

COLOR RUB-OFF

Latex paints are a composite of pigments and vehicle. Within the vehicle exists the resin, or "binder", which holds all the components together, water that acts as a carrier, and additives that perform a number of functions. Within the additives can be found thickeners that regulate viscosity, surfactants that assist with flow and leveling, co-solvents that help with film formation, and biocides used as preservatives and mildewcides. Additives, especially surfactants, have some water solubility.

Colorants which are used in our stores to tint paint are actually pre-dispersed versions of paint without the binder. In general they contain a high level of surfactants which aid in their incorporation of both water and solvent based paints.

Color rub-off is a phenomenon known to paint technicians as "crocking". Crocking is defined in the Paints/Coatings Dictionary as:

(1) Removal of color on abrasion or rubbing; (2) Staining of a white cloth by rubbing lightly over a colored surface.

Color rub-off may be observed in both the dry and dampened state. Consumer problems with color rub-off are rare and almost always occur under surface-dampened Conditions.

Our laboratory has done work to address the problem of color rub-off. We have come to some conclusions. Most commercial tinted paints we have observed exhibit some degree of rub-off. Some have very slight rub-off and some are much more severe. Length of dry time is a factor as well in the problem. Paints are more sensitive early after application. In general, sheen and gloss paints are less prone to color rub-off. Acrylic paints are generally superior to vinyl paints. The most significant contributor to color rub-off is the colorant level; the more colorant (darker colors) the more water solubles present.

It is also noted that water alone is less aggressive an agent on tinted surfaces than are cleaning solutions. Some cleaners may contain solvents which may actually have a severe effect on paint films altogether.