



CASE STUDY



BHP Billiton Mitsubishi Alliance

BHP Mitsubishi Alliance | BMA Blackwater QLD 4717 | 1,200 m²

The maintenance workshop for heavy mine vehicles is experiencing severe cracking in its concrete slab. Sections of the slab are shifting, with groundwater pumping to the surface. Despite being a 200-350mm thick, 40 MPa fibre-reinforced slab on a compacted sub-base, the structure has failed under heavy traffic. The jointed slab has deteriorated, compromising stability and functionality.

SOLUTION

The severe slab damage and poor subgrade condition initially suggested full removal and reconstruction as the only option. However, after assessment, Rombus provided a cost-effective, low-downtime solution that minimized carbon emissions. By overlaying the existing concrete with our modular system, we eliminated the need for complete replacement while ensuring a durable and reliable surface.



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OUTCOME

The Rombus overlay solution in a heavy vehicle workshop is a groundbreaking approach that delivered significant benefits:

Cost Savings: ~\$780,000

- Eliminated the need for concrete removal (417.5m³), excavation (360m³), subgrade compaction (1,200m²), and new sub-base construction.
- Required only ~10m³ of stabilized crusher dust, 45m³ of concrete, and 1,200m² of Rombus Grid made from 100% recycled plastic.

Carbon Emissions Avoided: >130,284 kg

- Major reductions achieved by minimizing new concrete use and eliminating removal and earthworks.

Recycled Plastic Utilized: 7,506 kg

- Rombus Grid is made from 100% recycled Australian polypropylene.

Reduced Downtime: ~39 days

- The slab was usable within 10 days, preventing millions in potential losses from extended downtime.

