

Case Study: Stabilising Install Roadway with StrataLock® Resin at an Underground Mine

BACKGROUND

Maintaining the stability of the longwall install face is critical to ensuring smooth operations during installation. In this instance, the roadway width of the install face was 9 meters, which began to experience rapid ground movement and strata deformation due to faulted ground conditions. Immediate intervention was necessary to prevent further deterioration and potential delays.

THE CHALLENGE

The 9-meter-wide install face started to deform rapidly, threatening the stability of the surrounding strata. Traditional ground stabilisation methods would have required halting other essential tasks and introducing significant delays to the installation process. A solution was needed that could stabilise the ground without disrupting ongoing operations.

THE SOLUTION

StrataLock® Resin was selected to address the ground movement. It was injected into a series of rib and roof holes to halt the deterioration and stabilise the strata. The rapid-acting resin effectively consolidated the faulted ground, eliminating the need for additional strata support.

One of the key advantages of using StrataLock® was that it allowed simultaneous tasks to continue unhindered due to its non-hazardous classification. During the injection process, critical pre-installation work such as pan line assembly, tailgate drive setup, and cable work proceeded without disruption.

RESULTS

Immediate Ground Stabilisation: The rapid injection of StrataLock® Resin effectively stabilised the install face, stopping further deformation and ensuring a safe working environment.

No Additional Strata Support Needed: The strength and durability provided by StrataLock® Resin eliminated the need for supplementary strata support measures.

Uninterrupted Operations: The injection occurred simultaneously with ongoing pre-installation activities, such as pan line assembly and tailgate drive work, without any impact on these critical tasks. This allowed the mine to maintain productivity and avoid costly delays.

CONCLUSIONS

The use of StrataLock® Resin on the longwall install face at the Underground Mine successfully stabilised faulted ground, stopping rapid strata movement.

Its non-disruptive application allowed crucial installation tasks to proceed without interruption, delivering both operational and safety benefits. StrataLock® continues to demonstrate its effectiveness in maintaining ground stability under challenging conditions.



“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
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