

LG Hausys sign & graphic materials

Product Warranty and Installation Bulletin for LD3880, Calendered Print Vinyl for Solvent Inkjet Printing.

Product Description

LD3880 is a 3.2 mil calendered print vinyl supplied with ultra high tack pressure sensitive adhesive. It's designed for solvent-based inkjet printing and guarantees up to 1-years of outdoor durability. The product product is designed to meet application of rough surface like concrete, marble etc..

Physical Properties

Outdoor Durability	Up to 1 years with proper printing, lamination, and application	
Application Surface	Rough surfaces like concrete, block, marble etc.	
Tensile Strength	≥ 1.8kg/ cm ²	ASTM 882
Elongation	≥ 100%	ASTM 882
Peel Adhesion	A type ≥ 3000g/in	180 Peeling PSTC-1
Opacity	Tt ≤ 10	Haze Meter (Tt: Transmission)
Gloss	60 ↑	@ 60°, in machine direction
Shelf Life	1 year	Free from excessive moisture, direct sunlight

Printing, Drying and Laminate

Use solvent-based printing for optimal print quality. Recommended printer settings and ICC profiles are available for download at www.lghausys.com. After printing, allow the ink to properly dry at least 24 hours to 48 hours before laminating, cutting, or applying the graphic. Digital image with Saturated color (like Black, Brown etc) need to have enough time to drying before laminating.

In this case, Full drying is needed for solvents in the ink have a chance to evaporate. This process is absolutely needed which can prevent shrinkage & tunneling problems after application. Laminate with LG Hausys laminating film to prevent vinyl and/or print damage from scratches, smoke, fumes, etc.

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Expected Performance Life

Application Surface	Surface Texture	Warranty
Unpainted Concrete	Smooth(fine sand grain)	1 Year
	Rough	3~6 Month
Unpainted Cement	Smooth(fine sand grain)	1 Year
	Rough	3~6 Month
Tile	Smooth	1 Year
	Patterned tile	6 Month
Painted Surface	Smooth	1 Year
	Rough	6 Month
Marble	Smooth	1 Year
	Rough	6 Month
Metal Surface	Smooth	1 Year

* Legend

- 1) Smooth: Flat and smooth surface allowing the entire surface to be in contact with film.
- 2) Rough: Uneven and corrugated surface or embossed surface which keeps parts of the surface from being in contact with film. Requires extra attention to lay down the film to the surface. The deepest crevices in the surface must be less than 1/8" deep for the film to work properly.

The Performance Life is influenced by

- Installation technique : Improper installation techniques may cause edge curling, lifting & poor adhesion.
- Adhesion for outdoor graphics : The film is not to be durable in outdoor application if it is easily removed from the applied surface.(Customer must check the adhesion level before applying the graphics)
- Outdoor Graphics exposed to water from rain. Water can be trapped behind graphics applied outdoors, Leading to lifting of images
- The deepest crevices in the surface must be less than 1/8" deep for the film to be worked properly.
- Freezing & thawing cycles : If the graphic is applied to the outdoor walls (which mean it is exposed To outdoor cycles of freezing & thawing), Moisture can be trapped between the wall and the graphics which result in graphics lifting as well as in spalling both within the wall and on the outdoor facing wall

In conclusion, The Performance Life Generally accords with the table above. But Installation environment, Differnet Applied surfaces, Severe Freezing & thawing cycles could shorten the warranty period of product.

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Application Guide

① Before application, carefully consider the surface area to determine whether the Ultra Tack adhesive is adequate for application. One needs to consider the initial tack required, possible damage to application surface upon removal of the film, and the duration of application. Unsound substrate, paint surface and textured wall paper may be damaged upon graphic removal.

Always test the film on the target surface for adhesion and adhesive transfer before undertaking a job. If the film is to be exposed to snow or rain, make sure that the edges are sealed as the adhesion / bond may weaken. If applying to a painted surface, the paint must be steady on the surface (not peel off when scratched).

② Application surface must be cleaned one day prior to application and wiped for dust once more just before application. In case of rough surfaces, the crevices must also be cleaned out, then vacuumed clean. The surface must be completely dried before application.

③ Apply the film using a felt-tip squeegee or linen. When applying to a rough surface, also use a roller and a heat gun, applying at a steady speed of 2" per second. Eliminate any bubbles that may form during application.

Removing Guide

① Permanent adhesive is not designed to be removed. It can be removed, but with great difficulty. Also, It can damage to the substrate. Even though it is removed, it may leave more than 50% adhesive residue. Some substrates are not allowed to have graphic removed.(unpainted wallboard, some flexible materials, special coating product such as anti-reflection and scratch resistance) In that case, film removal may damage substrate. IF application surface is concrete which is not thoroughly cleaned or has defects(like cracks or crevices), the dust or sand which remains application surface can be detached from the surface when removing the film.

② Film becomes brittle in cold weather(Under 10°C). Brittleness causes the flim to break into small pieces during removal. Always keep the Removing temperature above 10°C. Generally, the higher temperature makes the job more easier.

③ Graphics that are applied to newly painted substrates – which means the painted area has not enough time to cure – make removal difficult. Painted surface must be thoroughly dried and cured with in accordance with

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paint manufacturer's recommendations. Uncured and unsound painted substrate may be damaged by removing the Ultra Tack adhesive.

④ Heating a graphic- Using heat sources like heat gun – eases removal of the film. Heat softens the adhesive, reducing the pull-off force needed. Raise the graphic temperature to 70~80 °C. Be sure not to burn or damage the film /the substrate by using excessive heat.

④ Using mild solvents (like IPA) or adhesive removal product can be used to get rid of adhesive residue. Some chemicals, however, may damage the substrate or its finish. Always test the chemical in a small, inconspicuous area, allowing the chemical to remain on the residue for the recommended time. Remove the residue and check for substrate damage. Below are the steps for Removing residues.

1. Test specific solvents or remover (Below is “remover”) by applying it in inconspicuous area to confirm that it is adequate for the substrate.
2. Allow the remover to penetrate the adhesive in the prescribed time.
3. Remove softened adhesive by scraping with a rivet brush.
4. Pick up the loosened adhesive with a cloth wetted with remover.
5. Repeat steps 2~4 as needed
6. After the residue is fully removed, clean the entire surface.
7. To keep the substrate more cleanly, wash it with a solution of detergent and water.