

Dry chrome foundry sand production in South Africa

- Utilizes Polyweb[®] screens in dry screening application
- Meets tightly sized product requirements
- Produces closely classified chrome foundry sand

Background

An American owned foundry sand producer in South Africa conducted test work in Buffalo on dry screens for the accurate sizing of fine fractions of foundry sand for their own consumption.

The successful testing paved the way for installation of four double-deck dry screening machines and a dewatering screen.

Solution

During 2009, the chrome producer built a new chrome foundry sand producing plant in South Africa. The ground-breaking flow sheet incorporated a number of new technologies, including fine dry screening to produce very tightly sized chrome sand fractions for subsequent blending according to client requirements.

Extensive sizing test work was conducted on samples produced from the prior unit operations, in pilot plants and laboratories, mostly in Australia.



Derrick Dry Screening Machine running fine fractions of foundry sand with Polyweb urethane screens

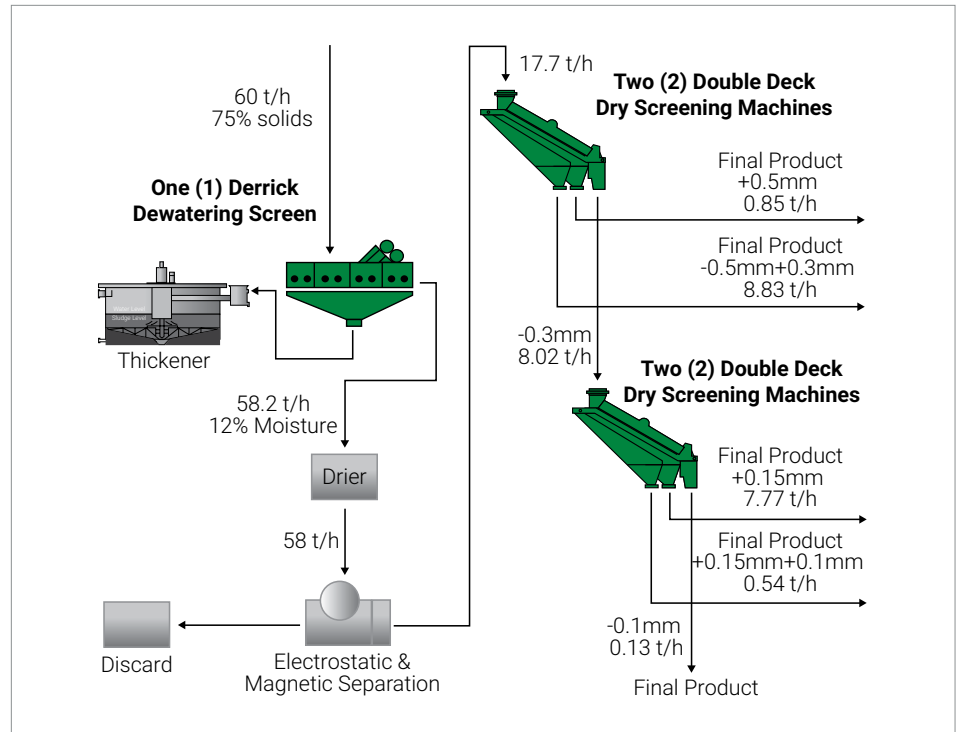
Test results at Derrick's test lab in Buffalo, New York indicated that the product specification could be met with Polyweb[®] urethane panels.

The temperature of material exiting the drier had to be cooled after electrostatic separation to allow for effective magnetic separation. This cooling process ensured that conventional wet Polyweb urethane

panels could be used on the Derrick[®] dry screening equipment. The self-explanatory flow sheet shows the process (see opposite side). The customer changes panel apertures from time to time, and they also use wire panels occasionally to suit the very tight client product size requirements.

Conclusion

The Derrick fine screening technology has allowed the customer to remain one step ahead of the competition in this very competitive foundry chrome sand market. By taking advantage of our technology, the customer is supplying their clients with closely classified products.



Updated flowsheet incorporating Derrick equipment and Polyweb urethane screen surfaces

For more information, please contact your local Derrick sales representative.

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