BEST PRACTICE

LOCATION:		**ARTICLE YEAR**	**2017**
ACTIVITY:	**Occupational Health**	**COMPANY:**	**CPI Mortars Ltd**
SUB ACTIVITY:	**Air and dust**	**COMPANY LOCATION:**	**Coatbridge Plant**
BEST PRACTICE No:	**BP1994**	**COMPANY TEL:**	**07986 755517**
COUNTRY OF ORIGIN:	**United Kingdom**		

TITLE

Innovative vacuum system to reduce the risk of lung disease

ARTICLE

Exposure to respirable crystalline silica (RCS) can cause serious lung disease including silicosis and chronic obstructive pulmonary disease. The HSE estimates that around 500 deaths occur every year as a result of workplace exposures to RCS in Great Britain. The HSE has recently broadened their assessment of risk in this area to one of overall employee wellbeing rather than simply safety.

CPI Euromix used this change in emphasis as the catalyst to review their control measures. The review identified an area of potential risk. Housekeeping duties at all 10 of its manufacturing locations were performed using large portable vacuum machines. The efficiency of the filters within these machines to remove airborne RCS particles was unclear.

The machines had been in operation for around 10 years and were fitted with standard filtration media rather than a high efficiency system. Exhaust monitoring was carried out on a sample of the machines to assess the efficiency of the filtration. The assessment identified that very fine particles such as RCS, if present, would not be removed by the existing system. With these units venting back into the workplace, they could represent a significant source of RCS exposure.

As the vacuum system has to be mobile and is used in many areas of the factories, installing fixed venting pipework was not a feasible. The manufacturer, Disab, was challenged to find a way to improve the filtration efficiency. The solution was a bespoke and innovative bolt-on HEPA rated filter inserted between the main filters and the vacuum pump. This overcame the difficulties in

applying a highly efficient filtration to such a high volume vacuum machine. This was a first for this type of machine in the UK.

A trial unit was ordered and installed. Like for like monitoring of the exhaust emissions was commissioned and clearly indicated that the HEPA filter was removing the fine particles to a high efficiency level. £30k of capital funding was then secured on the basis of this trial to modify the fleet of 10 machines.

- Removed potential source of RCS exposure to workforce
- Solution has potential to significantly improve RCS controls throughout the industry.

ARTICLE IMAGES

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