

Know Your Cement – In the interest of safety

A house collapsed in Western Area.

The owner of the house called an engineer to come and investigate. The engineer conducted some tests and took core samples from the concrete foundation and sent these to a laboratory for testing. The test results showed that the strength of the foundation was only 3 MPa instead of the required 15 MPa.

The builder had used an incorrect or inferior cement type, or an incorrect mix for the foundations.

Many secondary blenders and unscrupulous importers are selling non-compliant cement, specifically into rural areas.

This example unfortunately is not an isolated occurrence and happens all over South Africa, and can cause failures in structures.

Uncertainty about the different cement types, or where dishonest contractors and builders use the wrong or non-compliant cement, and do not follow the correct mix proportions for a specific project, can all be potentially life-threatening.

Any project that involves concrete starts with the purchase of the correct cement. There are TWO main types of cement:

MASONRY CEMENT which should only be used for mortar and plaster. These bags have **MC** printed on it and should have the wording “**Masonry Cement, intended to be used for preparation of mortar and plaster only**”. (For example MC 22,5 X).

COMMON CEMENT which must be used for all structural concrete, and may also be used for mortar and plaster. Foundations, floors, columns, beams, and slabs are examples of structural concrete. These bags have **CEM** printed on it. (For example CEM II/B-M (V-L) 42,5 N).

In South Africa, cement is regulated by a Compulsory Standard (VC 9085), administered by the National Regulator for Compulsory Standards (NRC), which means by law cement must meet certain performance specifications and outlines rules for the markings on the bags in order to protect human health and safety.

One of these rules is that **specific markings must appear on every bag of cement sold in South Africa**, to give the customer peace of mind about the quality and correct application of the cement. Most importantly, an LoA number (Letter of Authority) should be **printed** on the bag. Unfortunately, an LoA number appearing on a bag is no guarantee that a LoA has been issued! When buying a cement from an unknown source, always contact the NRCS to confirm whether the LoA is valid: Telephone: +27 12 482 8700.

Use of SANS compliant cements and masonry cements are important to:

- build safe, quality structures and buildings
- ensure that you do not break the law in South Africa
- prevent later liability if you have used a cement not having a valid LoA.

Always confirm the suitability of a particular cement for a specific application with your supplier, and also check that your builder is using a cement that meets the requirements specified above.

Details that should appear on a bag of cement BY LAW



Published by CCSA in the interest of safety.

CCSA Partner Members:



For more information about the different cements available in South Africa, and other guidelines on the use of concrete, download the free leaflets from Cement & Concrete SA's website: www.cemcon-sa.org.za