

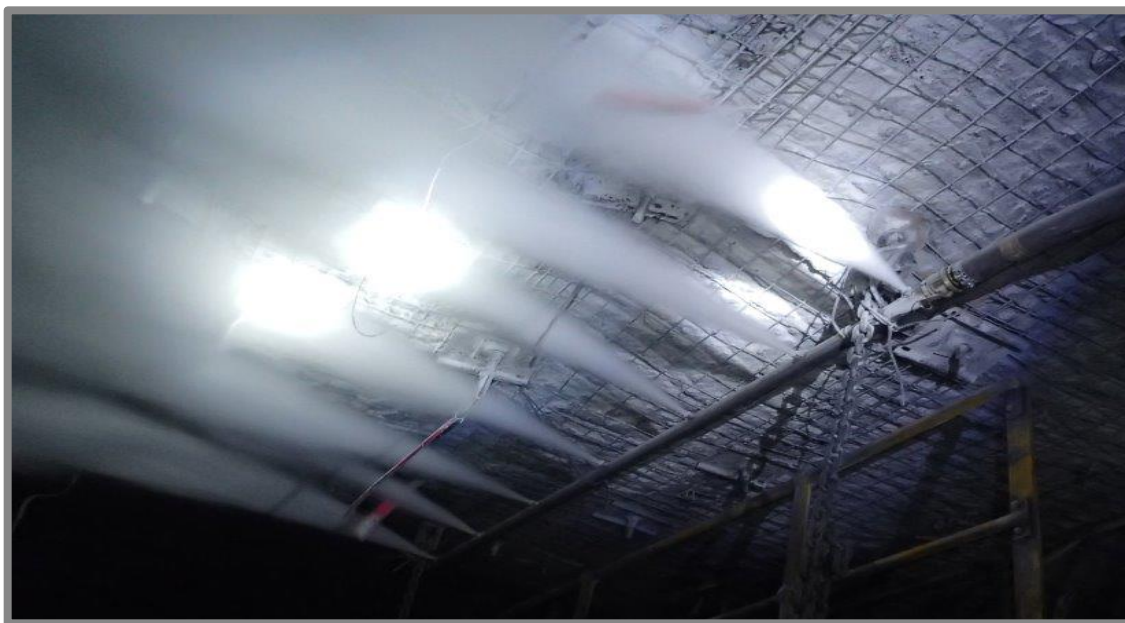
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Stonedust Spray-bar



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www.qldminingsafety.org.au

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Prevention of Coal Dust Explosions

- Coal Dust explosions are a High Risk hazard in underground coal mines.
- Stonedusting is A method used for mitigating the risk of coal dust explosions.
- Stonedust is incombustible
- When adequately applied to coal dust renders the dust incombustible.



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The Problem

- Multiple Failures in belt roads using previous trickle dusting method requiring rework.
- Manual Handling Injuries were also a factor due to the task method.
- What we can do using existing equipment and materials to better enable compliance to stonedusting.
- Better coverage both at each location (Dust to travel further) as well as minimizing downtime to enable increased production.



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What We Needed

We needed a solution that was:

- Cost effective
- Easy to make
- Easy to setup & use
- Adaptable
- Better Stonedust coverage
- Transferable



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The Solution

- Engineered Spray bar that would provide for better coverage of Stonedust
- Cost effective – Parts were already on site, No external labor to engineer device.
- Easy to make – Straight forward design
- Easy to setup & use – Able to be installed by 1 Person to achieve desired outcomes
- Adaptable – The device is not fixed. This allows for the spray bar to be setup on different angles to achieve maximum results
- Better Stonedust coverage – More even distribution a point of dispersal
- Transferability – Can be relocated easily to different areas of the mine where required.



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The Benefits

- Elimination of the previous manual handling risk
- Proven to be more efficient (1 Person setup / 3 x more Stonedust over same time period)
- Proven to apply stonedust to the roof, ribs, floors and under belts more effectively and consistently
- Minimised production downtime due to increased efficiency in application



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Brain Duster Method



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Spray-bar Method

