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## Keeping Color to its best when using Lime Mortar

Mixing colored mortar thoroughly and consistently, while avoiding the act of re-tempering, is an essential part to obtaining a target color. No matter if the mortar is composed of Portland cement or Natural Hydraulic lime, keeping a consistent ratio of water to cementitious material is critical to color accuracy. As water content is increased in a colored mortar, the color of the cured mortar begins to brighten or washout. If mortar is initially mixed with the correct amount water and then later re-tempered, the color will be affected in the same fashion as mixing with high initial water content.

Lighter shades of the same mix can occur as the water content increases and the pigment must be dispersed over a larger volume of material, resulting in color washout.

Climate can also have an effect on the final color of mortar. Protection from drying wind, freezing, heavy rain, and strong sun will help insure color accuracy during the curing period. Humidity is a factor as well. Units laid or repointed with colored mortar mixed properly but held in an environment of 100% relative humidity can cure a different color than that of work preformed in 10% relative humidity.

Strong sun can increase the Initial Rate of Absorption, (IRA), in masonry units. IRA is the condition when a masonry unit soaks up moisture from a mortar. If masonry units with a high IRA are laid without dampening to control its suction then a flash set may occur creating not only discolored mortar but also a weak bond between the units. Respectively, if units are over-saturated and work is performed with any standing water then the dampening can change the final cured color of the mortar as well. It is important that the procedures remain consistent when pre-dampening masonry units to control the IRA for every unique application. Consistency will help eliminate varying hues of color.

Thoroughly mixing pre-blended mortars dry for five minutes will allow pigment particles to disperse properly. Adding the correct amount of mixing water only after dry blending will help eliminate color inconsistencies from batch to batch. Thoroughly mixing the pre-blended material wet for an additional five minutes will further disperse pigment particles.

If a color mockup sample is produced, make sure mixing procedures are documented and archived in a written record to accurately produce finished work at a later date.

Any field mixture of various shades of colored Ecologic<sup>TM</sup> Mortars, Lithomex, Lime Paints or colored repair mortar material may also not result in exact colors between batches due to uneven manufacturing packaging weights, the variation of hues between batches or the effect of weathering over time and the continued or the "re-work" that may occur at a later date outside the time of original installation.