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WRAPPING WALLS WITH LOW/ZERO-VOC PAINTS: A SURVIVAL GUIDE

You've Probably Heard This Warning Before: Do Not Wrap Walls Painted With Low/Zero VOC Paints.

But if that is the case, in this day and age, it will be impossible to do any kind of wall wraps. Low VOC or Zero VOC paints are widespread and is the majority of the paints used today, and we know the kinds of challenges they pose. In this article, we will explore what precautions to take and how to make sure your project will be a success.

LET'S START WITH THE BASICS: WHAT IS A LOW VOC OR ZERO VOC PAINT?

VOC stands for Volatile Organic Compounds. VOCs are chemicals (usually solvents) that evaporate into the air as paint dries. Traditional paints release a lot of VOCs which cause a strong paint odor and can lead to headaches, dizziness, eye irritation, or other long-term health issues.

What Makes Low-Voc Paint Different?

- ▶ Fewer toxic fumes during and after painting
- ▶ Better indoor air quality
- ▶ Safer for homes, schools, hospitals, and enclosed spaces
- ▶ More eco-friendly

How Low Is “Low”?

It depends on regulations, but typically:

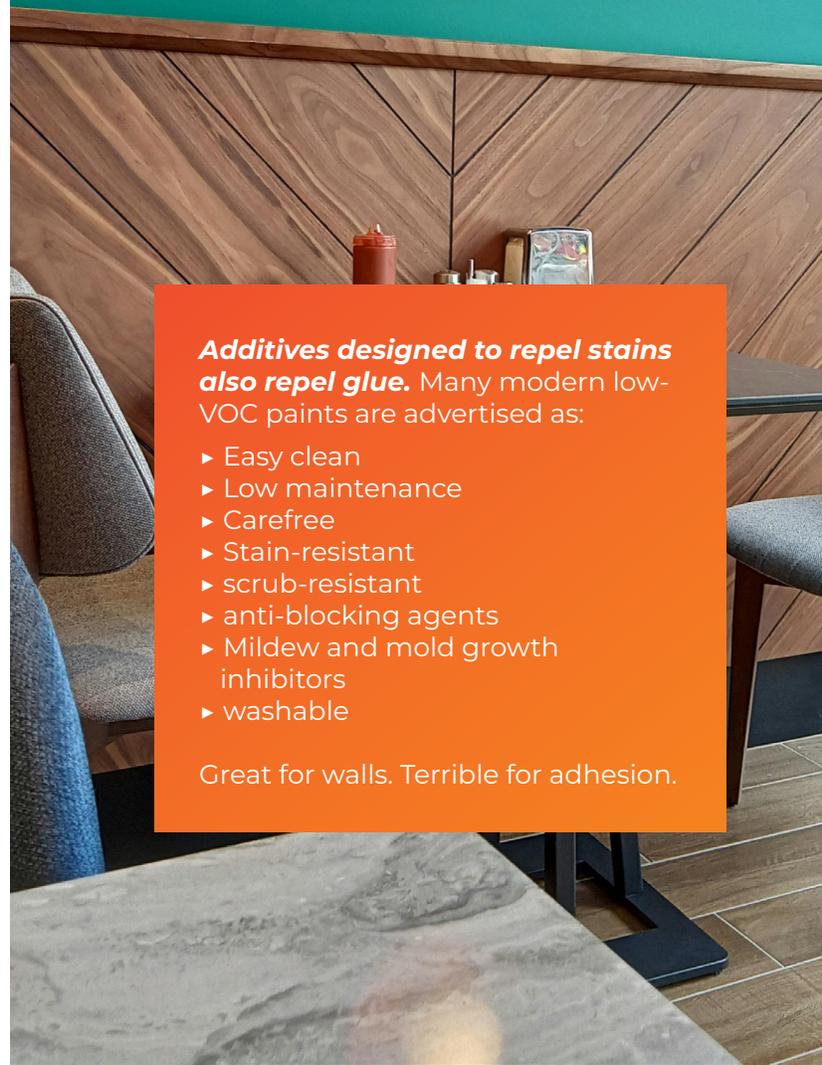
- ▶ Low-VOC: under ~50 g/L (grams per liter)
- ▶ Zero-VOC: under ~5 g/L (and may still have trace VOCs from pigments)

So, Why Low/Zero Voc Paints Can Be A Problem When Wrapping Walls?

Low/Zero VOC paints require longer drying times than regular VOC paints and will vary based on the environmental conditions such as ambient temperature, relative humidity, and air flow. Adhesives need a stable and fully cured surface to bond properly.

As the paint dries, certain gases are released. If a graphic is applied before the paint is allowed to fully cure, these gases will be trapped under the graphic and will cause lifting, bubbles and premature failure.

To replace solvents, low-VOC paints use more surfactants (soap-like additives that help pigments spread). These can rise to the surface as the paint cures, creating a microscopic slick layer that repels adhesive, similar to trying to stick tape to soap residue.



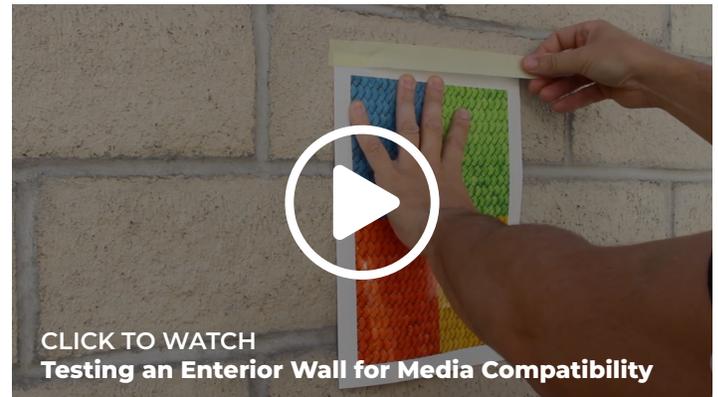
Additives designed to repel stains also repel glue. Many modern low-VOC paints are advertised as:

- ▶ Easy clean
- ▶ Low maintenance
- ▶ Carefree
- ▶ Stain-resistant
- ▶ scrub-resistant
- ▶ anti-blocking agents
- ▶ Mildew and mold growth inhibitors
- ▶ washable

Great for walls. Terrible for adhesion.

HOW DO WE KNOW THE VINYL WILL ADHERE PROPERLY?

Unfortunately, we don't, and that's why the first step when dealing with Low/Zero VOC or any paint is to perform a Wall Compatibility Test.



Wall Graphic Compatibility Checklist

1. To determine the most suitable products for your wall graphics project, fill out [this Architectural Site Survey Online Form](#). An Arlon representative will contact you with a product recommendation based on the contact information provided in the form. Some variables might also counteract each other and may require renegotiation with the end-user to set proper expectations.
2. Print a test image using the printer for the actual job. Print at least a 2' x 2' size image with the same ink saturation as the real job. You should print samples of each possible media, and is available upon request via your local distributor or an Arlon Sales Representative.
3. For solvent prints, allow the prints to outgas overnight prior to lamination or application. Apply an overlaminate if the project requires it.
4. The surface must be completely clean, in good condition, smooth, and dry before final preparation.
5. Apply the vinyl and label each sample clearly and take a photo for visual reference.
6. After dwelling at least overnight or 24 hours, observe for bubbling, edge lifting, curling, or loss of texture conformability. Any sign of edge curl or lifting indicates the product is not compatible.
7. For each sample that passes visual inspection, cut 3" of the print and peel it off the wall. If the sample takes effort to remove, the vinyl and surface are compatible.

What Should I Do If None Of The Samples Adhere Properly?

If we see paint rejection on all samples, it is highly likely that no film will be able to achieve proper adhesion to the wall. The best option is to recoat the wall with a primer. But if the wall paint is fixed and cannot be recoated, make sure to discuss with the customer the possible risks of poor adhesion due to the paint not being receptive to adhesives.

Tips to help improve the adhesion on Low/Zero VOC paint include:

1. Spray isopropyl alcohol ($\geq 70\%$ alcohol) onto a microfiber towel and wipe the application area: top, bottom, all edges including the inside and outside wall corners.
2. Flip onto an unused side of the towel often to avoid simply smudging or transferring any contaminants on the wall. Some paint may also migrate to the towel and change the sheen/gloss of the cleaned section of the wall.
3. Instead of letting the alcohol dry by evaporation, immediately follow with a second towel to wipe off the remaining alcohol. This will also minimize swelling of the paint as it absorbs the alcohol.
4. **Adhesive promoters** can be used along the edges to further increase the adhesion.
5. Heat all the film's edges and overlaps (90°F -120°F) with a heat gun and reapply pressure using an **application roller (i.e. RollePro)**, buffered squeegee, or glove.

WHAT OTHER VARIABLES SHOULD I CONSIDER FOR WALL WRAPS?

- ▶ Save or bookmark the [Architectural Site Survey Online Form](#).
- ▶ To ensure that the adhesive properly wets out and achieves the designated amount of surface contact, the application surface must be dry.
- ▶ Use an **electronic moisture meter** to ensure that the wall is dry. Arlon recommends a maximum of 15% moisture level to ensure good adhesion.



- ▶ Applying on surfaces with any moisture trapped beneath the graphics are not recommended because the graphics will fail prematurely. Moisture on the application substrate usually results from:
 - Inadequate drying after cleaning
 - Relative humidity above 60%
 - Condensation at temperatures below 40°F (4°C)
 - Proximity to windows, exterior doors, or bathrooms
- ▶ Graphics within hands reach along the outside corners and high traffic areas are susceptible to damage and abrasion. Consider trimming back the graphics by 1/8 or 1/4-inch.
- ▶ Clear or white painter's caulk can be used to secure the top and bottom edges of the graphic. Finish with a **caulk smoothing tool**.

We hope you find this article helpful, but if you still have questions, you can **visit [wrapitright.com](https://www.wrapitright.com) to schedule a FREE one-on-one video call** with Arlon's Tech Solutions team or **email us at techservice@arlon.com** where we can answer all your questions and ensure that you're setup for success.