



BBA Statement on Chemical Damp-proofing

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

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 silicate 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 and safety risks for both the installer and householder, namely:

- solvent systems were based on white spirit which not only constituted a fire risk but also carried a strong odour
- silicate systems used highly alkaline chemicals either under pressure injection or with diffusion bottles, with a consequent risk of chemical burns
- specialised pressure injection equipment was necessary for both systems, with an inherent risk of widespread dispersal of sprayed 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. These creams were not only pH neutral and non-solvent based, but could also be applied using 'caulking-type' guns, thereby reducing the hazards to both householders and installers.

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 are designed to spread through masonry by diffusion without the assistance of pressure injection. Owing to the number of different mortar types and moisture contents, it is necessary to test these materials under a wider range of conditions. Research undertaken by the BBA has indicated that the performance of creams differs with varying test conditions, with not all products performing 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 275 mm (9 inch) thick wall. However, because the strength of cream formulations used in the UK can vary widely, the applied amount of delivered active material varied from 22g to 107g per linear metre depending on product strength. As there is limited historical data on the durability of chemical creams with low levels of active material, it is difficult to draw conclusions on their life expectancy in comparison to high strength creams which have similar active material levels to injected 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) and new (alkaline) mortars in circumstances of passive and active rising damp.

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

a) some damp-proofing creams are effective against both passive and active rising damp at a typical moisture content of >6% in old mortar, and some may be also used in alkaline mortar

b) some damp-proofing creams (usually those of lower strength) may only be suitable for application where damp is <6% in old mortar, or may only be effective/activated once a drying out period (typically measured and specified according to summer conditions) is underway.

To reflect the findings the BBA proposes to restructure both its current and future chemical damp-proofing Certificates to distinguish between the different performance levels. The default position for all cream materials will be position b) above, unless the results of the small scale brick slip tests in both active rising damp and alkaline conditions indicate otherwise. The implementation of the restructure will be rolled out in 2014 after industry consultation has been completed and evaluated.

Simon Wroe
Head of Approvals – Materials
October 2013