



PROBLEM SOLVED™ PAPER

SOLUTION: Conveyor Belt Support using Martin® Trac-Mount™ Idlers

INDUSTRY: Ferrochrome alloy production

LOCATION: Mpumalanga Province, South Africa

TITLE: Conquering Conveyor Woes at a Major Chrome Plant in South Africa



Critical issue at one of the world's largest ferrochrome plants.

PROBLEM

In the heart of South Africa's Mpumalanga province, a critical issue surfaced within one of the world's largest producers of ferrochrome, essential to the stainless steel smelting process, with an annual capacity of around 2.4 million tons. The challenge revolved around a persistent problem at a critical conveyor belt transfer point. An investigation conducted by one of Martin Engineering's expert engineers pinpointed the root cause of the problem. It was the incorrect installation of competitor impact beds beneath the belt without installing idlers in between, resulting in conveyor belt dragging, damage and mistracking.

SOLUTION

Martin Engineering effectively tackled the conveyor belt challenges by introducing a solution that involved the installation of five Martin® Trac-Mount™ Idler frames. This strategic approach was designed to enhance belt support by increasing the number of idlers within a specified length of the belt, consequently minimizing the spacing between them. As a result, issues such as conveyor belt dragging, which was leading to dust generation and potential health hazards for plant workers, have been mitigated. Moreover, the elimination of belt mistracking problems has reduced material spillage and minimized production losses, contributing to a more efficient and cost-effective conveyor system.

RESULT

The installation of Martin® Trac-Mount™ Idlers proved to be a successful solution, offering significantly improved belt carriage and stabilization of the belt line. This 'strategic' installation not only improved sealing systems but also eliminated the potential hazards associated with material spillage. As a result, the conveyor system experiences no drag on the belt, ensuring smooth operations and a reduced risk of unplanned downtime. Additionally, the skirting system operates with optimal effectiveness, contributing to safer and more efficient chrome production.



The Trac-Mount™ Idlers strategically placed to ensure proper belt support.



The Trac-Mount™ Idlers are proving effective at containing fugitive material.