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While others talk, we act...

Monday
15 September 2008

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TODAY'S NEWS

Mandalong mesh magic

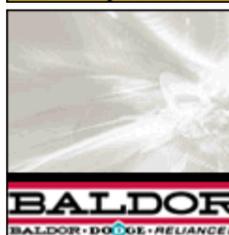
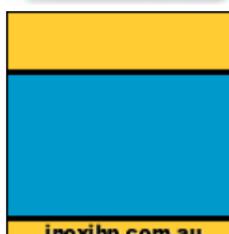
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Mandalong mesh magic

Angie Bahr
Monday, 15 September 2008

SINCE implementing its ABM Magnetic Mesh Locator invention, Centennial Coal's Mandalong mine has significantly reduced risk exposure during roof support operations by introducing an innovative system for holding mesh sheets during the installation process.

Published in June 2008 Australian Longwall Magazine

The innovation was conceived after a near miss at Mandalong while employees were installing roof mesh with an ABM 25 bolter miner. The incident occurred when the continuous miner was tramping forward to commence the installation of a sheet of mesh. A large section of roof stone came away and could have inflicted serious injuries on an operator who was exposed due to the requirement to hold the mesh in place on top of the temporary roof support (TRS).



Mandalong development
mechanical engineer
Byron Mcilveen.

Whilst the miner was not seriously hurt, Mandalong development mechanical engineer Byron Mcilveen remarked in his submission to the NSW Minerals Council OHS Innovations Awards that "the consequences could have been far greater".

"The operator should not have had to hold roof mesh to secure it on the TRS of the continuous miner when tramping forward. There has to be a better way," he said.

With that thought in mind, an action plan was immediately developed to ensure that there would be no recurrence.

A month was spent on the design and risk assessment processes. While this was taking place short-term measures of zip-tying mesh to the canopy, cutting off mesh once in place, and hooks on the end of a piece of wood were trialed to manually hold mesh in position.

However, what Mandalong was developing was a lasting, engineered solution. Magnetic and mechanical options were considered, with magnetic winning out.

The design allowed the angle of the magnet to be adjustable to ensure maximum contact between the magnet and mesh. A revised prototype included ramps for ease of installation to stop mesh catching on magnets, locating lugs, adjustable mounting holes, and the ability for mesh to be mounted with the mesh bend either facing upwards or down.

A prototype was first tested on the surface and then installed and trialed on the continuous miner with great success.

"As a result of the ABM Magnetic Mesh Locator there has not been an incident involving roof mesh falling and not being retained in position," Mcilveen said.

"Mesh is now overlapping more accurately, providing a more stable environment. This allows easier bolting between the meshes and has assisted in increasing productivity and metres."

Mandalong was commended for its invention at the NSW Minerals Council OHS Innovations Awards in May.

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