

CONVEYOR HEAD CHUTE NOISE CURTAIN

HUSHPAK PROJECT CASE STUDY



hushpak
engineering

...the quiet achievers

PROJECT OUTCOMES:

- ✓ Noise reduction in excess of 12dB(A)
- ✓ Improved break up of coal
- ✓ Decrease in site's overall noise footprint
- ✓ Reduction in noise complaints and exceedences
- ✓ On time
- ✓ On budget

THE PROJECT:

Coal mines are committed to decreasing their noise footprint within the local environment

Hushpak Engineering was engaged to reduce the noise from a coal conveyor system, as part of a larger project to decrease the overall noise impact of a colliery.

THE PROBLEM:

The mine was receiving regular noise complaints from residents in neighbouring suburbs. The customer identified coal impact in conveyor head chutes as a significant contributor to their noise emission. The two key areas where this was occurring were the 'Rock Box' and 'Coal Bin'.

THE SOLUTION:

Hushpak designed, manufactured and installed a noise curtain for the Rock Box. The curtain consisted of a series of steel and polymer impact blocks, which deaden the noise of coal impact. The arms supporting the impact blocks were designed to swing back, further dissipating the energy created upon impact. This solution yielded substantial levels of noise attenuation. Following the success of the first curtain installation, a second unit was designed, manufactured and installed in the Coal Bin.

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THE RESULTS:

Noise monitoring was conducted outside the Coal Bin before and after the second curtain was installed. The results showed an average decrease in noise levels outside the Coal Bin in excess of 12 dB(A). This means the perceived noise (the sound pressure) was reduced to 1/4 of the original noise level, a significant and pleasing outcome.

The curtains not only provided noise attenuation, but also helped to break up the coal, which improved the overall coal handling process.

PROJECT BENEFITS:

The noise curtain projects are two in a series of site wide projects, helping to reduce the level of noise generated by the site and to decrease its effect on the residents of neighbouring suburbs.

The customer experienced a noticeable decrease in noise exceedence alarms as a result of the projects completed to date. Hushpak achieved substantial noise reduction contributing to a decrease in the site's overall noise footprint.



Noise curtain in situ within the Rock Box



Noise curtain under impact of coal