

Case Study — Over 40% Cost Reduction at Gold Mine

When Western Australian gold mining operation Thunderbox (Lionore Australia) were looking to maximise maintenance and operational efficiencies on their Krebs Gmax 15" hydrocyclones, they turned to the Rojan range of advanced ceramic hydrocyclone components. The results were better than they hoped for.



Thunderbox Gold Mine Mill

The sulphide ore (>90%) feed was causing extreme wear on the rubber cyclone components of the Krebs Gmax 15" hydrocyclones on site.

When Rojan suggested extending the life of the components using advanced ceramic materials the metallurgists on site were initially sceptical about the outcome.

An initial trial was completed which successfully demonstrated the capabilities of the ceramics liners.

After completing the trial, replacement of rubber components for ceramic took place. These included

- Vortex Finder
- Upper Cone
- Middle Cone
- Lower Cones
- Spigot (Apex)

Once the sets of ceramic were installed, records were kept on the life and maintenance requirements of the hydrocyclones. Below are some of the findings;

- Spigots— Original rubber typically lasted for 540 hours. Ceramic spigots were still in use at 3500 hours and without wear.
- Cones—Recorded over 3000 run hours with out change out.
- Vortex Finders achieved over 3000 run hours with out any loss of performance.

The extended life of the ceramic components reduced maintenance on the

cyclones from every 500 run hours to 2000 run hours.

Lionore estimated that their total annual expenditure on hydrocyclone replacement parts would fall by over 40% annually using ceramic compared to rubber.

Additionally the reduced amount of maintenance required to rebuild the hydrocyclones on a weekly basis further enhanced the operations cost savings.

- **Outlasted rubber equivalent spigot by 7 times**
- **Reduced down time on the plant.**
- **Reduced maintenance costs on site**
- **Ceramic most cost effective over the life of the asset.**

To find out more about how Rojan Advanced Ceramics can help you, please feel free to contact us

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Rojan Advanced Ceramics Field Representative consulting with a client about their hydrocyclone requirements.