

Case Study: Stabilising Longwall face with StrataLock® Resin at Underground Mine

BACKGROUND

At an Underground Mine, a significant face cavity developed on the longwall, necessitating urgent void filling and ground injection to stabilize the area. Traditional methods would have required shutting down large sections of the mine due to large exclusion zones, significantly delaying production. However, the introduction of StrataLock® Resin provided a unique opportunity to approach the problem differently.

THE CHALLENGE

The challenge involved stabilising the longwall face while minimising disruption to ongoing mining activities. The mine needed to both fill the void quickly and inject the rockmass to secure the area and prevent further instability, all without incurring the extensive downtime typically associated with traditional ground consolidation methods.

THE SOLUTION

StrataLock® Resin was employed in a groundbreaking approach that allowed void filling activities to occur downwind of the injection process. This setup allowed production to resume swiftly by allowing for simultaneous stabilisation efforts (void-filling and injection).

RESULTS

The use of StrataLock® Resin resulted in significant time and cost savings:

Reduced Downtime: The ability to conduct void filling and injection activities simultaneously and downwind minimised the need for lengthy production halts.

Operational Efficiency: The use of multiple injection pumps simultaneously on the face allowed for rapid stabilisation, reducing the potential for further instability.

Production Continuity: The innovative application of StrataLock® Resin enabled the mine to maintain operations during the stabilisation process, preventing extended periods of lost productivity.

CONCLUSIONS

The successful implementation of StrataLock® Resin at the Underground Mine not only resolved a critical safety issue but also demonstrated the product's capacity to revolutionise ground consolidation practices.

By enabling simultaneous operations and minimising downtime, StrataLock® Resin proved to be an essential tool for enhancing both safety and efficiency in mining operations.



“The leadership to develop this product rises above with the potential for industry-wide impact. Reducing long-term health risk is also an excellent outcome”

“The cost reduction and environmental impact in their solution was impressive, with long-term cross-industry applicability”



**Queensland Mining Awards
Judge's**