

Wall Paint and Vinyl Graphics Technical Bulletin

In recent years, many of the leading wall paint manufacturers have been making changes to the chemistry of their paint in an effort to move in the direction of being "more green" (less fumes) or to add helpful features (like stain blockers). What seems all well and good in terms of paint advancements has created unexpected results with how vinyl graphics adhere to these surfaces. This document will address what is known at this time and what has proven to help on those types of painted surfaces.

Volatile Organic Compounds

To begin, volatile organic compounds (VOC) are carbon-containing substances that become vapors or gases. They're typically found in paints and coatings. Additionally, they are present in many other things abundant in your daily life like cleaning products, some beauty products, and the ever popular "new car" smell.

In terms of wall paint, conventional wall paints contain VOCs which assist with the quality of application and the drying process. However, these compounds can also cause respiratory and other health problems. This is why, as paint technology advances, more people are starting to choose products that are low-VOC or VOC-free. Furthermore, given the fact paint manufacturers carefully protect their paint formulations as a trade secret, vinyl film and adhesive manufacturers have had difficulty gaining an understanding and ability to produce products that will adhere to these "new" surfaces.



Solutions and Potential Work Arouns

The following are techniques and approaches for trying to successfully apply a vinyl graphic to a painted wall. Each situation is different (different paint brands, different wall textures, different vinyl graphics, etc) and the following information and methods are shared with the intent that the end user is learning from the methods and testing which technique(s) would work best for their situation.

Dry Time

First, most people don't know this but wall paint has a 3-4 week curing time. After a day it may feel dry to the touch, but it actually takes a few weeks for the paint to release most of its vapor or gases. If vinyl graphics are applied prematurely, the vapor or gasses become trapped under the graphic and will cause the adhesive to malfunction and/or fail. **It is recommended to allow the paint to cure for a minimum of 30 days.**

Paint Finish

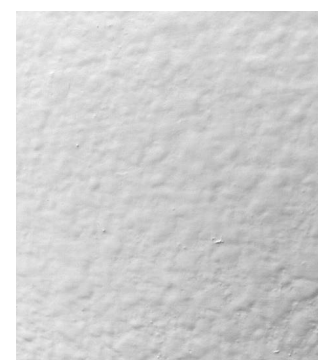
Adhesive graphics will have better adhesion to wall surfaces that have more "sheen". In terms of applying adhesive graphics to the wall, paint finishes like gloss or semi-gloss typically have better success and out perform matte finishes like flat, satin, and egg-shell.

Wall Texture

There are perhaps as many options for types of wall texture as there are colors of paint. In simplistic terms, the ideal wall finish would be smooth or have an orange-peel type, light "splatter" texture. The more extreme the texture, the less actual surface area the adhesive has to make contact. Keep in mind that the adhesive only adheres to the areas it can physically touch. Extreme peaks and valleys on "heavy" wall texture leave very few areas for the adhesive graphic to make proper contact.



Heavy Texture



Light "Splatter" Texture

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Surface Preparation 1 – Dry Wipe

Adhesive graphics could be described as a lint roller. If there is a light coating of dust on the wall surface, **the graphic will stick more to the dust** and less to the wall and might possibly fall off the wall because of this. Which is why it is important to wipe the wall surface with a clean dry cloth. It's one of the simplest and easiest things that can be done to help ensure a good adhesive bond.

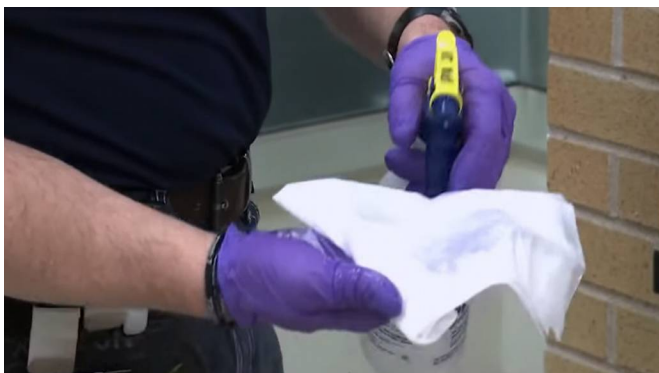
Surface Preparation 2 – Damp Wipe

Select a clean fabric cloth (preferably a microfiber cloth) and lightly dampen with water (barely damp). Using overlapping strokes, wipe wall surface and allow wall to dry (5-10 minutes).

Surface Preparation 3 – Wash

If graphics are having issues even after following Surface Preparation #1 and #2, the wall may need additional preparation. Utilizing a “wash” method can change the paint surface properties so the vinyl adhesives will adhere better. This is done using an alcohol wash made of denatured alcohol. If denatured alcohol is not available, you can mix 70% isopropyl alcohol (rubbing alcohol) and 30% water. You will need a roll of a good quality paper towel as well as vinyl or nitril gloves to protect your hands. **Use caution and test in an inconspicuous area as the wash may change the sheen or appearance of the paint.**

It's easiest to apply the alcohol wash using a spray bottle (do not spray directly on the wall). While holding 2-3 layers of paper towel in your hand, spray the alcohol on the paper towel until it is almost saturated.



Gently wipe the wall surface (not scrubbing) wiping thoroughly up and down (top to bottom) and then again, side to side (left to right). For larger area, frequently change paper towels to avoid spreading contaminants to other areas of the wall.



Allow the wash to "flash off" and dry for about 5 minutes. Then repeat, thoroughly washing the wall a second time using the same method. Allow to dry, usually about 5-10 minutes. It is common for some of the paint color to transfer to the paper towel.

Stronger Adhesive

When removable adhesives are failing to keep a vinyl graphic properly adhered to the painted surface, the solution could be changing to a stronger adhesive. Changing from a medium-tack removable to a high-tack removable adhesive could provide an improved result. And taking it a step further, changing from a removable adhesive to a high-tack permanent adhesive could also provide the desired result. **Be aware that high-tack permanent graphics will likely not remove easily and may damage paint or wall texture later when removed.** Even when using stronger adhesives, proper surface preparation is paramount to their success. See Surface Preparation 1.