

Practical Information Processing & Handling ORAJET® Wall Graphic Applications

Introduction & Important Information

ORAFOL® films, ORAJET® Digital Printing Films for application to interior latex painted walls (hereinafter also referred to as “ORAFOL® film”) are self-adhesive film products manufactured by ORAFOL Europe GmbH & ORAFOL Americas, Inc. (hereinafter also referred to as “ORAFOL”) for general interior wall graphic and wall wrap applications.

The information in this document is designed to provide a general understanding of wall graphic applications. ORAFOL will warrant its material to be free of manufacturing defects. However, ORAFOL cannot definitively determine compatibility of its products when applied to latex painted wall surfaces, due to so many variances in paint and wall types. The information in this document is designed to assist the material specifier and application specialist with a basic understanding of how to appropriately test for compatibility between the wall graphic and the painted wall to determine viability.

For the best possible outcome and for expert assistance ahead of any wall graphic project, contact our experienced Product Technical Support Team, Toll Free, 888-672-2251 x 168, 176, or 150

Application and removal of ORAFOL® films should be carried out exclusively by qualified graphic application specialists (i.e. trained and experienced ORAFOL Certified Installers.)

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Important Information /// Paint Formulation and Technology Changes

Over the past several years the paint industry has made significant changes to paint formulations in an effort to make less of an impact on our environment. Additionally, paint formulations are now more durable, and have additives designed to repel dirt and moisture. Consequently, this shift has made it more challenging to achieve a successful graphic installation to these new paint formulations.

Pay special attention to paint coatings that are listed as having the following attributes:

- Zero-VOC
- “Washable”
- “Scrubbable”
- “Stain Blocking”



ORAFOL Americas – GA
1100 Oracal Parkway
Black Creek, GA 31308
Phone: 888.672.2251

ORAFOL Americas – CT
120 Darling Drive
Avon, CT 06001
Phone: 800.654.7570

ORAFOL Canada
2831 Bristol Circle
Oakville, Ontario L6H 6X5
Phone: 888.727.3374

techsupport-americas@orafol.com – www.orafol.com

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These types of paint coatings may present adhesion challenges between the wall graphic and the paint coating.

ORAJET® Adhesive Type Definitions

Definition of Removable, Permanent, & High-Tack Permanent Adhesive Performance

Removable Adhesive:

- Should remove cleanly within 2-3 years
- After 2-3 years, becomes more permanent with reduction in removal properties
- Minimal damage to paint should occur during removal if wall was properly painted, with most damage occurring over patched or repaired areas

Permanent Adhesive:

- Stronger anchoring power than removable adhesive when applied to standard Zero VOC paint
- May cause damage to the wall upon removal
- Limited adhesion to hard-to-stick Washable paint

High-Tack Permanent Adhesive:

- High initial tack
- Anchors extremely well to hard-to-stick “Washable Scrubbable” paint coatings
- May cause damage to the wall upon removal

Pre-Installation Wall Inspection & Conditions Check List

When inspecting a painted wall to determine if it's adequate to receive a wall graphic, it is important to understand that not all surfaces are suitable for vinyl film application. Wall graphics can only successfully be applied to surfaces that are clean, dry, and non-porous. Additionally, any of the following conditions may cause poor adhesion or product failure:

- Hard-to-Stick Zero-VOC, “Washable”, “Scrubbable”, or “Stain Blocking” paint coatings. Wall graphics tend to lift and release from the wall when applied to these paint types. *Please reference the ORAFOL Wall Graphic Compatibility Guide below for compatibility recommendations*
- Aged, flaking, or poorly maintained paint
- Poor paint to substrate bond
- Poorly painted wall perimeter, corners, and edges with too thin of a painted top coat
- Patched areas that have not been properly primed and painted
- Portions of walls that are near heating and air conditioning vents or registers blowing air directly at graphic edges
- Moisture behind the drywall, which can cause the drywall paper to release. Watch for walls that back up to cooling systems, water pipes, overhead windows and windows that have been boarded up. These areas are prone to condensation that may not be obvious at the time of installation.
- High humidity areas such as garages, entryways, aquatic centers, locker-rooms, bathrooms, etc.
- Dust, dirt or other contaminants on the wall
- Wallpaper or other wall coverings that are not securely bonded to the wall



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Black Creek, GA 31308
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ORAFOL Americas – CT
120 Darling Drive
Avon, CT 06001
Phone: 800.654.7570

ORAFOL Canada
2831 Bristol Circle
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- Cuts made to the graphic during the installation process that penetrate both film, paint, and wall substrate
- Freshly primed or painted walls that have not had ample time to cure. Wall graphics tend to bubble and release from the wall while paint is in the curing process.

Application to Newly Primed & Painted Walls

If the wall is to be newly painted, the goal is to achieve a good bond between the substrate and the primer/paint. When applying the primer, it is important to use a high quality primer such as those available from Kilz® or Zinsser®. Once the primer is dry, apply two coats of high quality commercial grade LOW VOC Eggshell, Satin, or Semi-Gloss paint; (i.e. Sherwin-Williams® SuperPaint, ProMar 200, or ProMar 400) to ensure a cohesive bond between the paint and primer. For best results, avoid applying graphics to heavily tinted paints which have more than 1oz of tint per single gallon of paint. The surfactants and colorants that make up darker paint colors tend to require longer cure times. When applying the paint to the wall surface, use a 3/8" nap roller cover to reduce stippling or otherwise known as "orange peel". **Freshly applied paint should cure for approximately 3-6 weeks prior to applying a wall graphic. Cure times may vary depending on temperature and humidity conditions.** Once the paint has had ample time to dry and cure, perform an adhesive acclimation test with your preferred ORAFOL® films to ensure the paint has cured and is compatible with the ORAFOL® film. *Refer to Surface Preparation & Testing Recommendations section for compatibility testing recommendations.*

Application to Primer Only

If it is determined that the wall is currently painted with a latex paint coating, containing "Washable", "Scrubable", or "Stain Blocking" technologies, it is acceptable to have a paint coatings professional coat the wall with a high quality primer such as those available from Kilz® or Zinsser®. Once the primer has had ample time to dry for a minimum of 4 days, perform an adhesive acclimation test with your preferred ORAFOL® films to ensure the primer coat has cured and is compatible with the ORAFOL® film. **Please note that graphics applied directly to primer may become extremely permanent and offer little to no expectation of clean removability at the end of the graphic's service life. Disclose to the client that they should expect damage to the primer and wall substrate upon removal.** *Refer to Surface Preparation & Testing Recommendations section for compatibility testing recommendations.*

Surface Preparation & Material Recommendations

If the paint has had ample time to cure, it's important to clean the surface before performing adhesion testing or applying finished graphics to the wall.

Discuss the following and attain written consent from the customer stating that it's ok to proceed, prior to performing any of the following actions:

- Paint damage to the wall may occur during surface preparation and adhesive testing.
- There is no way to understand how well the paint is bonded to the wall surface.
- Cleaning procedures to be performed:



ORAFOL Americas – GA
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ORAFOL Canada
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- Wipe down the wall surface with a moist rag to remove dust or other contaminants that may prevent the film from adhering properly.
- If the wall is contaminated it may need to be wiped down with a mixture ratio of 50% water and 50% Isopropyl Alcohol.
 - When wiping down the wall, color or pigment may be pulled from the paint and appear on the rag, and cause some inconsistency in the paint color.
- Allow 15 minutes for the wall surface to air dry, then wipe once more with a dry micro-fiber rag before applying graphic test swatches.

Testing Recommendations

Adhesion to Painted Walls

- Do not produce or apply any finished graphics without first performing adhesion testing to each wall surface that will receive a graphic.
- Determine the best product to use by testing 3-4 different graphic products on each wall.
 - For materials that you may not have in stock, 8" x 10" or 5" x 7" swatches of the test materials can be requested through an Authorized ORAFOL Distributor or an ORAFOL Regional Sales Manager.
- Review the list of materials in the following **ORAFOL Wall Graphic Compatibility Guide** below for compatibility recommendations.
 - **Removable adhesive graphic products are designed to remove cleanly from most clean, sealed, non-porous surfaces to which the graphic is applied, however, it's not guaranteed that the graphic will remove cleanly from a latex painted wall surface without some damage occurring. Removable adhesive products have a delayed acclimation period and become more permanent over time. These products are ideal for temporary wall graphics and murals where removal will be necessary within 2-3 years.**

Adhesive Testing Procedures

- Based on customer requirements, determine which material to use for the project.
- With a squeegee, apply test swatches of each test material to each wall that will receive a graphic.
- Let the labeled test swatches setup on the wall for 30 minutes. (For best and most accurate results 24 hours)
 - Visually inspect the test swatches for signs of bubbling, lifting, or curling.
 - Any films showing these signs should be disqualified.
 - Take photos of labeled swatches applied to wall for your files.
- For those test swatches that appear to be adequately adhered to the wall, slowly peel away the test swatch from the painted wall surface.
 - You should feel a healthy amount of adhesive peel strength or resistance when peeling the test swatch from the wall.
 - If you hear a high-pitched crackly sound during the removal, you may be dealing with a hard-to-stick "washable scrubbable" paint coating.



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ORAFOL Americas – CT
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Avon, CT 06001
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ORAFOL Canada
2831 Bristol Circle
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- Discuss this with the client and receive written approval to proceed in testing high-tack permanent adhesive products on the wall. Or recommend priming and repainting the wall surface. Then repeat above steps.
 - If the wall is determined to have been painted with a hard-to-stick “washable scrubbable” paint coating, the application specialist may consider wiping the wall down with a clean rag, soaked in Isopropyl Alcohol to alter the surface energy of the paint coating, and improve the ORAFOL film’s adhesive to paint coating performance.
 - This is not guaranteed to work, and should be discussed with the client verbally and in writing as paint discoloration may occur with this method of cleaning.
- Once you’ve qualified the appropriate material that provides appropriate adhesion, move forward with wall graphic production.

ORAFOL Wall Graphic Film Compatibility Guide

Suggested ORAJET Material	Paint Type	Adhesive Performance	
ORAJET 3621	(Zero VOC) Sherwin-Williams® ProMar 400	*Removable	Compatible
ORAJET 3691	(Zero VOC) Sherwin-Williams® ProMar 400 / ProMar 200 / SuperPaint		
ORAJET 3169RA			
ORAJET 3640 / 3641	(Zero VOC) Sherwin-Williams® ProMar 400	*Permanent	Compatible
ORAJET 3165 / 3165RA	(Zero VOC) Sherwin-Williams® ProMar 400 / ProMar 200 / SuperPaint		
ORAJET 3651 / 3651RA			
ORAJET 3551 / 3551RA			
ORAJET 3105HT	(Washable Scrubbable) Sherwin-Williams® Duration / Emerald	*High-Tack Permanent	Compatible
ORAJET 3954			

For more information on these products and to determine recommended ORAGUARD over-laminates, please visit www.ORAFOL.com or contact an ORAFOL Product Support Representative via email or phone: techsupport-americas@orafol.com | Toll Free, 888-672-2251 x 168,176, or 150



ORAFOL Americas – GA
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Black Creek, GA 31308
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ORAFOL Americas – CT
120 Darling Drive
Avon, CT 06001
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ORAFOL Canada
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Printing & Laminating

There are three critical steps that need to be followed when producing your wall graphics.

1. Use the correct color profiles. Check for the latest updates at:
<https://www.orafol.com/en/americas/support> /// ICC Profiles
 - a. The profile will automatically synchronize the ink levels, heater settings, and feed speed necessary to help ensure quality printing.
2. When utilizing solvent or eco-solvent inks: Prior to trimming or laminating, it is important that the graphic sit for 48-72 hours, to allow the ink to thoroughly out-gas. Prints heavy in ink saturation need to cure and out-gas for approximately 72 hours. This is crucial to ensure your wall graphics do not start curling around the edges.
 - a. Keep in mind that due to widely varying production shop environments, curing times may vary.
3. For best results on contour-cut wall graphics, leave a ½” -1” unprinted, white border all the way around the printed area to minimize potential edge curling that typically occurs when contour cutting through a printed bleed.

When choosing a laminate, it's important to know what the lighting conditions are in the room. If there is an abundance of artificial or natural light, you may choose a matte or semi-gloss laminate to reduce light reflection or glare. Review product technical data sheets at www.ORAFOL.com to assist in choosing the correct over-laminate for the specific ORAJET Digital Printing Media.

Installation

When installing your graphic, always apply the material using a dry application method; under no circumstances should a wet application be used. Also be careful when using a heat source during installation as this can cause the material to warp and not register during panel installations.

Lay the graphic, image-side down, on a flat surface and pull back the liner about 6-12 inches. Sharply crease the liner while holding it away from the adhesive. Align the graphic on the wall and use finger pressure to tack in place.

Using a Squeegee, work from the center to the edge, then return to the center and work to the opposite edge. Use overlapping strokes while applying a small portion of the graphic at a time.

If your graphic is made up of more than one panel, avoid using horizontal seams when possible. When the entire graphic has been applied to the wall, reapply pressure with the Squeegee around the edges of the graphic multiple times to ensure a good bond. Post heating the graphic edges is recommended between 100 °F - 150°F

If the graphic will come into contact with regular cleanings, such as mopping, soil removal, etc., graphics should be sealed in those areas. This is especially important where the graphic is terminated at the floor. Use of a clear silicone sealant along the edges of the graphic is recommended.



Troubleshooting

If the graphic is experiencing edge curling, consider one of the following troubleshooting options:

- **Preferred:**
 - Reproduce and replace the graphics utilizing testing and production recommendations identified throughout this document.
- **Quick Fix A:**
 - Peel back the graphic edge; apply a 1" wide strip of ORABOND 1375, 1395, or 1397PP double-sided adhesive tape along the perimeter of the graphic.
 - Re-apply the graphic to the painted wall surface, applying firm pressure with a felt squeegee.
 - Note: This will not work, if being applied to a freshly painted wall surface.
- **Quick Fix B:**
 - Edge-seal the graphic with 1" wide strips of the over-laminate that was used to over-laminate the graphic with.
 - .5" of the 1" wide strip will be applied over the edge of the graphic.
 - .5" of the 1" wide strip will be applied directly to the wall surface.
 - Apply pressure over the edge seal with a felt squeegee.
 - Apply additional pressure with a rivet brush to burnish the film to the stippled texture of the wall.
 - Note: This will not work, if being applied to a freshly painted wall surface.

Care & Maintenance

In order to maintain your wall graphic's original appearance for the warranted durability period, it is important to adhere to the following guidelines:

- When cleaning the graphic, only use a mild detergent-and-water solution.
- If the graphic will need to be cleaned frequently, lamination is required to maintain print integrity.
- Clean graphics beginning at the top and work down toward the bottom.
- Use lint-free cloth rags or sponges for cleaning.
 - DO NOT use scrubbing pads or scouring sponges.
- To remove difficult items such as lipstick or crayon, choose a citrus-based cleaner to remove the stain, then immediately rinse with a mild detergent-and-water solution. (not recommended for un-laminated graphics)
- If your wall graphic has seams, be sure that you DO NOT wipe cleaning solution into the seam. This could cause the edges to lift and curl up from the wall.
- Use a lint-free micro-fiber cloth to dry after cleaning.
- Inspect graphic regularly.

For questions not covered in this bulletin, please contact an ORAFOL Product Support Representative via email or phone: techsupport-americas@orafol.com | Toll Free, 888-672-2251 x 168, 176, or 150



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Black Creek, GA 31308
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ORAFOL Americas – CT
120 Darling Drive
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Note

Surfaces to which the material will be applied must be thoroughly cleaned from dust, grease or any contamination which could affect the adhesion of the material. Freshly lacquered or painted surfaces should be completely cured. The compatibility of selected lacquers and paints should be tested by the user, prior to application of the material. Films with structured surface are naturally more sensitive than the unstructured. Accordingly, these films are to be treated carefully both in processing and in cleaning. Impurities affect the appearance of structured films and require more frequent cleaning. Furthermore the application information published by ORAFOL is to be considered. The batch traceability according to ISO 9001 is possible on the basis of the roll number.

IMPORTANT NOTICE

All ORAJET® products are subject to careful quality control throughout the manufacturing process and are warranted to be of merchantable quality and free from manufacturing defects. Published information concerning ORAJET® products is based upon research which the Company believes to be reliable although such information does not constitute a warranty. Because of the variety of uses of ORAJET® products and the continuing development of new applications, the purchaser should carefully consider the suitability and performance of the product for each intended use, and the purchaser shall assume all risks regarding such use.

All specifications are subject to change without prior notice.

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



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Black Creek, GA 31308
Phone: 888.672.2251

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