety issues with manual dip testing eliminated

APPLICATION

Volume and level measurements of soda ash in silos

CUSTOMER

Botswana Ash, South Africa

CHALLENGE

Botswana Ash (Pty) Limited (www.botash.bw) produces soda ash and salt from their mine at Sua Pan in northern Botswana. The primary market for soda ash is the glass industry in South Africa. Salt products are also sold within the continent.

The Alrode site in Johannesburg has three soda ash storage silos, 15 m (50 ft.) wide and 25 m (83 ft.) high. The silo inventory was being measured manually by a dip test method, whereby a weight was dropped on a tape into the vessel and the distance to the surface read. Because the soda ash is a solid, it did not lie flat. Plus, since the silo was quite wide, several measurements were needed to get a representative average level.

The accuracy of dip tests is highly dependent on the skill level of the person performing the tests, but these were often performed by unskilled labor. The results indicated a very large error margin.

The dip tests also exposed operators to dangers at the top of the silo. Due to safety issues, no dip tests were done when there was heavy rain or lightning storms.

These factors combined to make measurements very problematic and unreliable. Botswana Ash, Management decided to seek an automated solution that was reliable and capable of operation in any weather.



"The 3D Solids Scanner saves a lot of man hours, reduces human error, and the system is not weather dependent like the old 'dip testing' was."

Mark Adams, Botswana Ash Prod. Mngr



Soda ash silos

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SOLUTION

Three soda ash silos were fitted with 3D Solids Scanners. Three soda ash silos were fitted with 3D Solids Scanners. The scanners continuously and reliably measure the solids ash levels in the silos and the signal is sent back to a control room.

The system outputs the minimum, maximum, and average of mass, volume, and level, and a 3D real time visualization of the product surface.

The Alrode site now has all the data Botswana Ash wanted, available to them in all weather conditions without the risk of climbing to the top of the silo. The 3D views also provide a useful representation of the stored soda ash for them to monitor any occurrence of bridging.



Rosemount 3D Solids Scanner

For detailed product information go to www.rosemount.com/level

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