

SITE PRACTICE AND TROUBLESHOOTING IRON STAINING ON BRICKWORK



WHAT IS IRON STAINING

Iron salts can form a significant part of natural clay materials. Iron staining occurs on some “stock” bricks and on certain types of wire-cut bricks, particularly those made with clays with a high iron content. It takes the form of a dark brown stain leeching from the brick body.

CAUSE & EFFECT

If, after production, the bricks are exposed to saturation in certain conditions iron salts will migrate to the surface, in much the same way as the common white efflorescence, where they oxidise to produce a stain that is usually brown in colour, very similar to rust.

If the stain remains only on the bricks then arguably the discoloration may not cause too much concern. However, it does tend to run, and very quickly discolours the mortar joint as well.

Work carried out over a number of years showed conclusively that saturation of immature brickwork is the main cause of the problem.

PREVENTION

When good site practice prevailed and bricks and brickwork were correctly protected by waterproof sheeting until the mortar was mature, the problem of staining is virtually eliminated.

The first 3 to 5 days after laying (dependent on season), brickwork is most vulnerable to the elements as mortar is still undergoing the hardening process. Newly erected masonry should be covered by waterproof sheeting to protect fresh mortar and open cavities to stop masonry becoming saturated. Once the structure is watertight, i.e. roof and windows in place, the building can commence the drying process.

Hessian sacking is commonly used as protection but this is not waterproof and can, if saturated, be a source of staining, which can then be mistaken for iron staining.

REMEDIATION

Iron staining on bricks will often disappear, in time, by natural weathering. It does not, however, disappear and reappear like “white efflorescence”.

On mortar joints the simplest method to quickly improve the appearance, is to clean the joints with a half round file. This readily removes the stain from the joint and restores the brickwork profile.

If total cleaning is required, the use of any proprietary brand of brick cleaner, used as part of the normal cleaning down process, will remove the stain and any minor staining reoccurring should be allowed to weather away naturally.

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