

Site practice & troubleshooting
VANADIUM STAINING/EFFLORESCENCE

What is vanadium.

One of the mineral elements found in the raw material of clay bricks is 'vanadium' which normally only occurs as a complex salt in fire clays used in the production of buff coloured products. It can however, on very rare occasions, also occur in red and brown products.

Cause & effect.

Like most soluble salts it requires saturation to bring it to the surface when it appears as a yellowish stain that may change to a greenish or even light brown colour.

Vanadium does not come and go in the same manner as a white efflorescence and should really be described as a stain.

The discoloration is only on the surface of the brick but its intensity and the speed at which it can appear during construction can be a cause of concern for the user.

Prevention.

Vanadium staining can be largely avoided by the protection of bricks and newly built brickwork to avoid saturation. The first 72 hours after laying, brickwork is most vulnerable to the elements as mortar is still undergoing the hardening process.

The stain will disappear in time due to the effect of normal weathering and should not return.

**Remediation.**

Under no circumstances should a standard acidic brick cleaner be used as this may "fix" the stain and turn it brown in colour.

Once the structure is watertight, if removal of the stain is required manually, minor occurrences may be treatable by brushing on household bleach in concentrated form, when the stain is bleached apply a washing soda solution (12g/litre) and leave on the wall.

Alternatively for more persistent stains, brush on an oxalic acid solution (100g/litre) and, when the stain is bleached apply a washing soda solution (12g/litre) and leave on the wall.

'Vanatrol' is a product that is effective in removing both vanadium and cement stains without turning dark and fixing it. Ask an Ibstock Advisor for details.

Testing on an inconspicuous area is advised and all health and safety guidelines from the cleaning solution manufacturer should be strictly followed.

It is important to stress that the hardening of the mortar joints and the protection offered within a completed building will eliminate any repetition of the problem.

TIS B15- Minimising the risk of efflorescence and vanadium may also be of assistance.

For further information or advice regarding this topic please contact Ibstock's Design & Technical Helpline on **0844 800 4576** or email technical@ibstock.co.uk

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