

THE USE OF CLAY BRICKWORK IN LANDSCAPING SITUATIONS

Clay facing bricks have been used with great success and longevity in buildings. Survival of the older buildings is down to numerous factors including location, design and workmanship and avoidance of instances of damage or dereliction.

Moisture is the biggest enemy of construction materials. Successful construction is focussed around the prevention of its entrance into the buildings fabric.

Design detailing plays an important role in shedding rainfall away from the walling and minimising permanent saturation. However, when the walling is subjected to rainfall, individual bricks are only being wetted from one side (or 1 stretcher and 1 header in the case of corners).

Historically, depending on location, various building materials have been used that were readily available and suitable for keeping the weather out. Slate, stone, thatch, brick, wood etc. Today these materials are still used along with newer developments. However, perception and expectation of the performance of the more traditional materials is increasingly under scrutiny from the Consumer.

Because these materials have been seen to seemingly survive for so long, the expectation is that they can be used in any manner for any effect, not only in buildings but increasingly in landscaping situations, and still withstand the elements.

The following shows how easily these expectations can be dashed, however with a little forethought for design and workmanship, early instances of brickwork failure can be allayed in today's landscaping situations.

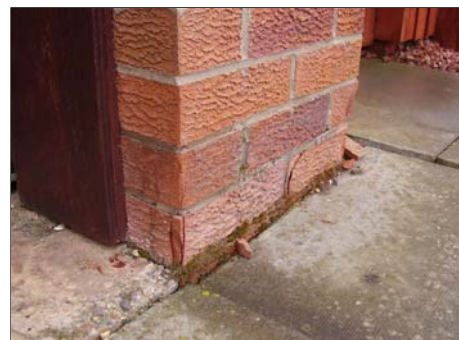
For more details on certain applications, reference should be made to the Ibstock 'Get-It-Right' series and the Ibstock 'Technical Information Sheets' available on our website.

Bricks in landscaping situations will not perform durability-wise in the same manner as if they were used in a building. They are in a much harsher environment subjected to saturation from rainfall and groundwater which can contain numerous impurities that could be harmful to brickwork. They are rarely constructed with this in mind.

Often house-owners will construct half brick thick walls (100mm) as a cost saving boundary or edging solution. This is not a recognised method of construction and can lead to premature failure.

1. Prevent permanent saturation of Facing brickwork.

The downward flow of water can be prevented by inserting a dpc under the capping or coping course. To restrict the upward movement of moisture from the ground a minimum 2 courses of dpc quality engineering bricks should be used at ground level and/or membrane dpc where appropriate.



Moisture will also attack from the rear in retaining wall situations.

For improved durability the faces of retaining brickwork in contact with all soils and clays must be protected with a minimum 2 coats of bitumen or self adhesive membrane before backfilling.

Consideration is also needed regarding the type of material that will be placed next to the brickwork.

Its proximity may cause;

- ◆ Increased water run-off directed towards the brickwork.
- ◆ It may prevent brickwork moving freely due to thermal or moisture movement.
- ◆ It may move due to thermal or moisture movement causing the brickwork to suffer.

The mortar joint is the path water will take through the brickwork courses. As it drains down it can cause free lime present in the mortar to be released. This can cause unsightly staining (pictured) which needs removal or it will harden and remain visible.

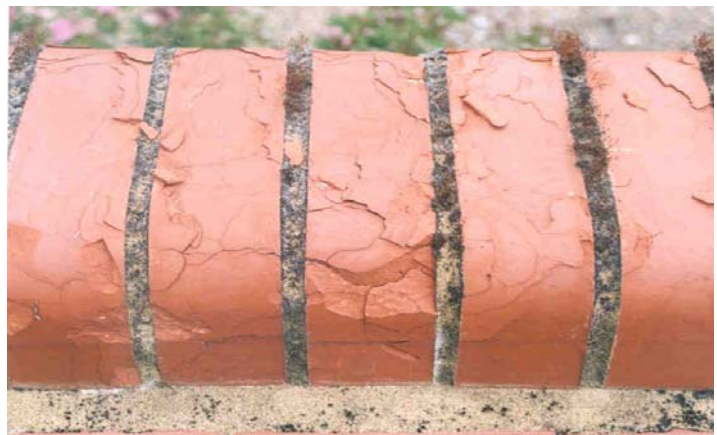
Excess moisture can also cause efflorescence to appear.



Both photos show omission of appropriate damp-proofing



2. Allow for movement of brickwork and surrounding materials.



Brickwork will move due to thermal expansion and contraction on a daily basis. For coping and capping courses a compressible movement joint must be provided every 2.5 to 3m. If not stresses may be set up leading to cracking and eventually to frost attack.

Paving materials such as concrete blocks, pavers or in-situ concrete tend to expand and contract even more than brickwork. Along any abutting areas of differing materials, consideration should be made for the accommodation of any movement.

3. Step situations

Brick risers in step situations are always at high risk of failure.

They are often sandwiched in mortar between concrete treads and subjected to saturation and thermal expansion and contraction.

Clay facing bricks should not be used or it should be expected that brickwork may need more frequent replacement if used in this situation.

The mixing of different materials in the same structure should be avoided.

Ibstock does not offer a durability warranty for facing bricks used in landscaping situations.

To prolong the life of your landscaping brickwork always;

- ◆ Ensure the use of F2 (frost resistant) bricks.
- ◆ Carefully consider the mortar mix.
- ◆ Prevent movement of groundwater through brickwork.
- ◆ Use correct damp proof detailing.
- ◆ Allow for thermal and differential movement of materials.
- ◆ Use overhanging copings in preference to cappings in garden walling where possible.
- ◆ Use proprietary clay pavers and fittings in pathway construction rather than facing bricks.

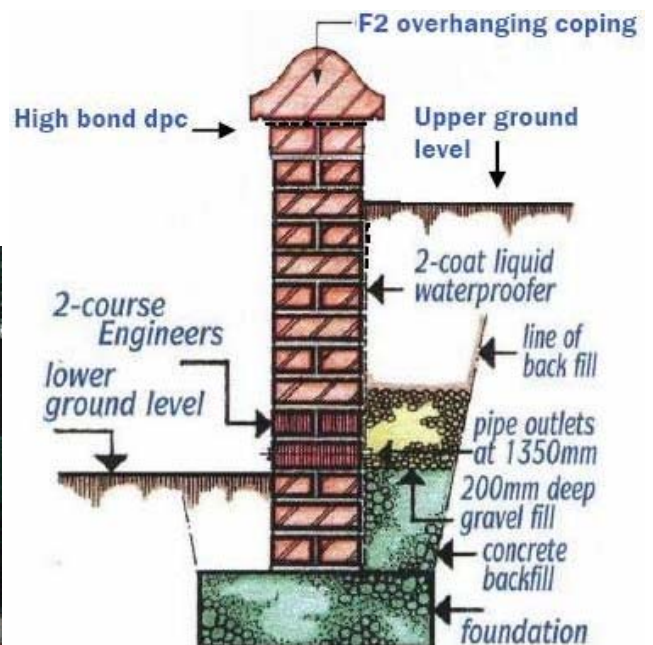


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