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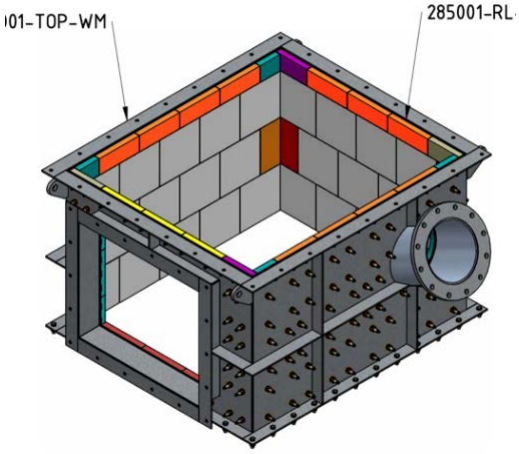
# ELASTOTEC CERAMIC WEAR PANELS – CASE STUDY
# LARGE GOLD MINE

## BACKGROUND:

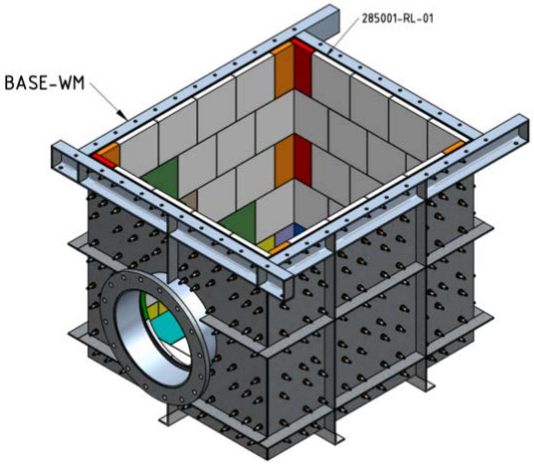
As part of a major production upgrade at a large gold mine Carters Engineering was asked to produce a new slurry box for the ore treatment plant. The slurry box was to be located in a position with difficult access making removal/replacement difficult. Any replacement of the wear lining needed to be done easily and quickly to minimise process plant downtime.

Additionally, the liner system to be used needed to have a design service life of more than five years.

The slurry box was to be fabricated in two sections with multiple pipe connections. The Top and Bottom sections would be bolted together and sealed with a rubber flange.




TOP SECTION




BOTTOM SECTION

## LINER SELECTION:

Carters Engineering contacted Elastotec to discuss options for the wear liner system to be used in the slurry box based on the following requirements:

- Operation with continuous immersion in a water-based slurry of fine ore particles
- Minimum service life of five years
- Quick/easy liner change out
- Multiple circular and oval holes to be cut in the liner system where piping is connected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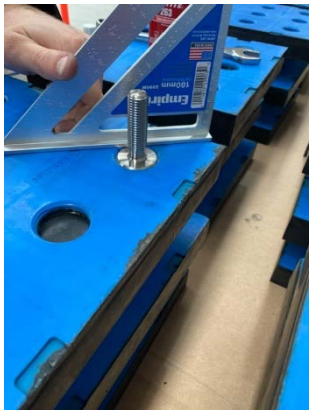
The Elastotec recommendation was for 38mm thick ceramic wear liners as this was best suited to achieving the required service life. Additionally, as the operating conditions required full immersion in a water-based slurry, the Magnefast wear panels with an engineering plastic backing plate were selected as these eliminated the possibility of corrosion, and the resulting possible debonding of the ceramic liners. The Magnefast system allows for attachment to the steel walls via two methods – high strength magnets and S/S studs. In this case the mine site engineers selected attachment using the S/S studs.

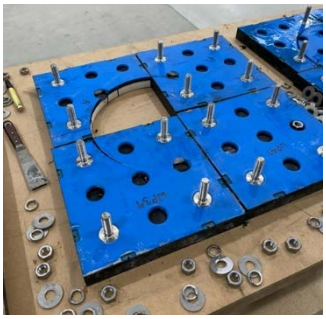


## FABRICATION OF THE LINER SET:

Carters Engineering provided individual drawings for all the cut liners, plus templates for mounting liners that required hole cuts. Elastotec has a state-of-the-art CNC cutting station set up at their Somersby factory which enabled the cut panels to be completed quickly and to the required tolerances for ease of fitment.

For the ceramic wear panels that required holes to be cut the panels were bolted into place on a plywood template that was marked with a centre hole. Holes were then cut with 600mm, 350mm, 338mm and 75mm diameters to suit the attached pipe work.





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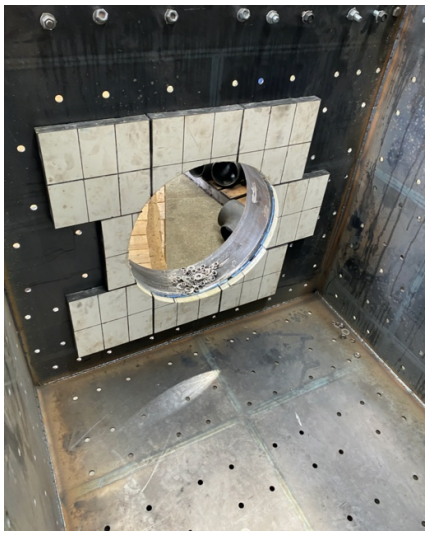
## INSTALLATION OF THE LINER SET:

Prior to rubber lining and painting of the slurry box the ceramic liners were fitted to ensure dimensions were correct and identify any problems. Each of the cut liners had been fabricated to a dimensional tolerance of +/-2mm with all cut sizes checked prior to shipment. All panels were fitted to the slurry box with no problems – cut holes aligned with the incoming pipework and stud positions were trouble free.



For more information contact:

**David Molesworth**
Elastotec Pty Ltd
Email: david@elastotec.com.au
Mobile: +61 0423 200 178