



## **BBA Statement on Chemical Damp-proofing**

Over the past 30 or so years the UK's Chemical Damp-proofing industry and the materials used for the treatment of rising damp in walls have changed and progressed enormously.

Initially the main treatments for rising damp that were awarded BBA Certificates were based on solvent Silicone and POAS fluids, which were injected into brickwork at high pressure. Later water-based Siliconate systems were developed for injection, mainly into the mortar course at low pressure or by diffusion. The assessment of these systems was documented in BBA MOAT 39 and primarily used the small scale pillar test method.

However these systems had various drawbacks in that the following hazards existed to both the installer and householder, namely:

- Solvent systems – solvent (white spirit) based, risk of fire and smell
- Siliconate systems – used highly alkaline chemicals either under pressure injection or with diffusion bottles, risk of chemical burns
- Specialised pressure injection equipment was necessary for both systems with inherent risk of spraying flammable or alkaline fluids.

In the late-1990's with the rise of health and safety issues, manufacturers started to develop creams for the treatment of rising damp which had the three-fold advantage of being:

- Non-solvent based
- Neutral pH, and
- Could be applied using 'caulking-type' guns

These factors also meant that by using creams the hazards were reduced both to the householder and the installer:

Damp-proofing creams differ from fluid-based damp proofing treatments in a number of ways:

1) Creams are applied at much lower application rates than is typical for fluid injection and they are required to spread through masonry by diffusion without the assistance of pressure injection. For this reason it is appropriate to test these materials under a wider range of conditions (different mortar types and moisture contents) and research undertaken by the BBA has indicated that there is differing performance of creams with varying test conditions. In short not all creams perform well under all test conditions.

2) The amount of active material delivered per linear metre varies considerably between cream formulations. Injection systems were typically injected at an application rate of approximately 100g of active ingredient per linear metre of 275mm (9 inch) thick wall, however the strength of cream formulations used in the UK can vary widely. This has resulted in the applied amount of delivered active materials varying from 22g to 107g per linear metre of 275mm thick wall depending on product strength. As there is limited historical data on the durability of chemical creams at low levels of active material, it is difficult to draw conclusions on the life expectancy of

lower strength creams in comparison to high strength creams which have similar active material levels to injection systems.

With the vast majority of rising damp treatments in the UK now using Damp-proofing creams, the BBA recognises that the methods used to assess their efficacy needs to change accordingly. Over the past months the BBA has investigated the use of small scale tests using brick slips and mortar samples to replicate the conditions found in both old (neutral pH mortar) and new (alkaline mortar) along with both passive and active rising damp.

The initial findings of the test programme indicate that there may be significant differences in the performance of depending highlighted by the differing amount of active materials. For example:

1. Some damp-proofing creams are effective against both passive and active rising damp typically >6% moisture content in old mortar and some may be also used in alkaline mortar.
2. Some damp-proofing creams typically at lower strength may only be suitable for application where damp is <6% in old mortar, or only be effective/activated once a drying out period (typically during Summer) is underway.

To reflect the findings the BBA will restructure both it's current and future chemical damp-proofing Certificates to distinguish between the different performance levels. The default position for all cream materials will be position 2. above, unless the results of the small scale brick slip tests in both active rising damp and alkaline conditions indicate otherwise.

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