



NB: When applying this information, Masons should consider any matter to which the information relates according to the circumstances of their particular case. What is Mortar Colour Variation: this is a term being used by the industry to describe mortar joints that have lighter or darker mortar area(s). This may give the joint anything from a mottled/spotchy finish through to entire sections where mortar joints have dried at a different colour.

What causes Mortar Colour Variation?

Mortar essentially is a mixture of sand, cement, admixtures and water. A hydration process occurs between the cement and water which causes the cement to harden and bind with the sand and cause the mortar to 'set'. Any additional water at this stage can alter the cement/water ratio and hence the colour of the mortar. This can give the affected parts of the mortar joint a lighter colouring. Efflorescence is a by-product of this process and can also be mistaken as mortar fading.

How do I prevent Mortar Colour Variation?

The key is in controlling the exposure of mortar to any additional water until it has set. This includes but is not limited to:

- Considering humidity levels when laying. If possible, plan work so that the area you are working on has the best conditions (i.e. aim to lay in the afternoon the areas of the build that will get the afternoon sun).
- Ensuring masonry units are not carrying any additional water by protecting the units from exposure to the elements. This includes storing them off the ground and covering them at night or if it is raining. New pallets should be opened for a period before laying to allow condensation to evaporate. While extremely dry (concrete or clay) bricks may require dampening to inhibit the bricks "sucking" the water out of the mortar, additional water needs to be controlled by the bricklayer. Bricks that have been wet due to uncontrolled exposure should not be laid until they are sufficiently dried.
- Ensuring the sand and cement ratios are consistent. This is easier achieved if using bagged mortar. If batch mixing, ensure that you are using a consistent measuring device for the sand and cement (i.e. use buckets not shovels). Take care to also ensure that water qualities are consistent.
- Covering any unfinished work when you stop for the day or any extended period.
- Checking that the mortar joint is 'thumbprint' hard before tooling. Tooling at this stage seals the joint and protects it from water and the weather.
- Ensuring that jointers being used are made of a consistent material (i.e. steel, ceramic or plastic coated). Steel jointers as an example can cause mortar to dry darker than plastic coated (also known as the 'burn effect').
- Avoid over-tooling (aggressive or elongated).
- Avoid retempering coloured mortar, especially dark colours.
- When the work is complete, ensure that it is covered for at least 6-8 hours for the mortar joints to harden and completely seal.

It is possible for a mason to have ensured that everything on a build is managed sufficiently to avoid mortar colour variation but have factors such as unexpected weather conditions or simply that part of the build has areas which are more sheltered than others. As brick masonry is a natural product and can be subject to variations, where Mortar Colour Variation occurs despite the practices listed in this advisory being observed, then it is not considered a workmanship defect.

Further information: Masons may want to consider using admixtures such as a calcium chloride based accelerator to speed up the rehydration process when time and/or drying conditions are not ideal or consider ceasing laying earlier in the day. The Master Brick & Blocklayers recommends that building practitioners keep records and photos to prove adherence to these practices. Masons should consult the brick supplier prior to attempting to correct Mortar Colour Variation as some products, such as hydrochloric acid, may affect the surrounding brick unit.