



SILICA DUST: GOOD PRACTICE

GOOD PRACTICE CASE STUDY

IMPLEMENTING A DUST AWARENESS CAMPAIGN



The Wates Group, a construction, development and property services company, devised and implemented a dust awareness campaign in 2014 called 'Bin the broom', which aimed to minimise the amount of dust produced on its sites. The organisation-wide campaign successfully saw an improvement in how dust was captured at source on sites.

The campaign highlighted how breathing in dust can damage your health and provided information on how staff could manage risks by eliminating the hazard, modifying the workplace environment and processes, and using effective extraction and suppression solutions.

Since the campaign was launched in 2014, good practice has been implemented throughout the workplace, resulting in fewer

brooms and more vacuums, an increase in extraction and suppression solutions, purpose-made cutting stations to separate work activities, and improved compliance in the use of respiratory protective equipment.

Through 'Bin the broom', employees at Wates are now talking about health – the goal is to keep the campaign alive and to continue educating staff.



Noise and dust control enclosure in action

Wates



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TACKLING SILICA DUST IN TUNNELLING



To protect employees undertaking sprayed concrete lining (SCL) works, Crossrail put in place a number of strategies to minimise their exposure to silica dust. Modifications to the standard processes and material substitutions were considered from the outset to minimise the use of silica and the risk of dust exposure. A wet spray mixture, with low silica concrete, was used where possible. To reduce the volume of the mixture used, spraying was carefully controlled, and pre-cast concrete segments or *in situ* cast lining were specified for sections of secondary lining.

In addition, de-duster units, forced ventilation, spray misters and tools fitted with spray systems were used to dampen the dust when necessary. During spraying, exclusion zones (areas not accessible to people) were used to protect against falls of SCL, and restricted zones (areas that are limited to authorised access only) were

used to minimise exposure to the dust. The general use of personal respiratory equipment against dust in an underground environment should be regarded as a last resort and the primary emphasis should be on prevention and dust suppression. Personal respiratory protection is still, however, often required.

All Crossrail employees working in the tunnels during excavation had to wear disposable dust masks and those working in the restricted zones during SCL works had to wear positive pressure, full-face masks with a higher assigned protection factor. Staff using the tight-fitting respiratory protection were face-fit tested, and all other respiratory protective equipment used was disposed of after each shift.

In addition, a programme of personal and environmental monitoring was implemented to measure levels of dust,

individual exposures and the effectiveness of the controls. This started with initial surveys carried out by an occupational hygienist to assess the likely levels of exposure and the development of an ongoing monitoring procedure. Reports were generated on the monitoring data and recommendations for improvements implemented. Through these controls, the risk of silica dust exposure has significantly reduced, occupational health management has been optimised and the programme of works has progressed effectively.



Crossrail's good practice in tunnelling

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DESIGNING OUT THE RISKS



Berkeley Homes, a house-building company based in south-east London, instructs its workers to wet plaster walls instead of taping and jointing, as the latter generates masses of dust through the rubbing down process. This simple switch was designed to help protect employees.

The business has also started a dust awareness campaign to educate contractors and make them aware of the health risks associated with exposure to construction dust at work. As part of the procurement process, contractors must provide their employees with ways of extracting

and capturing the dust at source by using industrial hoovers. This minimises the amount of dust in the air and eradicates the need for sweeping, which causes a huge amount of dust to become airborne. Extraction equipment must also be fitted to dust-generating equipment.



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INVOLVING STAFF AND SUPPLY CHAIN IN FACE-FIT TESTING



To prevent exposure to hazardous substances such as construction dust, major construction firm Willmott Dixon has been working with both staff and supply chain partners on educating managers, supervisors and employees on the importance of wearing the correct levels of protective equipment and ensuring, where required, it is being worn and maintained correctly.

The business has instructed staff and supply chain partners not to wear disposable paper masks, and is now implementing face-fitted masks that can be tested at the point of works to ensure they are fitted correctly and offer the wearer the correct level of protection for the job to be undertaken.

Willmott Dixon has been very encouraged by positive feedback from employees and supply chain workers regarding both the comfort of the masks and the reduction of inhaled dust.



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