



Thinking Globally. Acting Locally.

Case Study

Ultra Tuff™ Solution





Case Study

Ultra Tuff™ belt compound exceeds client expectations.

Client Port Hedland Facility, WA	Conveyed Material(s) Iron Ore	Product Category(s) Conveyor Belt + Monitoring Systems
Client Industry Mining, Processing & Ports	Client Contact Available on request	Service Category(s) Engineer/Design + On-site Service + Audit + Diagnostics

Key benefits achieved

>20% Reduction in conveyor belt wear.	50% Belt life increase.	50% Reduction in number of scheduled belt change outs.
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The Challenge

Our client operates a 155mtpa iron ore port facility in the Pilbara Region WA. Their existing outload conveyor belts required change out after each 12 week cycle, due to wear in a highly abrasive environment. The client was seeking a 20% improvement on conveyor belt wear performance i.e. belt life mm wear/MT.

The Solution

- A review to determine optimum belt type for the specific application, and analysis and benchmarking of historical baseline performance data to allow accurate comparison of the results
- Design & manufacture of a high abrasion resistant rubber compound to enable the client to extend belt life and the time between belt change outs
- ITP/QA testing of belt to confirm product designation and compliance
- An embedded engineering resource provided by Fenner Dunlop managed the product life cycle of the Fenner Dunlop belt from “Cradle to Grave”
- Installation & commissioning of the belt on-site (including splice QA & baseline thickness testing)
- Ongoing inspection and monitoring, data collection (BTT and SCADA – tonnes over belt)
- Onsite resource allowed performance optimisation whilst belt is operational
- Belt removal and final testing in a controlled laboratory environment
- Report compiled and presented to client

The Results

Lost time injury free

Extended the customers shut cycle from 12 to 24 weeks

Exceeded the clients KPI of 20% improvement on conveyor belt life performance i.e. belt life mm wear/MT (Top cover wear measured in mm per million tonne of product carried on the belt)

Belt life increase of 50%, or an additional shutdown cycle of availability @ 84 days

Reduced the number of scheduled belt change outs – resulting in cost savings and reduced exposure to risk of injury.

Collection of accurate data from the conveyors, enabling Fenner Dunlop to make recommendations and execute a stepped approach for continuous improvement aligned with client’s needs.

This project demonstrated an integrated approach between client and OEM to successfully deliver on clients KPI’s

The client has replaced competitor belts with Fenner Dunlop Ultra Tuff™ belting on all short cycle belts in their Port Facility operation.

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