

WALL GRAPHICS

Temporary and permanent application of graphics to interior wall surfaces is a growing market for pressure sensitive films. Be it individual team logos or entire wall murals, graphic applications are increasing in both commercial and residential markets. General Formulations Digital Print Media is ideally suited to meet specific wall graphic needs with a variety of products.

GENERAL FORMULATION DIGITAL WALL PRODUCTS

GF 226 and 229 are flexible vinyl based products designed for interior wall graphic applications.

GF 226 WallMark is a 6 mil matte white vinyl film. GF 229 WallMark Canvas has a matte textured surface that simulates a fabric appearance. These two products use a low tack removable pressure sensitive adhesive formulated with micro-bead technology. They are designed for ease of application and removability. General Formulations also offers two fabric based wall graphic media, GF 234 and 250. The products are both great for applications where a textile look is required or desired. GF 234 GraphiTex is seven mils in thickness with a pronounced fabric texture while GF 250 WallFrog is thinner at four mils and has a smoother surface texture. Both products have a low tack removable adhesive that provides excellent performance on smooth wall surfaces. GF 234 is well-suited for applications where ease of handling and opacity are important, where GF 250 is ideal for lighter colored walls and is more economical. GF 252 WallTux is an additional wall option which features a lower profile fabric texture, for those applications in which a more subdued pattern is preferred. GF also has products like our GF 290 ChalkMark, which is great for walls where a black chalkboard surface can be used in conjunction with Liquid Chalk Markers. Similar products are also available for screen or offset printing processes.

SURFACE REQUIREMENTS

General Formulations' interior wall graphic media requires a smooth painted surface for best performance. Clean, painted drywall offers the best application surface. The addition of texture or raised/decorative swirls will reduce surface contact therefore bond of the wall graphic. Wood or wood panels, while appearing smooth still have texture induced by the wood grain that could affect wall graphic adhesion and cause premature failure. Stucco, heavily textures, plaster, rough finished concrete or similar types of surfaces must be thoroughly tested before application of an interior wall graphic.

SURFACE PREPARATION

Most interior surfaces are painted before a wall graphic is applied. A typical surface finish would be eggshell, semi-gloss, flat or gloss of wall paint. Semi-gloss and satin paint finishes are preferred for wall graphic applications. Flat paint finishes traditionally are applied to living rooms and bedrooms. Flat paints typically have coarse pigments that impart a rough micro finish to the paint. This roughness can reduce adhesive bond and potentially induce premature wall graphic failure. We recommend customers test each wall graphic adhesive to determine how it bond to flat paints.

When encountering a previously painted wall, greater than six months old, a thorough cleaning of the surface is essential. A preferred wall cleaner is trisodium phosphate (TSP). This is a common cleaning agent recommend before repainting and available at most home centers and paint retailers. Clean thoroughly paying special attention to the areas at the ceiling and adjacent walls. These particular areas are prime for the accumulation of dirt and grime over time and will reduce wall graphic adhesion if not cleaned properly. Rinse all TSP residue and allow to dry completely before wall graphic application, minimum 24 hours, 48 hours in humid ambient conditions. A final rinse of the wall surface with isopropyl alcohol, (IPA)/ water mixture is also effective, (70% IPA/ 30% water). Allow to dry one hour before graphic application.

When the wall surface is a new construction or a fresh repaint, curing (outgassing) of the paint is critical for successful wall graphic application. With new drywall, primer, and two coats of a semi-gloss or satin finish paint is recommended. Follow the paint manufacturers' recommendation on minimum cure time of the paint as to when it can be washed as a guideline for wall graphic application. If no recommendation is given, a minimum of two weeks cure is recommended before wall graphic application. If you painted with a dark color using a medium or deep tint base these colors contain a high amount of surfactants that can slow paint cure, especially in humid ambient conditions. Please reference the directions on the product container for cleaning the surface. If there are not specific instructions to this affect, we recommend allowing a minimum of four weeks cure before wall graphic application. This same procedure should be followed when a fresh repaint is encountered.

TECHNICAL INFORMATION ON PAINT

Despite the fact that Low or Zero VOC paints can be adverse to wall graphic adhesion, General Formulations Product Development Laboratory has tested several Zero/Low VOC paints with success.

Our testing strictly followed the manufacturer's cure recommendations and most colors tested were light to medium in color depth.

Some of the tested Zero/Low VOC paints are:

- Dutch Boy Platinum
- Dutch Boy Refresh
- Dutch Boy Cabinet and Trim
- Dutch Boy DuraClean
- Behr Premium Plus w/NanoGuard®

One brand that consistently gave poor adhesive bond and edge delamination was:
Sherwin Williams Pro-Mar 400 Zero VOC.

New "easy to clean" and "no mar" paints are always being introduced into the retail market for residential use. General Formulations tests a variety of different paints, but it is an application specialist's duty to test for their specific paint choice. Some brands may work better than others, but all of them will have a surface active ingredient that does not allow dirt and debris to bond to the paint. These additives will adversely affect wall graphic media adhesive bond and must be tested thoroughly before application of a wall graphic. If the type of paint is unknown or condition of the wall is suspect because of roughness, test bond of the wall graphic media in an inconspicuous place. The bond will be satisfactory if after 72 hours there is no edge lift or delamination.

PRINTING

General Formulations' wall graphic media is certified for use with solvent, eco-solvent, UV curable and latex digital printers. General Formulations has profiles for select printers when printing GF 226, 229, 234 250, and 252. If your printer is not on the profile listing contact General Formulations Technical Service department for assistance. It is critical that the ink be cured properly before installation. Uncured ink can induce premature edge lift and delamination of the wall graphic. Issues can and will occur if the wrong profile is used and/or if too much ink is being laid down.

Screen and offset printing inks, especially UV curable, must be correctly cured for optimal wall graphic performance. It is important to know the ink manufacturers cure recommendations and test your process to make sure your inks are fully dry before application or installation. If using conventional offset inks, the wall graphics media most likely will have to be topcoated to provide complete ink drying/curing. Always test ink compatibility with the specific wall graphic media before production.

GRAPHIC APPLICATION

Application of the wall graphic to a clean, dry wall requires smooth consistent pressure so as not to stretch the graphic. Depending on size you can start in the middle with small decals and uniformly work the air between the graphic and wall surface to the edge. If the decal is large, level the top edge and remove the top six inches of liner. Squeegee the top strip to the wall smoothly. Pull down about 12 inches of liner and squeegee from the top strip down to the liner across the width of the decal moving the air to the edges. Keep working in steps about 12 inches until the total graphic is applied to the wall. If you see air bubbles in the application use the squeegee to move it to the nearest edge.

SUMMARY

Successful application of wall graphics is dependent on a variety of the factors mentioned above. General Formulations wall graphic media is formulated for optimal printing and the adhesives are formulated for optimal bonding to a wide variety of wall substrates. Proper wall preparation is needed to assure successful application. Correct ink drying or curing with an approved profile is critical to long term useful life of a wall graphic. Finally, application of the decal requires all the air to be removed between the graphic and wall without stretching the graphic. Following these preparation and application steps will result in a successful wall graphic application. If there are any question concerning your specific wall graphic application General Formulations' Technical Service Department can assist you.