



## CASE STUDY -

### LINASHIELD THERMOPLASTIC POLYURETHANE

SISHEN IRON ORE, NORTHERN CAPE, RSA

#### AT A GLANCE CHALLENGES

- High abrasive rocks on vibrating screens
- The current solution of traditional polyurethane plates are not lasting and causing downtime

#### BENEFITS

- Highest abrasion resistance compared to traditional linings
- Low co-efficient of friction (non-stick liners)
- Elasticity in broad temperature range
- High tear resistance
- No skin irritation
- No plasticizers, so enhanced longevity compared to rubber
- Perfect for welding & bonding
- Excellent low-temp impact strength
- Lasts longer than rubber linings, reducing downtime and contributes to cost savings
- Reduces vibration
- UV resistant

#### PROBLEM DESCRIPTION

Sishen represents one of the largest iron ore reserves in South Africa and in the world having estimated reserves of 2.43 billion tonnes of ore grading 58.6% iron metal.

Sishen has highly abrasive rocks sliding on a vibrating screen and currently use traditional cast polyurethane wear plates bolted in place.

#### SOLUTION

10mm Linashield was used as the working face material. Traditional polyurethane was then cast on to the Linashield creating a monolithic bond between the two materials. The Linashield with cast polyurethane was then bonded onto a 5mm fibreglass backing plate.

#### TEST RESULT

Linashield was installed on the vibrating screen where highly abrasive rocks slide. The Linashield reinforced wear plates lasted twice as long as the traditional cast polyurethane wear plates.





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#### AT A GLANCE

PRODUCT:	LinaShield Thermoplastic Polyurethane Wear Liners
LOCATION:	Sishen Iron Ore, Northern Cape, RSA
PRODUCT DESCRIPTION:	10mm Linashield with 17mm centre cast Polyurethane and 5mm fibreglass backing
SHORE A HARDNESS:	85°
APPLICATION:	Wear plates on washing and screening vibrating panel
MAXIMUM PARTICLE SIZE:	80mm rocks
INSTALLATION DATE:	January 2021

#### TEST RESULT:

Double the life of current cast polyurethane liners

#### ADDITIONAL INFORMATION - LINASHIELD


##### OTHER APPLICATIONS:

Wear linings | Cyclones | Screens | Belts |  
Conveyors | Dump truck linings | Wagons | Silos |  
Chutes | Feeding channels | Magnetic separators |  
Cones | Hoppers | Crushers | Sorters | Skips | Bins  
| Slurry Channels....  
and MANY more

##### TYPICAL INDUSTRIES:

- Mining
- Mineral processing plants
- Bulk material handling equipment
- Thermal power stations
- Transportation
- Agriculture (grain storage & handling)
- Food & Feed Processing
- Construction
- Aggregates
- Earth Moving Equipment

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Case Study conducted in partnership with

