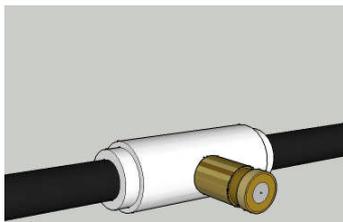


Understanding how Coolfog dust suppression works



On the many quarry sites where Coolfog™ systems have been installed, fugitive dust levels have been reduced by 80% - 95% when dust levels being generated are at their highest.



Coolfog nozzle, coupling and high pressure tube

What is Coolfog™ ?

Millions of ultra fine water particles are generated by passing water through very fine orifices at very high pressure (1000 psi), creating a fog curtain or blanket.

Coolfog™ high pressure fogging nozzles.

- Dust particles are encapsulated by the ultra fine water particles and settle to the ground.



Drawing: Coolfog spray pattern

Fogging nozzles create a 60 degree hollow cone that quickly creates a fog curtain/blanket.

- The volume of dust being generated at a particular point dictates the number and positioning of nozzles - see fog curtain image below.



Typical Coolfog pump modules S/S boxes

Coolfog™ high pressure - low volume pump modules

It is important that the water particles outnumber the dust particles.

- Coolfog systems are very water efficient with nozzles orifice sizes varying between 0.20mm to 0.80mm
- Water consumption per nozzle is as low as 0.07 litres per minute



Interface box & zone controls

Zone controlled: Hot spots are zone controlled (up to 8 zones), and activated as required further reducing water consumption.



If Coolfog is water droplets, then why not just use sprays to suppress dust?

- Water droplets produced by sprays are too large to encapsulate dust particles.
- CSIRO tests indicate that spray droplets actually repel dust particles because of their size and weight; they are normally much larger and heavier than dust particles and simply force them out of the way and wet product!

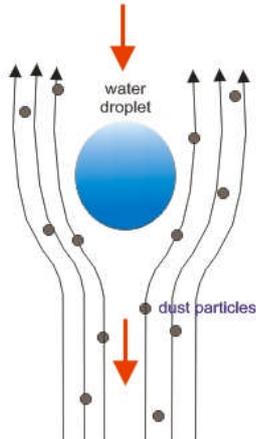


Fig 1: large water droplet repelling dust particles

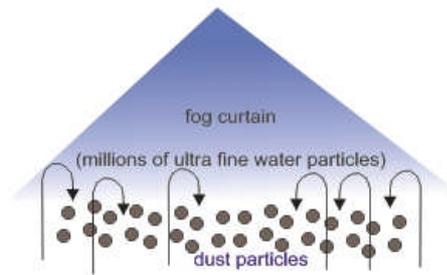


Fig 2: fog curtain encapsulating dust particles



Dump bin fog curtain activated waiting for the load to be transferred.



Dump bin fog curtain from a different angle; the curtain is usually only activated during transfer.



Contact: Grant Booth
 Phone: 0412 112 384 | Website: www.coolfog.com.au

Coolfog™ agents for Qld and Northern NSW