



# **S**AFE

NHBC Health & Safety News

## **Silicosis: Twenty Years On**

## **Site Waste Management**

# Simon says...



**Simon Mantle,**  
Manager NHBC Health  
& Safety Services

Writing this article for Safe 56 I am wondering where 2008 has gone. It seems no time at all since I was preparing for last Christmas. It has been a tumultuous year in the industry and I hope for everyone's sake that 2009 is better and we start to see a recovery in the sector. In this edition of SAFE you will find an article on a subject that has been described by some as the "next asbestos". Respirable crystalline silica is a hazard largely ignored on sites as the ill effects of exposure do not tend to show themselves for some years, but like asbestosis, silicosis can be just as devastating.

If you are shutting down your site over Christmas make sure that simple steps are taken in terms of site security around the boundary and make sure ladders on site are removed and locked away. As I do not particularly want to have to spend a day on site over Christmas investigating an accident, if you have a tower crane on site, please make sure the base cannot be accessed by anyone who may have visions of scaling the town's highest climbing wall. As for us at NHBC we are off to celebrate the festive season and I wish you all a very merry Christmas and a prosperous and safe 2009.

## Ask the experts

Are there any precautions I need to take on site during the winter?

*Thank you for your question*

Cold weather can cause health and safety issues on site, below are some of the common ones to be aware of:

- During the winter when days are shorter make sure the lighting of areas such as stairwells is sufficient.
- If you are operating mobile plant on site make sure headlights are functioning and flashing bacons are being used. It is especially important that everyone on site is wearing the correct hi-visibility clothing.
- On cold wet days it is important to ensure anyone working outside has good protective clothing. Warm weather gear and waterproofs are classed as personal protective equipment so must be provided and maintained by the employer. At this time of year it is especially important to make sure there are

suitable facilities to allow workers to get changed and to dry wet clothing.

- Low temperatures and wind chill can cause hypothermia and reduce dexterity and alertness. Site Managers should be aware of, and manage this risk.
- Cold hands make handling materials and equipment difficult and heighten the risk of conditions such as hand arm vibration syndrome. Make sure workers have suitable gloves to wear.
- As sites get muddier and possibly icy, make sure roads and pedestrian routes are kept as clear as possible to reduce the risk of slips occurring and mud being transferred to the public highway.

To submit your question email [hsnews@nhbc.co.uk](mailto:hsnews@nhbc.co.uk)

# Occupational Lung Disease

## Silicosis: Twenty Years On

According to HSE research, the construction industry is likely to see an increase over the coming years in occupational lung diseases. Among these is silicosis, possibly leading to lung cancer, chronic breathing disorders and death.

Silicosis is a disabling and often fatal disease. It is not naturally occurring and is caused by inhalation of dust containing crystalline silica which penetrates deep into the lungs causing tissue scarring and making breathing increasingly difficult. This deadly dust is created when using high speed cutting tools on materials with a certain silica content. Once the disease has manifested itself it will continue to progress even if the worker is removed from further exposure. Symptoms are irreversible and may not occur for up to twenty years. It is this fact which makes the disease so dangerous; it is being underestimated.

Silica content varies within different materials. For example, bricks will have a content of up to 30% whereas concrete, mortar and cement can have a silica content of up to 70%. Sandstone and gritstone can have a content of over 70%. The workplace exposure limit (WEL) for silica is  $0.3\text{mg}/\text{m}^3$ , expressed as a time weighted average. This means that exposure to respirable crystalline silica should be reduced so far as is reasonably practicable and, in any case, below the WEL.

The dangers of using high speed cutting tools cannot be ignored and the following procedures and guidelines must be followed to reduce the risk of workers contracting the disease.



**Simple paper masks are not classed as PPE or RPE as they do not meet any current standards or legal requirements.**



Coloured X-ray of the lungs of a patient with silicosis, a type of pneumoconiosis. There is no cure for silicosis, treatment is aimed at reducing the symptoms.

CNRI/SCIENCE PHOTO LIBRARY



## Have yourself a merry and a **SAFE** Xmas

-  On the first day of Christmas my subbie gave to me a **dodgy method statement**
-  On the second day of Christmas my subbie gave to me **two pairs of gloves**
-  On the third day of Christmas my subbie gave to me **three hard hats**
-  On the fourth day of Christmas my subbie gave to me **four safety boots**
-  On the fifth day of Christmas my subbie gave to me **five 'A' Grades**
-  On the sixth day of Christmas my subbie gave to me **six accident forms**
-  On the seventh day of Christmas my subbie gave to me **seven risk assessments**
-  On the eighth day of Christmas my subbie gave to me **eight prohibitions**
-  On the ninth day of Christmas my subbie gave to me **nine sparkies sparking**
-  On the tenth day of Christmas my subbie gave to me **ten skivers sleeping**
-  On the eleventh day of Christmas my subbie gave to me **eleven roofers falling**
-  On the twelfth day of Christmas my subbie gave to me **twelve brickies grumbling**

When cutting, grinding, drilling, etc. any stone or cement based material, a risk assessment must be carried out to:

- Identify the hazard.
- Identify who may be harmed and how.
- Evaluate risk.
- Implement control measures.
- Record and review.

Any activity which exposes workers to silica is subject to the Control of Substances Hazardous to Health Regulations 2002 (COSHH) which requires the health risks to be assessed, prevented or controlled.

Those who specify materials have a responsibility under the Construction (Design and Management) Regulations 2007 (CDM) not to use hazardous materials. Where this is not possible, the least hazardous material must be selected.

In some circumstances it may be practical to use pre-cut materials to reduce the need to carry out cutting on site. Substitution of silica-based materials with another product, for instance non-silica grits or metallic shot for cleaning is also a possibility. (It is now illegal to use sand for abrasive blasting).

Other methods of cutting high silica materials could be considered such as compression cutting (e.g. block splitters).

The use of water suppression is also an effective and relatively cheap method of reducing airborne dust although the use of suitable respiratory protection (RPE) is recommended when cutting with water. Water suppression can reduce the amount of airborne dust by up to 75%.

Extraction systems put in place for cutting in restricted areas and on-tool extraction where possible should also be considered.

In the hierarchy of measures to be implemented RPE is the last resort, it must be suitable for the task and operatives trained in the selection and use of PPE to be used. All equipment must be maintained and/or replaced where necessary. Simple paper masks are not classed as PPE or RPE as they do not meet any current standards or legal requirements.

Over recent times most contractors appear to have improved their control over the wearing of eye protection when cutting, grinding and drilling silica-based materials because the effects are immediate. However, the effects of dust containing crystalline silica being inhaled over a period of time are not immediately apparent. The need to take further precaution, use alternative materials and tools, and wear the appropriate RPE where required to help prevent such dreadfully debilitating and possibly fatal diseases cannot be stressed strenuously enough.

## The Health and Safety (Offences) Act

The Health and Safety (Offences) Act 2008 received royal assent on 16 October. The new legislation, will increase penalties and provide courts with greater sentencing powers for those who flout health and safety legislation.

The Act raises the maximum penalties that can be imposed for breaching health and safety regulations and the range of offences for which an individual can be imprisoned has also been broadened.

The Act sets out the following changes:

- the maximum fine which can be imposed in the Magistrates' Courts for breaches of health and safety regulations will be raised from £5,000 to £20,000 (the Crown Court's ability to impose unlimited fines for such breaches remains unchanged)
- imprisonment will be an option for most health and safety offences in both the Magistrates' (maximum 12 months) and Crown Courts (maximum 2 years) this raises the prospect of more individuals being taken to court
- certain offences, which currently can only be tried in the Magistrates' Court, to be heard in either the Magistrates' or the Crown Court, where the fines imposed would be unlimited.

There are countless health and safety regulations in force under the Health and Safety at Work Act 1974 which will be affected by this legislation. Taking one example, a failure to carry out a suitable and sufficient risk assessment (an offence under many health and safety regulations) would, under the new law, carry with it a fine of up to £20,000 in the Magistrates' Court (or an unlimited fine in the Crown Court which remains unchanged). Readers are advised to ensure that risk assessments remain suitable and sufficient and that appropriate control measures are in place to eliminate or reduce any risks identified. Periodic reviews of risk assessments covering traffic/pedestrian segregation, use of forklift trucks and similar vehicles are recommended.

The Act aims to make companies, employers and employees more aware of health and safety issues and to punish more severely those organisations and individuals that put their employees or those affected by their activities, at risk.

There appears to be a general shift in the attitude taken by the government as to the fines which should be imposed. There is certainly a move towards the imposition of higher fines in health and safety cases where a fatality has resulted, which could amount to as much as 2.5% of the company's turnover for each offence under the Health and Safety at work Act.

When considered in conjunction with the Corporate Manslaughter and Corporate Homicide Act 2007, which came into effect earlier this year, the Health and Safety (Offences) Act 2008 represents a substantial "beefing up" in the penalty regime for health and safety offences. It will come into force in January 2009.



# Site Waste Management Plans

In April 2008 Site Waste Management Plans (SWMPs) became a legal reporting, monitoring and training requirement for all construction and demolition projects in England costing more than £300,000. Simon Mantle, NHBC's health and safety manager tackles the issues of the new legislation and takes the mystery out of Site Waste Management Plans (SWMPs).

Site waste is harmful to the environment, but every year the construction industry produces approximately 1.45 tonnes of waste for every person living in the UK. Almost 13% of all materials delivered to site will end up in a skip without ever being used (source CIRIA). (article continued on page 5)



## What are the benefits of SWMPs?

### Saving money

SWMPs can help you save money by encouraging recycling and reuse of materials wherever possible and by using local suppliers for disposing of waste.

### Legislation

Queries from environmental bodies regarding waste can be answered quickly and easily as you have all administration and paper work in place, saving you time.

### Protecting the environment

SWMPs visibly demonstrate that you are dedicated to reduce waste and to protect the environment. Customers will be impressed by your commitment to the environment and to ensuring that legislation is met.

### Valuable reference document

Once completed, a SWMP will provide an indispensable source of information to help plan waste management resources for future projects.

# (Site Waste Management Plans cont'd)

## What is a SWMP?

A SWMP is a document produced by the client to provide a framework for managing the disposal of waste throughout the life of a construction project. The SWMP will identify estimated quantities of waste that a site will produce and inform decisions about the best and most economical ways of managing that waste. If properly implemented, a SWMP will help save money by making everyone involved in a project think about the amount of waste created and the part they play in the waste management process. Failure to comply with the SWMP legislation is an offence and can be punishable by a fine of up to £50,000.

## How does a SWMP manage the waste?

A SWMP splits waste into three key areas; inert, hazardous and non-hazardous. It estimates quantities of the different types of waste and then identifies the waste management action proposed. Typically this would include re-use, recycling or recovery of materials either on or off site and, if none of these options are suitable, disposal i.e. sending to land-fill.

The life span of a SWMP is the duration of the construction project. From start to finish there are several basic steps that will result in you dealing effectively and efficiently with waste. These components are:

- Assigning an owner who will update and review the SWMP throughout its life
- taking the time to prepare the SWMP
- identifying what the site waste will be
- assessing best options for managing waste
- planning efficient on-site waste handling
- explaining the SWMP to on-site teams (providing training where necessary)
- continually measuring and reviewing waste and keeping the SWMP up to date
- measuring the success of the SWMP (assessing the cost saving brought about through efficient management of waste)
- follow up and feedback (identifying lessons learned and deciding what could be improved for future projects).

A successful SWMP requires careful planning and preparation. Obviously the bigger the project, the more complex, in depth and time consuming the creation of the SWMP will be.



## Who is affected by SWMPs?

Arguably clients are most affected by this legislation, as it places an obligation on them to do something that they have not had to consider before. Designers also need to think differently as they now have an additional obligation to consider design options and solutions that minimise the production of waste. Having been given the SWMP the principal contractor has a responsibility to ensure that it is adhered to and that actual quantities of waste are reconciled against original estimates. Trade contractors are also affected as they too have a responsibility to inform the principal contractor about the types and quantities of waste that they create.

## How can NHBC help?

The paperwork associated with any new legislation or government initiative can sometimes be overwhelming. Rather than appreciating the obvious cost, efficiency, environmental and time savings that a SWMP will offer, SWMPs could potentially be conceived as an administrative nightmare.

NHBC has specialist consultants, trained in SWMP legislation who can plan, research, complete, deliver and review SWMPs for you. They can take the administrative responsibility away giving you the time to concentrate on your projects and investments.

NHBC can also offer a SWMP training option, running an induction style SWMP forum for all involved in the project.

For more information about NHBC's SWMP Consultancy Service call 0844 633 1000 and ask for SWMPs, or visit [www.nhbc.co.uk/swmp](http://www.nhbc.co.uk/swmp). Alternatively e-mail [swmp@nhbc.co.uk](mailto:swmp@nhbc.co.uk)

Must  
haves

## Health & Safety Services

For more information on any of the services below  
call 0844 633 1000 or email [h&straining@nhbc.co.uk](mailto:h&straining@nhbc.co.uk)

For SAFE news subscription enquiries please call: 01908 746988

**NEW!**  
for 2009

### Site Waste Management Plan (SWMP) Awareness

In April 2008 Site Waste Management Plans (SWMPs) became a legal reporting, monitoring and training requirement for all construction and demolition projects in England costing more than £300,000.

This one day course is designed to ensure all key players (Clients, Architects, Contractors and Suppliers) understand the requirements of the SWMP regulations and how they apply to their role. This course will provide practical solutions and cost saving techniques, including what should be included in a SWMP and what is required for a SWMP to work successfully on site.

Location	Dates
Milton Keynes	20 Jan 09
Birmingham	22 Jan 09



### NHBC Construction (Design and Management) (CDM) co-ordinator service

The Construction (Design and Management) Regulations 2007 state that all construction projects lasting more than 30 days should appoint a CDM Co-ordinator to oversee, advise and assist in each and every aspect of a construction project.

With our in-depth knowledge and understanding of the CDM regulations and their applications, we are ideally placed to provide an effective and compliant CDM Co-ordinator service to the industry. We have a team of qualified CDM Co-ordinators available to you who can provide you with the confidence that you are meeting your CDM obligations and enhancing your reputation within the industry.



### Telehandler NVQ Level 2

Telehandlers are one of the most significant, and visible, sources of incidents and accidents on construction sites. They can and do cause serious injuries and deaths, and can lead to enforcement action by the HSE.

This NVQ is suitable for telehandler operators and material controllers with some experience, this NVQ offers a route for professional development and the acquisition of a recognised qualification. It is an essential part of upgrading from a CPCS Red Card to Blue Card status. Over an expected period of six months, four NVQ units will need to be completed. For more information please visit [www.nhbc.co.uk/training/nvq](http://www.nhbc.co.uk/training/nvq)



NHBC Health & Safety Services

NHBC House, Davy Avenue, Knowlhill, Milton Keynes, Bucks MK5 8FP

Tel: 0844 633 1000 Fax: 0844 633 0022 [www.nhbcbuilder.co.uk](http://www.nhbcbuilder.co.uk)