

## The chromium (VI) legislation for cement

### Information for ready-mixed concrete producers and concrete product manufacturers

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#### Introduction

The Chromium (VI) Directive (2003/53/EC) applying to cement and cement-containing preparations [see FACT SHEET 10.1] was implemented in the UK on 17<sup>th</sup> January 2005. This legislation is designed to minimise the occurrence of chromium (VI)-related allergic dermatitis arising from the use of cement. The detailed legislation/regulations governing implementation and enforcement are a matter for individual Member States. In the UK, implementation was via amendments to the COSHH and CHIP Regulations under the responsibility of the Health & Safety Executive (HSE).

#### BCA Member Companies' approach to meeting the requirements of the legislation

In order to comply, BCA Member Companies now control the amount of water soluble chromium (VI) in all bulk and bagged cements and their other cement-containing products/preparations, by the addition, where necessary, of small amounts of a reducing agent such as ferrous sulfate or stannous sulfate. In the UK, this means that all BCA Member Companies' cements have levels of soluble chromium (VI), when water is added to the cement, that are no more than 2 ppm (0.0002%) by mass of the dry cement.

#### Shelf-life of cement

Reducing agents added to the cement during production have a limited period during which they remain effective. After this period ('shelf life') has expired they can no longer be relied upon to keep the soluble chromium (VI) level below 2 ppm when the cement comes into contact with water. BCA Member Companies now declare a storage period (shelf life) for cement treated with a reducing agent and this has been set at 61 days from the date of packing for bags or the date of despatch for bulk, for most common cements. The shelf life applies only to cement that has been stored in accordance with the manufacturer's recommendations.

***The cement manufacturer's responsibility for controlling the soluble chromium (VI) content of the cement ends at the expiry of the declared storage period (shelf-life), when stored in accordance with the manufacturer's recommendations.***

Concrete producers and concrete product manufacturers also have a responsibility to ensure that the fresh concrete that they produce meets the requirements of the legislation. They are able to discharge this responsibility by ensuring cement is stored in accordance with the cement manufacturer's recommendations; ensuring fresh concrete is not produced containing cement that has passed the shelf life indicated on the delivery documents. However, the BCA has encouraged concrete producers and concrete product manufacturers to verify with the HSE that the above conditions are sufficient to meet their own statutory obligations under the amended legislation. Any liability for chromate-related dermatitis arising from fresh concrete made with cement that is beyond its declared storage period resides with the concrete producer.

#### Labelling of cement

In addition to the normal health and safety warnings, delivery documents for cement are now required to include the following information: the date of despatch; the declared storage period (shelf life) from the date of despatch and the recommended storage conditions relevant to the declared storage period. Other information is at the discretion of the manufacturer and this currently includes the consequences of using the cement after the declared storage period or when improperly stored and a 'use-by-date'.

#### Cement performance

BCA Member Companies only add a very small quantity of reducing agent to cement (typically below 0.5% by mass of cement). Trials to date have indicated that at these low levels of addition, there are

no significant changes to the performance of the cement in concrete. A slight reduction in concrete workability may, however, be observed and it is possible that when used in combination with some additions, an increase in setting time may also be experienced.

### Health and safety

Reducing agents do not make cement safe to handle without PPE. Cement, when wet, can cause two types of dermatitis, *allergic* dermatitis and *irritant* dermatitis. Reducing agents only protect against allergic dermatitis. The same PPE is, therefore, required for handling wet cement now that reducing agents have been introduced as was previously required. Irrespective of the introduction of reducing agents, correct PPE would ensure users do not suffer allergic dermatitis, irritant dermatitis or burns.

### Where can I find out more?

For product-specific information, contact your supplier/manufacturer directly. For generic information, contact: M G Taylor at BCA, Tel: 01276 608716, [mtaylor@bca.org.uk](mailto:mtaylor@bca.org.uk)

Document No: ST/FS/10.3	Revision No: 3
Author: M G Taylor	Drafted: January 05 Last revised: 25 April 06



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