



Toepassingen

Kozijnen

Panelen

Deuren

Vouwwallen

Geprofileerde ondergronden

Aftimmeringen

Envision print wrap film van 3M is een PVC vrije printbare folie voor geprofileerde ondergronden.

Deze duurzame film wordt toegepast op aftimmeringen, kozijnen, deuren, ruiten enz. Envision wordt geprint met latex-inkt en afgewerkt met een UV-bestendig PVC vrij beschermfolie voor optimale duurzaamheid.



PVC vrij*



Beprintbaar met Latex inkt*



Beprintbaar



Vervormbaar

*zie onderliggende data sheets



Brandcertificaat: B-s1, d0*

Commercial Solutions Division

3M™ Envision™ Print Wrap Film

LX480mC

3M™ Envision™ Print Wrap Film

SV480mC

Product Description



Use 3M™ Envision™ Print Wrap Film LX480mC for Latex and UV inkjet printing.
Use 3M™ Envision™ Print Wrap Film SV480mC for Solvent, eco-solvent and UV inkjet printing.

This high performance non-PVC and phthalate-free film offers great conformability for a wide range of long term applications, such as indoor and outdoor signs, fleet, vehicle graphics, watercraft and textured walls. Due to its excellent conformability it allows even fleet and vehicle graphics installation on recesses and deep channels.

To protect graphics 3M recommends using the non-PVC and phthalate-free 3M™ Envision™ Gloss Wrap Overlamine 8548G, 3M™ Envision™ Matte Wrap Overlamine 8550M or 3M™ Envision™ Luster Wrap Overlamine 8549L. LX480mC, SV480mC, 8548G, 8550M and 8549L offer several environmental benefits. They contain no added chlorine or halogens and are manufactured using 58% less solvents than standard cast films. LX480mC 8548G, 8550M and 8549L are made in part of bio-based material.

This film uses 3M™ Controltac™ and 3M™ Comply™ technology.

3M™ Controltac™ minimizes the initial contact area of the adhesive and allows the applicator to reposition the film during application.

This allows easier installation of large format graphics in a wide temperature range.

3M™ Comply™ are air release channels allowing fast and easy, bubble-free application of films.

Product Line	Screen and inkjet printing	LX480mC	white, opaque, glossy, permanent adhesive (grey) with micro Comply™.
		SV480mC	white, opaque, glossy, permanent adhesive (grey) with micro Comply™.

Product Characteristics

These are indicative values for unprocessed products.
Contact your 3M representative for a custom specification.

Physical & Application	Material	non-PVC polymer	
	Surface finish	glossy	
	Thickness (film)	50 µm (0.05 mm)	
	Adhesive type	solvent acrylic, pressure-sensitive, repositionable	
	Adhesive appearance	grey	
	Liner	double-sided Polyethylene coated paper	
	Adhesion	20 N/25 mm	FTM 1: 180° peel, substrate: glass; cond: 24 h 23°C/50%RH
	Application method	dry only!	
	Applied shrinkage	< 0.1 mm	FTM 14
	Application temperature (minimum air and substrate)	+4°C to +38°C	for flat surfaces
		+10°C to +38°C	for curved to corrugated surfaces, with and without rivets
		+16°C to +32°C	for compound curves

HP 832 and 873 Latex Inks: designed for sustainable impact

HP's water-based Latex Inks offer many advantages across the entire product lifecycle in comparison to eco-solvent, solvent, UV-curable, and UV-gel inks

Introduction

The fourth-generation HP Latex Ink brings more innovation than previous generations, driving greater sustainable impact. The result is HP Latex L700 and L800 printer systems meet many toy safety standards¹, UL ECOLOGO certification², and many other health and environmental achievements, which are described below. HP Latex provides outdoor durability and versatility across all common media types used in sign and display applications, while newly expanding into white ink applications, to produce high-quality odorless prints³.

Health and environmental performance

HP Latex Printing Technology address health and environmental concerns across a broad range of attributes throughout the entire lifecycle of a print: from production to disposal. The HP 832 and 873 inks do not require any hazard labels in comparison to most eco-solvent, solvent, UV, and UV-gel technologies, which might have several. Additionally, the water-based formulation of HP Latex Inks provides a more comfortable and welcoming print production environment without trading off performance. HP Latex Inks also allow print service providers to produce odorless³ prints for indoor display in sensitive environments such as hospitals and schools.

These HP Latex Inks contain up to 65% water and have a flashpoint greater than 110 °C, making them non-combustible and non-flammable⁴. In contrast, eco-solvent and solvent-based inks typically have highly volatile components in high concentrations with flashpoints around 60°C to 70 °C, and may require in some countries, special transportation, handling, and storage.

No special ventilation is required with HP Latex Inks⁵ and they contain no Hazardous Air Pollutants (HAPs)⁶. Printing with HP Latex inks avoid the problematic reactive monomer chemistry⁷ and ozone generation associated with UV printing.

As with most cyan inks, the HP Latex cyan ink utilizes a copper-based dye that is present in a bound form as copper phthalocyanine. There are no other heavy metals present as intentionally added ingredients in these HP Latex inks⁸ and the inks are PVC-free. While it is the obligation of the toy manufacturer to adequately certify the toy for specific uses, HP Latex inks have demonstrated compliance to toy directives in Canada, Europe, and the United States, which screen for problematic heavy metals, amines, and colorants¹. Finally, HP Latex Ink is not classified as an eye irritant, and the latex polymer in HP Latex inks is not related to natural or synthetic latex, so it does not cause a latex-related allergic reaction.

Certifications

The UL ECOLOGO Certified HP Latex inks meet a range of stringent environmental performance standards and human health criteria. HP was the first printing company to have UL ECOLOGO certified inks². They also demonstrate rigorous and comprehensive standards for low chemical emissions in indoor air for the finished print, such as UL GREENGUARD GOLD. HP Latex Inks are UL GREENGUARD GOLD certified at the lowest emissions, qualified for unrestricted use to wallpaper a full

¹ Fourth-generation HP Latex Inks have been tested and demonstrated compliance to the following toy safety methods and protocols: EN 71-3, EN 71-9, ASTM F963-17, US 16 CFR 1303, US 16 CFR 1307, SOR 2011-17, and SOR 2018-83. HP does not recommend using the inks for toys intended to target children under the age of 3 years.

² UL ECOLOGO® Certification to UL 2801 demonstrates that an ink meets a range of stringent criteria related to human health and environmental considerations (see ul.com/EL).

³ Based on sensory evaluations conducted by Odournet done according to VDI Guideline 3882 where 832 and 873 inks were characterized as "weak" in odor intensity and "neutral" for hedonic tone.

⁴ Water-based HP Latex Inks are not classified as flammable or combustible liquids under the USDOT or international transportation regulations. Testing per the Pensky-Martens Closed Cup method demonstrated flash point greater than 110° C (230° F).

⁵ Special ventilation equipment (air filtration) is not required to meet U.S. OSHA requirements. Some models include a condensate collection system. Special ventilation equipment installation is at the discretion of the customer—see the Site Preparation Guide for details. Customers should consult state and local requirements and regulations.

⁶ HP Latex Inks were tested for Hazardous Air Pollutants, as defined in the Clean Air Act, per U.S. Environmental Protection Agency Method 311 (testing conducted in 2013) and none were detected.

⁷ Acrylate monomers present in uncured UV inks and UV-gel inks can damage skin.

⁸ Arsenic, antimony, soluble barium, cadmium, chromium, cobalt, mercury, lead, nickel, and selenium are not present as intentionally added components and were not detected in toy testing. However, according to ICP-MS results, the following may be present in the raw ink as contaminants: Arsenic <0.1 ppm, Chromium <0.2 ppm, Nickel <0.2 ppm.

room. Also, no wait time is necessary before installation (or prior to applications with lamination).⁹ In addition, prints produced using HP Latex Inks on HP PVC-free Wallpaper meet AgBB criteria for health-related evaluation of VOC emissions of indoor building products.¹⁰ These prints are rated A+ (very low-emission) according to the *Émissions dans l'air intérieur* statement on the level of volatile substances in indoor air.¹¹

HP large format printing materials portfolio includes a wide range of FSC®-certified papers¹², as well as HP PVC-free Wallpaper and HP PVC-free Durable Smooth Wallpaper.¹³ HP Latex inks printed on HP PVC-free Durable Smooth Wallpaper qualify for LEED credits in the low emitting category and meet the limits for formaldehyde release in EN 15102 for wall coverings¹⁴. Use the HP Media Locator to easily identify these and over 50 other eco-conscious media¹⁵ choices to use with the HP Latex print system. These media present an environmental benefit when compared to the typical media used for that application, such as PVC-free wall paper instead of a PVC-based one, or a media that offers a take-back program for proper end of life management.

HP Latex inks also conform to the Zero Discharge of Hazardous Chemicals (ZDHC) Roadmap to Zero Level 1 Manufacturing Restricted Substances List (MRSL) Version 1.1, a list of chemical substances banned from intentional use in order to help contribute to cleaner air and water during textile production.¹⁶ Additionally, certain HP Latex printers meet the requirements of Electronic Product Environmental Assessment Tool (EPEAT)¹⁷ which is a comprehensive environmental rating to help identify “greener” electronic components across the complete product lifecycle. The HP Latex L700 and L800 printer series meet EPEAT Silver Level as well as meet ENERGY STAR¹⁸ certification for superior energy efficiency.



⁹ GREENGUARD GOLD Certification to UL 2818 demonstrates that products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg or greenguard.org.

¹⁰ HP WallArt printed on HP PVC-free Wallpaper and other prints on HP PVC-free Wallpaper printed with HP Latex Inks meet AgBB criteria for health-related evaluation of VOC emissions of indoor building products. See umweltbundesamt.de/sites/default/files/medien/355/dokumente/agbb_evaluation_scheme_2018.pdf

¹¹ Émissions dans l'air intérieur provides a statement on the level of emission of volatile substances in indoor air posing health risks if inhaled—on a scale from A+ (very low-emission) to C (high-emission). Wall decorations printed with HP Latex Inks and HP PVC-free Wallpaper are rated A+ according to Émissions dans l'air intérieur. See anses.fr/en/content/labelling-building-and-decoration-products-respect-voc-emissions

¹² Applicable to select HP large format printing materials. BMG trademark license code FSC®-C115319, see fsc.org. HP trademark license code FSC®-C017543, see fsc.org. Not all FSC®-certified products are available in all regions. For information about HP large format printing materials, please visit HPLFMedia.com.

¹³ For HP PVC-free wall papers, chemical analysis demonstrated elemental chlorine to be at or below 200 ppm. Presence of chlorine is attributed to residual chlorine used in paper-making process, and not due to the presence of PVC.

¹⁴ To obtain US LEED credits based on FSC® certification, the builder must purchase HP PVC-free Durable Smooth Wall Paper printed with HP Latex Inks from an FSC Chain of Custody certified print service provider. To obtain LEED credits based on UL GREENGUARD Gold Certification, HP PVC-free Durable Smooth Wall Paper printed with HP Latex Inks must be part of a wall system in which all components are UL GREENGUARD Gold Certified.

¹⁵ HP applications experts have evaluated the catalog of media listed in the HP Media Locator based on internal criteria to identify those that provide alternative solutions with certain environmental benefits compared to the typical media within the same application type. The information in media locator is provided by the Media substrate Vendors. HP is not responsible for the veracity of the information from third-party companies published on HP website. See printos.com/ml/#/medialocator

¹⁶ UL tested and certified HP Latex inks comply to ZDHC requirements. ZDHC is an organization dedicated to eliminating hazardous chemicals and implementing sustainable chemicals in the leather, textile, and synthetics sectors. The Roadmap to Zero Programme is a multi-stakeholder organization which includes brands, value chain affiliates, and associates, that work collaboratively to implement responsible chemical management practices. For more information, see roadmaptozero.com.

¹⁷ Applicable to select HP Latex printers. EPEAT registered where applicable/supported. See www.epeat.net for registration status by country.

¹⁸ Applicable to select HP Latex printers. ENERGY STAR and ENERGY STAR mark are registered trademarks owned by U.S Environmental Protection Agency. See energystar.gov for certification status by country

Recyclability

HP Latex L700 and L800 printer series are made of 20% recycled plastic from post-consumer electronic devices, closed loop, soda bottles, and UL Validated ocean-bound resins¹⁹. More than 96% of the materials used in the printer are recyclable by product weight following the Waste Electrical and Electronic Equipment (WEEE) Directive²⁰.

HP Latex L700 and L800 printer series utilize the Eco-Carton ink cartridge, which replaces plastic cartridges, with an 80% reduction in plastic, achieving 66% CO₂e reduction²¹. The HP Eco-Carton outer carton is 100% recyclable through local cardboard/paper programs. Inner materials including the ink bag are 55% recyclable and can be returned free of charge to the HP Planet Partners program for reprocessing of plastic parts with zero going to landfill. HP Latex printheads can also be returned. HP Planet Partners Program is offered free of charge in 68 countries and territories around the world. More than 875 million cartridges have been recycled through HP Planet Partners and is rated the #1 printer supplies recycling program.²²

For prints and unprinted scrap materials, HP offers an HP Large Format Media take-back program in the U.S. and Europe through which many HP printed signage media can be returned²³. HP printed material on paper-based products can go directly to locally available paper recycling programs. Or if printing on other material types, consult the media vendor for recyclability options.

Summary

Water-based HP Latex Inks are designed thinking on sustainable impact throughout the product lifecycle. HP Latex Inks meet a variety of stringent human health criteria represented by UL ECOLOGO, UL GREENGUARD GOLD and ZDHC. The ink cartridges comply with CE Mark, EU RoHS, EU REACH and other applicable world-wide chemical notification requirements²⁴. Finally, the HP Ecosolutions Trained Printing Company Program²⁵ for HP Latex Printing Technology users provides convenient web-based training to help print service providers gain knowledge and provide value to the growing number of clients looking for graphics solutions with reduced environmental impact.

¹⁹ The L700/800 printer total plastic weight uses 10 kg (22 lbs) or 20% recycled plastics recovered from post-consumer electronics, closed loop from HP Planet Partners, soda bottles, and UL Validated ocean bound resins. HP received the first recycled content validation for Ocean-Bound Plastics from UL under the UL 2809 Environmental Claim Validation Procedure, see ul.com/news/hp-receives-first-recycled-content-validation-ocean-bound-plastics-ul.

²⁰ HP Latex printers contain over 96% recyclable materials and less than 0.1% landfill by product weight according to criteria set by the European Community Directive 2012/19/EU on waste electrical and electronic equipment (WEEE).

²¹ Applicable to HP 832 ink cartridges, CO₂e reduction based on moving from plastic ink cartridge to cardboard HP Eco-Carton ink cartridge, with annual manufacturing savings of 291 tons and transport savings of 8 tons. Equivalent to 1,194,028 km (741,935 miles) driven by an average passenger vehicle or over 38 million smartphones charged. See epa.gov/energy/greenhouse-gas-equivalencies-calculator.

²² Visit hp.com/recycle to see how to participate and for HP Planet Partners program availability; program may not be available in your jurisdiction. Where this program is not available, and for other consumables not included in the program, consult your local waste authorities on appropriate disposal. Compared to majority of competing in-class OEM ink & laser printer supply recycling programs. Criteria: size, reach, recycled content use, upcycling & eco award/ranking. HP-commissioned Aug 2020 InfoTrends research report. Market share: IDC Q2'20 Hardcopy Peripheral Tracker. Program availability varies. See hp.com/go/recycle & keypointintelligence.com/HPPlanetPartners

²³ Visit hp.com/recycle to see how to participate; take-back program may not be available in your jurisdiction. Where this program is not available, and for other consumables not included in the program, consult your local waste authorities on appropriate disposal.

²⁴ The following countries have chemical inventory requirements and the HP 832 and 873 inks can be imported without restriction: Australia (AICS), Canada (NDSL and DSL), China (IECSC), Providence of Ontario, Japan (ENCS), Korea (KECI, K-REACH), New Zealand (NZIoC), Switzerland (ChemO), Taiwan (ECSI, Taiwan REACH), United States (TSCA)

²⁵ Visit hplatexknowledgecenter.com/blog/hp-ecosolutions-training for more information

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Notice!	+10°C to +38°C for SV version
Service temperature (after application)	-60°C to +107°C (not for extended periods of time at the extremes)
Surface type	flat to compound curved, rivets and corrugations, deep channels and recesses and/or watercraft use for walls: moderately-textured surfaces and simple curved architectural elements
Notice!	Many finished graphic constructions can be stretched up to 150% into recesses (i.e., a 10 cm [or 10 inch] piece of film can stretch to 15 cm [or 15 inches]) without primer or relief cuts and maintain lift resistance.
Substrate type	aluminum, glass, PMMA, PC*, ABS, paint *Might require drying with heat before use
Graphic removal	Fair to remove with heat and/or chemicals from supported substrates. No liability is given for ease or speed of removal of any graphic. Pay attention to adequate air and substrate temperature.

The values above are the results of illustrative lab test measurements and shall not be considered as a commitment from 3M.

Storage	Shelf life	Use within two years from the date of manufacture on the sealed original box. Use within one year after opening the box.
	Storage conditions	+4°C to +40°C, out of sunlight, original container in clean and dry area.

The shelf life as defined above remains an indicative and maximum data, subject to many external and non-controllable factors. It may never be interpreted as warranty.

Flammability Flammability standards are different from country to country. Ask your local 3M contact for details, please.

Durability

The durabilities mentioned in the table below are the results of illustrative lab tests. The values show the best performance expected from these products, provided that the film will be processed and applied professionally according to 3M's recommendations.

The durability statements do not constitute warranties of quality, life and characteristics.

The durability of products is also influenced by:

- the type of substrate and thorough preparation of the surface (with 3M™ Surface Preparation System)
- application procedures
- environmental factors
- the method and the frequency of cleaning

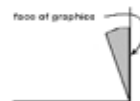
Unprocessed film The following durability data are given for unprocessed film only!

Climatic zones Graphic durability is largely determined by the climate and the angle of exposure. Find below a table showing the durability of a product according to the angle of exposure and the geographical location of the application.

Zone 1	Northern Europe, Italy (north of Rome), Russia
Zone 2	Mediterranean area without North Africa, South Africa
Zone 3	Gulf area, Africa

Exposure types

Vertical:



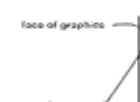
The face of the graphic is $\pm 10^\circ$ from vertical.

Non-vertical:



The face of the graphic is greater than 10° from vertical and greater than 5° from horizontal.

Horizontal:



The face of the graphic is $\pm 5^\circ$ from horizontal.

Interior:

Interior means an application inside a building without direct exposure to sunlight.

Vertical outdoor exposure white	Zone 1 12 years	Zone 2 10 years	Zone 3 8 years
Non-vertical outdoor exposure white	Zone 1 6 years	Zone 2 5 years	Zone 3 4 years
Horizontal outdoor exposure white	Zone 1 3 years	Zone 2 2.5 years	Zone 3 2 years
Interior application interior	Zone 1 12 years	Zone 2 12 years	Zone 3 12 years

3M™ Performance Guarantee and MCS™ Warranty

In addition, 3M provides a guarantee/warranty on a finished applied graphic within the framework of 3M™ Performance Guarantee and/or 3M™ MCS™ warranty programs.

For detailed graphic construction and application options along with specific Warranty periods, please see the Warranty matrices and Warranty information on [3M Graphic Solutions/Warranties](#).

Visit www.3mgraphics.com for getting more details about 3M's comprehensive graphic solutions.

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs to recommend other products.

Graphics applied to

- flexible substrates incl. 3M™ Envision™ Flexible Substrate FS-1 and 3M™ Panagraphics™ III Wide Width Flexible Substrate.
- low surface energy substrates or substrates with low surface energy coating.
- mortar joints deeper or higher than 3.1 mm and square-cut or undercut mortar joints.
- painted or unpainted rough wallboards, gypsum boards and wallpapers.
- stainless steel.
- surfaces with poor paint to substrate adhesion.
- watercraft when the graphic is applied below the static water line.
- watercraft graphics that are not edge sealed.
- vehicles which will be subject to stone chip damage.
- surfaces that are not clean.
- surfaces where the graphic will be stretched by more than 150% of the original dimension into the recesses.

Graphic removal from

- signs or existing graphics that must remain intact.
- vehicles which do not have the original OEM paint applied.

Graphics subjected to Important Notice

- gasoline vapors or spills.
- 3M Commercial Solutions products are not tested against automotive manufacturer specifications!
- Graphics printed with UV inkjet inks and applied on recesses or deep channels might show ink cracking in the stretched areas. Some UV inks will show a change of gloss. Ask your local 3M representative for UV ink solutions from 3M which can be used for recessed or deep channel applications.

Tips for successful textured wall applications

This film is designed to be effective on many of the most common moderate textures found in public stadiums, arenas and similar environments.

Notice

- Due to the wide variation in substrate texture, we encourage you to verify that the film and 3M techniques described in this Bulletin and Instruction Bulletin 5.37 are suitable for each of your applications.

> [Instruction Bulletin 5.37 'Application, Maintenance and Removal of Textured Wall™ Films'](#) <

- Use an installer trained in 3M's techniques and with access to the required 3M tools.

- Test each different textured surface you are considering at each location. See the instructions below.
- Film is more susceptible to lifting from deep or undercut mortar joints than shallow ones (about 3 cm deep). Instruction Bulletin 5.37 discusses the various types of mortar joints.
- In most cases, minor lifting does not detract from the impact of your customer's message, nor from the overall durability of the graphic.
Edge lifting, which is usually most noticeable at mortar joints, may be susceptible to picking and tearing if the graphic is at pedestrian level and within reach.
- Water may accumulate behind graphics applied to unsealed substrates, resulting in water bubbles that cause lifting.

Test Application Instructions	3M testing shows that the following test, which uses a small piece of film, is adequate for judging good adhesion to and appearance on textured surfaces. One of the following applicator tools will be needed for this test
Tools needed	3M™ Textured Surface Applicator TSA-1. Do not attempt this test using a standard squeegee. You will not be successful. Industrial heat gun with an electronic readout, capable of achieving and sustaining > 500°C Approximately 0.5 m² of film Heat and burn-resistant gloves
Application	Perform the test in an inconspicuous place on each type of substrate you plan to use for each of the larger graphics Set the gun to > 500°C Work at a speed that allows the film to be heated enough to make it conformable Overheating damages the film; under-heating does not permit conformability Hold the heat gun about 1 inch above and immediately in front of the roller Start at an outside top corner and work straight across to the other side using this technique: Heat the film in front of the roller for about 1 second and then begin following closely with the roller, pushing firmly. Move at a slow, steady pace Roll all the way to the edge Move the roller down about 5 cm and repeat until the film is fully applied If the film lifts immediately, the application technique may not have been satisfactory, or the texture is too severe for the film. Do not attempt to go over the sample again; try another one.
Test Time	If possible, leave the film in place for one week, then check for good adhesion and acceptable removal.

Graphics Manufacturing

Graphic protection can improve the appearance, performance and durability of printed graphics. Any printed graphic exposed to abrasive conditions (including vehicles), harsh cleaners or chemicals must include graphic protection in order to be warranted.

When to use an overprint clear or overlaminate See instruction bulletin GPO 'graphic protection options' for further information about selection and use of protective overlaminates and printable clears.

[> Product Bulletin Graphic Protection Options <](#)

Shipping finished graphics Flat, or rolled film side out on 130 mm (5 inch) or larger core. These methods help to prevent the liner from wrinkling or application tape, if used, from popping off.

Converting Information

Inkjet Printing

Adequately Dry Graphics

Inadequate drying can result in graphic failure including curling, increased shrinkage and adhesion failure, which are not covered under any 3M warranty.
Poorly dried film becomes soft and stretchy, and the adhesive becomes too aggressive.
Even if your printer has a dryer, it may not adequately dry latex and solvent inks in the short period of time it spends passing through the heater.

Recommendations to improve the drying of solvent inks Dry the graphic unrolled or at least as a loose wound roll standing upright. To further increase air circulation place the spooled film roll on a grid, and place a fan beneath the grid.

If you only spool open the film, adequate drying could still take a week, depending on the environment.

Build enough time into your process to ensure adequate drying of the graphic. 3M recommends at least a minimum drying time of 24 hrs before further processing. Test: Fold a piece of film with maximum ink laydown of the graphic onto itself. Apply 140 g/cm² for 15 minutes, release and check for effects like sticking or dull spots. These are clear indications that further curing or drying is needed.

Notice: Latex inks are different	Unlike solvent inks, spooling and letting latex printed graphics sit does not help to cure the ink, but does allow the graphic manufacturer to see if any oily spots are generated which may interfere with proper adhesion of overlaminates. To ensure proper latex ink drying, use the following recommendations: <u>Media Presets:</u> HP media presets contain all the needed settings to print on a specific media. Download and use media presets from the following page: www.hp.com/go/mediasolutionslocator. <u>Environmental Conditions:</u> HP media presets have been specially designed and tested for each printer-media combination. Recommended environmental conditions: +20°C to +25°C, Humidity 40% - 60% RH
Important notice for HP 831/871 and HP 881/891	The amount of ink printed is the main key for proper overlaminate adhesion. Select a media preset using 100% or less ink density.
Post-processing of latex printed graphics immediately after printing	Latex inks should emerge from the printer fully dried. Post-air drying of a wet print will not enable drying, since latex ink drying requires that the dried ink is heated above the film formation temperature of the latex inside the printer. For immediately post-processing of latex printed graphics follow strictly the recommendations given above (Section: Latex inks are different) and test the proper drying with the following performance tests: <u>Visual Test:</u> Check the image immediately after printing. The sample should not be wet or sticky to the touch, or have an 'oily' feel when it emerges from the printer. <u>Rubbing Test:</u> After the visual inspection, wipe the printed sample with a white wet paper towel. Fully-dried ink should resist wiping and should not show any stains on the white cloth. If the ink is easily removed by wet rubbing, then it is not dried. <u>Stacking Test:</u> In some cases, the top surface will appear dry after printing but within a few minutes ink may migrate to the surface leaving an oily aspect. To ensure proper drying, stack at least 12 sheets liner to printed side and let sit for one hour. After 1 hour, remove the stack and check for "oily" stains, wet surfaces or glossiness changes on high ink laydown areas on each sheet. If any of these occur, then the ink is not properly dried. If a sample is not properly dried on the printer, reprint the image under a condition that allows complete drying. Common improvement steps are: - Increasing the drying temperature in 5 degree steps. - Increasing the number of passes to slow down printing. - Reducing the amount of ink printed (media preset with lower ink densities).
Allow the converted graphic to build sufficient bond prior to application/installation	Give laminated samples time before applying them. The adhesion bond between the laminate and the printed base film will increase with time. 24 hours minimum for room temperature laminated graphics. 8 hours minimum for graphics laminated with heated rolls (one or two). Lamination temperature: +40°C to +60°C. Lamination speed: maximum 2 meter/minute.

Converting Information

Screen Printing	A clear coat also prevents chalking on unprinted films. Use equipment designed to handle high viscosity materials and make sure the coating is evenly applied to the specifications given in the clear's Instruction Bulletin.
Abrasion and Loss of Gloss	Abrasion damage and loss of gloss are not covered by any 3M warranty. This is considered normal wear and tear.
3M™ Knifeless™ Tape	3M™ Knifeless™ Tape is designed for clean and sharp trimming of adhesive films on high-quality painted surfaces. Knifeless Tape has a visible high-strength filament in the middle that is used to cut the graphic film without damaging the surface. 3M recommends Knifeless Tape DesignLine, TriLine (6 mm and 9 mm), PPF and PrecisionLine for 3M™ Envision™ Print Wrap Film SV480mC and SV480Cv3 and 3M™ Envision™ Print Wrap Film LX480mC and LX480Cv3. For additional information please refer to Knifeless Tape product bulletin.

[> Product Bulletin 'Knifeless Tape' <](#)

Application

See product bulletin ATR 'application tape recommendations' for information about selection and use of suitable application tapes for this product, please.

[> Product Bulletin Application Tape Recommendations <](#)

Refer to Instruction Bulletin 5.1 'select and prepare substrates for graphic application', for general application information.

[>Instruction Bulletin 5.1 'select and prepare substrates for graphic application'<](#)

Important Notice Controltac™ Films

Films require high squeegee pressure to avoid air entrapment between film and substrate. Therefore the use of 3M™ PA-1 Gold Squeegee with thin and soft sleeve is recommended. Wetting of sleeves helps to avoid scratches on film surface during application. Please refer to the product's instruction bulletin for detailed information.

Refer to Instruction Bulletin 5.46 'Application on substrates with recesses', for special application information.

[> Instruction Bulletin 5.46 'application on substrates with recesses and removal'<](#)

Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline).

Refer to Instruction Bulletin 6.5 'storage, handling, maintenance and removal of films and sheetings', for general maintenance and cleaning information.

[>Instruction Bulletin 6.5 'Storage, Handling, Maintenance and Removal of Films and Sheetings'<](#)

LEED®v4 Credits

The products can contribute to credits under LEED®v4. Please note that each application is different. It is the sole responsibility of the end user to evaluate and determine whether LEED®v4 credits are applicable. Refer to Customer Bulletin 'LEED®v4 credits'

[>Customer Bulletin 'LEED®v4 credits'<](#)

Important Safety Remark

Application to glass

The application of colored or printed film onto glass with sunlight exposure can lead to glass breakage through thermal expansion of the glass. The local conditions must be examined for the danger of glass break by uneven heat absorption through sun exposure. Type of glass (insulation glass, float glass, LSG, toughened safety glass, semi-tempered glass, etc.), glass dimension, joint condition, flexibility of the sealant, quality of the edge finishing, geographical orientation and partial shadow during sun exposure are the determining factors. Light color designs and application on the outside of the window are to be preferred. A free non-applied framework of 4 mm around the entire window front can help to dissipate the absorbed warmth. According to common knowledge a thermal crack can occur at temperature differences of approx. 130°C (toughened safety glass), approx. 40°C (float glass) or approx. 110°C (semi-tempered glass). Coldest place is usually under the framework in the embedded joined window part, the warmest place is typically on the darkest place in the format. Because of the many above mentioned factors, glass breakage cannot be fully predicted, therefore 3M does not accept liability for glass breakage when using this film for window graphics.

Remarks

Important notice

This bulletin provides technical information only.

All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.

Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.

As outdoor graphics age, natural weathering occurs causing a gradual reduction in gloss, slight color changes, some lifting of the graphic at the edges or around rivets, and ultimately a minor amount of cracking.

These changes are not evidence of product failure and are not covered by a 3M warranty.

Additional information

Visit the web site of your local subsidiary at www.3Mgraphics.com for getting:

- more details about 3M™ MCS™ Warranty and 3M™ Performance Guarantee
- additional instruction bulletins
- a complete product overview about materials 3M is offering



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Toepassingen

Profesionele inkt voor zelfklevende materialen

De inkten die wij gebruiken zijn watergebaseerde latexinkten van HP. Deze bieden belangrijke voordelen gedurende de hele productlevenscyclus.

De HP 832- en 873-inkten bevatten tot 65% water, vereisen geen gevarenetiketten en hebben een vlampunt boven 110 °C, waardoor ze niet brandbaar zijn. Daarnaast produceren ze geurloze prints, waardoor ze geschikt zijn voor binnenruimtes zoals kantoren, ziekenhuizen, laboratoria, scholen enz.



PVC vrij*



Restproduct is recyclebaar*



Hoge kleurweergave



Langdurig kleurecht



Onbeperkte kleuren

