

Case study:

Improving respiratory health during interior fit out

Summary

On a recent project at the Mary Rose Museum, a Tier 1 supplier for Como, Celtic Contractors Ltd, identified a proactive approach to managing dust exposure and protecting the occupational health of our personnel. Celtic is an interior fit out company specialising in suspended ceiling and drywall partitions, and their expertise in controlling the dust caused by these construction activities was central to our success on the project, and to the sustained health and wellbeing of our people.

Como are the retail and commercial fit out arm of Mace.

Problem statement

On average, 3,500 lives are lost a year to work-related cancers in the UK, with one in seven related to the inhalation of silica dust. Statistics also estimate that 12,000 lives are lost to occupational respiratory disease each year, highlighting the importance of preventing dust inhalation in the workplace.

Solution / what you did

Celtic monitored six operatives cutting timber products and sanding drywall partitions. This included applying personal dust monitors to the operatives to observe personal exposure over an eight hour period.

By employing an ESG Occupational Hygienist, Celtic helped identify one employee whose dust exposure levels were found above the legal workplace exposure limit. Although the operative was wearing FFP3 protection, it was worn incorrectly which increased exposure to dust twenty times more than if worn correctly

Celtic overcame these issues by:

- Reviewing the equipment in use on our projects and upgrading from M (medium) to H (high) class filtration extractors
- Introducing dust cubes to prevent dust migration, these air high effective air cleaners that are used to minimise airborne dust
- Re-inducting managers and operatives in RPE competency training

- Introducing a policy of good housekeeping, which included using vacuum cleaners instead of brooms for cleaning.

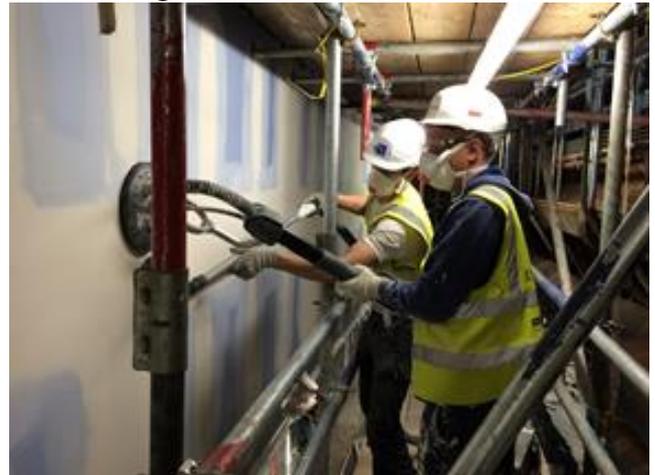


Figure 1: Controls for plasterboard sanding

Key challenges faced

The Mary Rose Museum refurbishment posed significant challenges around managing the dust exposure levels due to the nature of the project; activities were carried out in confined spaces with environmental restrictions imposed to preserve the heritage site. As such, traditional dust management would not have reduced or eliminated all exposure to dust.

Celtic team's day-to-day tasks required operatives to drill into concrete structures, cut timber products, and sand drywall partitions to install and finish works. Dust is commonplace in these environments, so to manage the risk of dust inhalation Celtic implemented some key control measures including:

- Dust extractors for cutting and sanding
- Face-fit testing
- An FFP3 type minimum standard for respiratory protective equipment (RPE)
- Segregated work areas

Even with these controls in place, Celtic observed a thin layer of dust on their operatives' faces, Personal Protective Equipment (PPE), and clothing. The same layer of dust was found on floors and other surfaces, indicating their procedures and equipment were not meeting their own

standards of protection for all site operatives and the environment.

This led to Celtic commissioning an ESG Occupational Hygienist to undertake personal monitoring, review working practices and highlight areas for improvement.



Figure 2: H Class vacuum

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Outcomes and benefits

- Understanding our compliance with workplace exposures limits.
- Having independent verification of control measures.
- Employees felt valued that improved equipment was put in place.

Measures of success

- Visibly dust levels improved
- Feedback from the workforce was positive

Lessons learnt

In demanding environments, such as heritage sites like the Mary Rose, carrying out refurbishment works requires specialist support for managing occupational health risks. On this occasion, Celtic introduced a more proactive and personalised approach to protecting our people from dust exposure.

The lessons learned from personal exposure monitoring indicated that enhanced control measures are now being successfully implemented across all Celtic projects.