

# ALUMIGRAPHICS®

THE WORLD'S MOST VERSATILE PRINT MEDIA FOR BRICK, ASPHALT AND CONCRETE

Manufactured by FloorSignage, LLC



AlumiGraphics is the award winning Foil-Based Media (FBM) for wide-format digital printing. Made of durable and pliable aluminum foil it has unique properties that are superior to vinyl.

AlumiGraphics easily transforms non-utilized spaces into cost effective, mass marketing platforms.





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# ALUMIGRAPHICS®

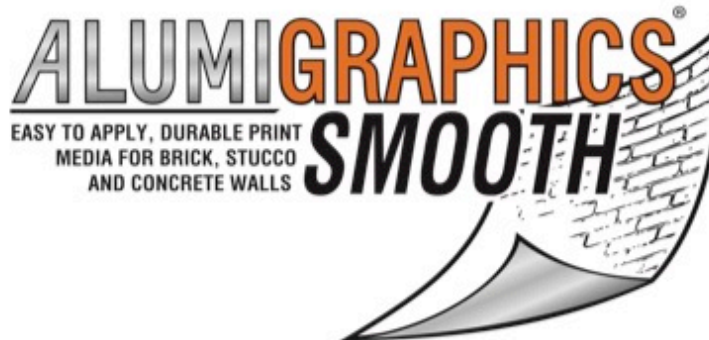
THE WORLD'S MOST VERSATILE PRINT MEDIA FOR BRICK, ASPHALT AND CONCRETE

## AVAILABLE IN TWO FINISHES



Slip-resistant, reflective finish ideal for rigid walkway surfaces such as concrete, tile and asphalt.

2013 SGIA Product of the Year.



Non-glare, satin finish ideal for rigid wall surfaces such as brick, stucco and concrete block.

2014 SGIA Product of the Year.

Test Rolls:

26.5 inches wide x 10 feet long

.67 meters wide x 3.05 meters long

Standard Rolls:

53 inches wide in lengths of 30, 75 and 150 feet

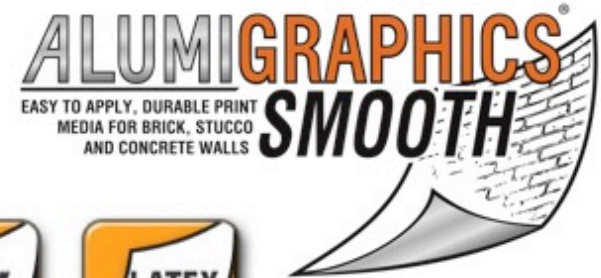
1.35 meters wide in lengths of 9.14, 22.87, and 45.7 meters



## BENEFITS OF ALUMIGRAPHICS FOIL-BASED MEDIA

1. No memory = easily conforms and holds the shape to the applied surface.  
FBM does not fight the adhesive but instead works together with the adhesive providing success where other wide format media fails.
2. No shrinkage = no gaps or seams on tiled graphics.  
FBM is not affected by changes in temperatures or moisture that cause vinyl to retract, expose adhesive and peel off.
3. Easy application & removal = savings on labor and flexibility  
Requires no heat source or trained professionals for application. Conforms and holds with pressure sensitive adhesive to rough or smooth textured surfaces with clean removal.
4. Can accommodate higher temperatures = can be used for numerous applications  
FBM is not affected by temperature like vinyl providing a wide service range. FBM can be installed at temperatures as low as 32° Fahrenheit / 0° Celsius.
5. Proven durability = longer life expectancy up to 1 year  
Does not deteriorate / break down like vinyl. Use for long term and short term applications in hot, cold and wet weather environments.
6. Environmentally friendly = perfect for sustainable print initiatives  
Contains no PVC or hazardous elements; can be disposed with aluminum recycling.  
Eliminates the need for costly disposal required with vinyl.

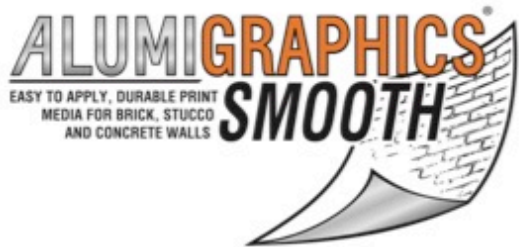
## Special Features of



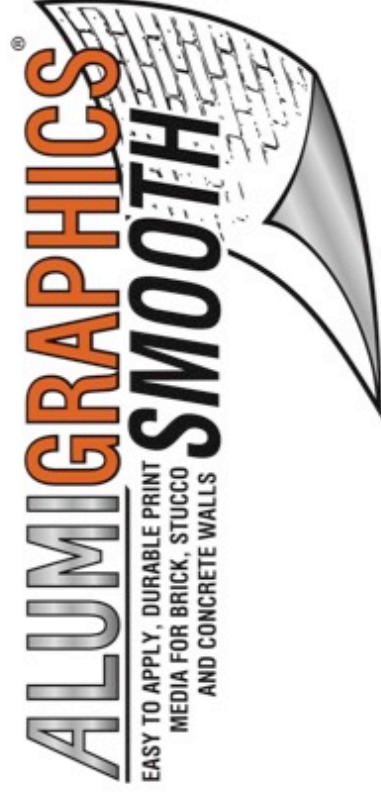
1. One step production process = saves time and money  
Print direct to the slip-resistant surface, no over laminate necessary.
2. Widely compatible = use with an array of printers  
Print on solvent, eco-solvent, latex, and UV printers; many profiles available.
3. Fast install & removal = saves times and money + no professional installers  
FBM naturally molds without heat to smooth or rough texture, requiring less than 25% of the time needed to install vinyl on textured walls. Pressure sensitive adhesive works with the properties of FBM providing superior performance.
4. Proven durability = 1 year plus expected life performance  
Withstands harsh weather environments with no shrinkage.

*AlumiGraphics Smooth is recommended for applications on rigid walls such as brick, cinder block, stucco and other masonry materials both outdoors and indoors. Also a great alternative to vinyl banners.*

## Product Comparison

	<b>Vinyl Media</b>
<b>Compatible with eco-solvent, solvent, latex and UV printers</b>	Varies and requires over laminate
<b>One step production process, print direct to surface</b>	Multiple steps, requires over-laminate
<b>Easily applies on exterior walls; naturally conforms to texture of brick, cinder block stucco and other masonry surfaces</b>	Requires heat to apply, and an over laminate
<b>Holds up to rain, sleet, snow, and intense sun</b>	Moderately
<b>Expected life performance up to 12 months</b>	Up to 3 months
<b>Applies simply by sweeping surface, peel-off liner and press down or use a roller to compress</b>	Requires an over laminate and a trained installer + heat equipment
<b>Can be installed at outside temperatures as low as 32°</b>	70° +
<b>Can be tiled together edge to edge</b>	Must overlap 3/8" – 1/2"
<b>Naturally molds without heat to the grooves and crevices of smooth or rough surfaces</b>	Requires heat to conform to textured surfaces
<b>Cleans easily with hose &amp; broom or gentle power washing</b>	No power washing
<b>Easily removed by peeling off from surface – typically leaves no residue</b>	Requires heat to remove, may leave residue
<b>Made in the U.S.A.</b>	No
<b>Can be disposed of with aluminum recycling</b>	No





## MATERIAL SAFETY DATA SHEET

AlumiGraphics® Smooth

Health 0  
Flammability 0  
Reactivity 0

### Section I Product Description

Aluminum foil base substrate with white paint, pressure sensitive adhesive backing and release liner.

### Section II Hazardous Ingredients

Contains no hazardous ingredients. No components of this product are SARA Title III reportable substances.

### Section III Physical and Chemical Properties

Whiteness .....(Wb): ≥ 94.6  
Odor ..... Odorless  
Flash Point ..... N/A  
Solubility..... Insoluble in Water  
Vapor Density ..... N/A  
Evaporation Rate ..... N/A  
Percent Volatile ..... N/A

### Section IV Fire and Explosion Data

Flammable Limits ..... N/A  
Extinguishing Media ..... Dry chemical, CO<sub>2</sub>, foam or water fog  
Unusual Fire Hazards ..... Fire may cause evolution of dense smoke, which is irritating to nose, throat and upper respiratory system.  
Special Firefighting Procedures... N/A

### Section V Reactivity Information

Stability ..... Stable  
Incompatibility ..... None Known  
Hazardous Decomposition Products ..... None Known

## Section VI Health Hazard Information

Route of Entry ..... Inhalation  
Health Hazard (Acute & Chronic) ..... None  
Carcinogenic Potential ..... None  
Signs and Symptoms of Exposure ..... None  
Medical Conditions Aggravated by Exposure ... None

## Section VII Handling and Precautions

Waste Disposal Method ..... May be disposed of in approved landfill or in aluminum recycling in accordance with federal, state and local regulations  
Precautions to be Taken in Handling and Storage ..... No special precautions

## Section VIII Control Measures

Respiratory Protection ..... None required under normal usage  
Eye Protection ..... Safety glasses or goggles recommended  
Protective Gloves ..... Recommended

## Section IX Physical Properties

Storage ..... Product can safely be stored for twelve (12) months in original packaging, laying flat with rolls suspended in a cool, dry area 50° – 90°F / 10° - 32°C.  
Thickness ..... Film 8 mil.  
Adhesive 2 mil.  
Liner 5 mil.  
Service Temperature Range ..... -40° - 176°F / -40°C - 80°C  
Minimum Application Temperature ..... 32°F / 0°C or warmer

## Section X Mechanical Properties

Tensile strength ..... ≥ 62 to 83 MPa  
Elongation at break ..... ≥ 10 to 18%  
Shrinkage lengthwise ..... ≤ minimal as properties of aluminum do not afford much shrinkage (vs. a plastic film or vinyl)  
Shrinkage crosswise ..... ≤ minimal as properties of aluminum do not afford much shrinkage (vs a plastic film or vinyl)  
Density ..... 2,713 kg/m<sup>3</sup>  
Melting point ..... + 650°C

The information on the Material Safety Data Sheet reflects the latest information and data that we have on the hazards, properties and handling of this product under the recommended conditions of use. Any modifications of product use or method of application is the responsibility of the user. Seller makes no other warranty or representation of any kind, expressed or implied, concerning this product. This Material Safety Data Sheet was prepared in compliance with the OSHA Hazard Communication Standard.




## Special Features of



1. One step production process = saves time and money  
Print direct to the slip-resistant surface, no over laminate necessary.
2. Widely compatible = use with an array of printers  
Print on solvent, eco-solvent, latex, and UV printers; many profiles available.
3. Slip-resistant surface = meets ASTM, CSIRO and British standards  
Safe to walk on in both dry and wet conditions.
4. Proven durability = 1 year expected life performance  
Withstands heavy pedestrian traffic and harsh weather environments.
5. Highly visible = textured surface is reflective  
Surface has a reading of 130 mcd (millicandelas) equates to 3.25 lux.

*AlumiGraphics Grip is recommended use for outdoor and indoor graphics applications on sidewalks and exterior walls including on sealed and unsealed concrete, asphalt, brick, tile, terrazzo, marble, and vinyl flooring.*

## Product Comparison

	Alternative	Vinyl Media
Compatible with eco-solvent, solvent, latex and UV printers	UV and latex only	Varies and requires over laminate
One step production process, print direct to slip resistant surface	✓	No, requires over-laminate
Recommended for use on asphalt, sealed & unsealed concrete, stone, marble, tile, or brick floor surfaces	✓ May require sealer	Intended for unsealed asphalt and concrete
Withstands heavy pedestrian and rolling vehicular traffic	✓	Pedestrian only
Exceeds ASTM slip-resistance standards for dry and wet conditions	Dry only	Dry Only
Holds up to rain, sleet, snow, and intense sun	✓	Moderately
Expected life performance up to 12 months	3 – 12 months	Up to 3 months
Applies simply by sweeping surface, peel-off liner and press down or use a roller to compress; naturally conforms to smooth or rough textured surfaces	✓	Requires an over laminate and a trained installer + heat equipment
Can be installed at outside temperatures as low as 32°	50° +	70° +
Can be tiled together edge to edge	Edge to edge	Must overlap 3/8" – 1/2"
Naturally molds to the grooves and crevices of smooth or rough surfaces	✓	Requires heat to conform to textured surfaces
Special high friction surface provides reflectivity making it highly visible at night	No	No
Cleans easily with hose & broom, mopping or gentle power washing	No power washing	No power washing
Easily removed by peeling off from surface – typically leaves no residue	May leave residue	Requires heat to remove, may leave residue
Can also be applied on exterior walls such as brick, cinder block stucco and other masonry surfaces	No	Requires heat to apply, and an over laminate
Made in the U.S.A.	No	No
Can be disposed of with aluminum recycling	No	No



**MATERIAL SAFETY DATA SHEET**  
AlumiGraphics® Grip

Health 0  
Flammability 0  
Reactivity 0

**Section I Product Description**

Reflective glass beads and white paint applied to aluminum for base with pressure sensitive adhesive backing.

**Section II Hazardous Ingredients**

Contains no hazardous ingredients. No components of this product are SARA Title III reportable substances.

**Section III**

**Physical and Chemical Properties**

Whiteness ..... (Wb):  $\geq 94.6$   
Odor ..... Odorless  
Flash Point ..... N/A  
Solubility..... Insoluble in Water  
Vapor Density ..... N/A  
Evaporation Rate ..... N/A  
Percent Volatile ..... N/A

**Section IV**

**Fire and Explosion Data**

Flammable Limits ..... N/A  
Extinguishing Media ..... Dry chemical, CO<sub>2</sub>, foam or water fog  
Unusual Fire Hazards ..... Fire may cause evolution of dense smoke, which is irritating to nose, throat and upper respiratory system.  
Special Firefighting Procedures... N/A

**Section V**

**Reactivity Information**

Stability ..... Stable  
Incompatibility ..... None Known  
Hazardous Decomposition Products ..... None Known



## Section VI Health Hazard Information

Route of Entry ..... Inhalation  
Health Hazard (Acute & Chronic) ..... None  
Carcinogenic Potential ..... None  
Signs and Symptoms of Exposure ..... None  
Medical Conditions Aggravated by Exposure ... None

## Section VII Handling and Precautions

Waste Disposal Method ..... May be disposed of in approved landfill or in aluminum recycling in accordance with federal, state and local regulations  
Precautions to be Taken in Handling and Storage ..... No special precautions

## Section VIII Control Measures

Respiratory Protection ..... None required under normal usage  
Eye Protection ..... Safety glasses or goggles recommended  
Protective Gloves ..... Recommended

## Section IX Physical Properties

Storage ..... Product can safely be stored for twelve (12) months in original packaging, laying flat with rolls suspended in a cool, dry area 50° – 90°F / 10° - 32°C.  
Thickness ..... Film 8 mil.  
Adhesive 2 mil.  
Liner 5 mil.  
Service Temperature Range ..... -40° - 176°F / -40°C - 80°C  
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## Section X Mechanical Properties

Tensile strength ..... ≥ 62 to 83 MPa  
Elongation at break ..... ≥ 10 to 18%  
Shrinkage lengthwise ..... ≤ minimal as properties of aluminum do not afford much shrinkage (vs. a plastic film or vinyl)  
Shrinkage crosswise ..... ≤ minimal as properties of aluminum do not afford much shrinkage (vs a plastic film or vinyl)  
Density ..... 2,713 kg/m<sup>3</sup>  
Melting point ..... + 650°C  
Reflectivity ..... AlumiGraphics Grip reflectivity is measured by a retroreflectometer reported in millicandelas per square meter per lux. The reading is 130 mcd (millicandelas) = 3.25 lux.

The information on the Material Safety Data Sheet reflects the latest information and data that we have on the hazards, properties and handling of this product under the recommended conditions of use. Any modifications of product use or method of application is the responsibility of the user. Seller makes no other warranty or representation of any kind, expressed or implied, concerning this product. This Material Safety Data Sheet was prepared in compliance with the OSHA Hazard Communication Standard.



# PRECISION TESTING LABORATORIES, INC.

313 Hill Avenue, NASHVILLE TN 37210-4711  
PHONE 615-254-3401 FAX 615-254-3488  
[www.precisiontesting.com](http://www.precisiontesting.com)

**Laboratory Report No.**  
30-Oct-12

**14001**

Mr. Bob Wright  
Floor Signage, LLC  
6264 Proprietors Rd.  
Worthington, OH 43085

**Item:**

One (1) floor tile sample (qty. 4 tiles)

**Identification:**

Sample ID: AlumiGraphics® GRIP - White non-skid

**Purpose:**

Slip Resistance, ASTM F 1677-05  
Rubber Property, Durometer Hardness, ASTM D 2240-05

Test	Unit of Measure	Specimen Results				Average	Stdev
Slip Resistance							
ASTM F 1677-05, Mark II							
Neolite Fineline - J & M							
Heel							
Tile # 1		A	B	C	D		
Dry		0.59	0.59	0.58	0.59	0.59	0.01
Wet		0.52	0.52	0.51	0.52	0.52	0.00
Tile # 2							
Dry		0.60	0.61	0.60	0.60	0.60	0.00
Wet		0.53	0.52	0.52	0.51	0.52	0.01
Tile # 3							
Dry		0.60	0.60	0.60	0.61	0.60	0.01
Wet		0.52	0.52	0.51	0.52	0.52	0.00
		Dry Average (3 tiles)		0.60		0.60	n/a
		Wet Average (3 tiles)		0.52		0.52	n/a
Slip Resistance, Test Description							
Dry =		25 mils distilled water					
Wet =		3.0 grams Crisco brand shortening applied until just opaque					
Greasy =		25 mils of distilled water w/ 3.0 grams Crisco brand shortening applied until just opaque					
Greasy/Wet =							
Rubber Property, Durometer Hardness							
ASTM D 2240-05							
Shore Instrument Durometer Type A							
as received							
Neolite Fineline - J & M		90	92	90	89	90	1
A Shore Instrument Durometer Type "A", serial # 88533, utilizing a Shore Type 1 operating stand with a constant contact pressure of 865 grams was used for the test sequence. All readings are taken at a 1 second timed interval after specimen contact in a controlled atmosphere of 72° F and 50% RH. Meter calibrations are conducted prior to test.							

A Shore Instrument Durometer Type "A", serial # 88533, utilizing a Shore Type 1 operating stand with a constant contact pressure of 865 grams was used for the test sequence. All readings are taken at a 1 second timed interval after specimen contact in a controlled atmosphere of 72° F and 50% RH. Meter calibrations are conducted prior to test.

**Laboratory Report No.**

**14001**

Page 2 of 2

I certify that the above tests under my supervision were performed in accordance with the specification test requirements and that the reported results are true, valid and applicable to the samples tested. I further certify that these samples were the only samples tested from the lot of end items identified above.

Signed: Suzanne Pilsanen  
Suzanne Pilsanen, VP Operations

Signed: Don G. Roney  
Don G. Roney, Laboratory Manager

This report is limited to and related only to the particular instrument, material or other subject to which it refers. These test results can not be compared to results obtained using different methods or under different conditions. No representation is made that similar articles will be of like quality. Neither Precision Testing Laboratories, Inc (hereinafter "Precision Testing") nor their officers, directors, managers or employees, shall be responsible for any loss or damage resulting directly or indirectly from any failure, error or omission in testing, or in the reporting of test results. Precision Testing has no control, and assumes no responsibility for the tested product's functionality or use. Precision Testing's liability shall not exceed the fees paid for the testing reflected on this report. Precision Testing observes and maintains client confidentiality, and limits reproduction of this report, except in full, without prior approval of Precision Testing.

1(gm)

## Production Recommendations

### A. Handling Suggestions

1. Handle rolls with care, do not drop on end.
2. Do not store on end, store laying flat with rolls elevated, do not set flat on table.
3. Dents can typically be rolled out.
4. On flatbed printers use the vacuum system and flatten any wrinkles or raised areas to be flush with the table bed.

### B. Profiles

1. Profiles for Epson, HP, Mimaki, Mutoh, Roland and Seiko printers are available for download from [www.AlumiGraphics.com](http://www.AlumiGraphics.com). Call for additional profiles.

### C. Loading Suggestions

1. When available, use printer profiles provided by manufacturer or distributor.
2. Do not use Auto Load. Select Manual Load.
3. Select vacuum for poster board or low vacuum setting.
4. On some solvent models, set the head on high before loading. Load the media pulling enough through so that it hangs out the front of the printer.
5. Head height should be set at approximately 1/4" for detailed printing and higher if not as much detail is required.
6. If accessory or aftermarket edge guards are used, tape to the platen to hold in place.
7. To prevent head strikes it is strongly recommended to use a take up roll with tension and vacuum to keep the material flat during printing. To help maximize material yield, use any type of vinyl on the take up roll as a leader and tape it to the underside of AlumiGraphics. Next, advance the take-up roll to create tension and pull material smooth and flat.

### D. Cutting Suggestions

1. Use 60 degree blades (carbide or titanium blades when available).



## Installation Instructions

### A. Surface Preparation

1. The surface must be clean and thoroughly dry for proper performance.
2. Usually, thorough sweeping is sufficient, but if the surface is oily, it may need to be power washed with a commercial degreaser
3. Avoid applying over loose or caked dirt, gravel, oily residues, flaking paint or other foreign substances that will interfere with proper bonding.

### B. Standard Application

1. Always use rollers rather than a squeegee; exception squeegees can be used with AlumiGraphics Smooth only on smooth wall surfaces.
2. Recommended surface temperate should be 32 degrees Fahrenheit or higher.
3. Sweep dry surface clean of dirt & debris.
4. Peel off the backing paper (release liner) from the pressure sensitive adhesive.
5. Lay down flat on the selected location.
6. Smooth by hand from the center to outer edge, be sure all edges lay flat.
7. Firmly compress to surface, especially all edges by roller or walking on.
8. Large scale graphics should be tiled edge to edge with no overlapping.
9. In rare occasions when adhesion is difficult such as on surfaces with VOC coatings or residue, clean with a mixture of 50/50 to 70/30 percent isopropyl alcohol (IPA) + water, then wipe with a clean cloth. In some cases, a second cleaning is helpful.





## Additional Installation Instructions

### A. Optional Over Laminate

A water based liquid laminate can be used extend the color and life of the graphics. This can be applied by a hand spray bottle or spray gun. A single coating is fine and works on both AlumiGraphics Smooth and AlumiGraphics Grip.

#### *Cautionary note:*

*Film laminates and heavier coatings of liquid laminate placed on AlumiGraphics Grip can potentially reduce the slip resistant quality and safety rating.*

### B. Large Scale Graphics Suggestions

When producing large scale graphics, pieces should be tiled edge to edge with no overlapping of panels. When planning the layout of the panels with text or detailed designs, it is recommended to place the cut lines in between letters / words as well as not within detailed designs. Also, maximizing the material with edge to edge printing can provide better material yield and save time and cost.



## Maintenance & Removal Instructions

### A. Routine Maintenance

1. Wet the graphic with water and sweep with a broom; avoid harsh cleaning chemicals to extend the product life.
2. Can withstand limited power washing, intense and close-up power washing can cause the edges to come loose or damage the graphics.
3. To avoid risk of trip hazard injury, immediately remove graphics if any edge of the graphic lifts and replace with a new graphic.

### B. Removal Instructions

1. Generally easy to remove on wall and pedestrian walkway applications; rough surfaces and/or vehicular traffic may increase the difficulty in removal.
2. Simply peel off at an angle less than 45 degrees for best result; typically leaves no residue.
3. Use power washer at a low angle to remove well-worn graphics.
4. Severely worn-in graphics on rough textured surfaces may require combination of scrubbing with wire bristle brush and rinsing from hose or power washing.
5. If there is adhesive residue; remove with cleaning solvents, mineral spirits or in some cases burn with gas flame.
6. Environmentally friendly: contains no PVC or hazardous ingredients; dispose with aluminum recycling.

Important: graphics placed on asphalt or other rough surfaces in locations where heavy vehicle traffic is present could be difficult to remove.



## Trouble Shooting

Instances when AlumiGraphics does not perform as intended;

1. On cracked, broken surfaces where moisture can seep through the surface, getting behind the graphics after rain or snow
2. On some concretes with efflorescence, a powdery white material that forms on the surface. This is caused by calcium hydroxide that is naturally found in concrete after it sets. As water moves out of the concrete it carries with it some of this calcium hydroxide, which then reacts with carbon dioxide in the air to become calcium carbonate. When this gets on the adhesive, the graphics can not adhere properly to the concrete.
3. On freshly poured concrete or asphalt that is off-gassing. Curing times vary depending upon ingredients, quality, and environment. Concrete may take 30 days or more to properly cure; asphalt may take several months to one year.
4. On surfaces with oil or gas residue. Typically this can be improved by cleaning the surface with a degreaser or in many cases simply with a mixture of 50/50 to 70/30 percent isopropyl alcohol (IPA) + water.

*There are some conditions which are beyond the manufacturers control and therefore no guarantee for successful application or removal on all surfaces is made by the manufacturer. The user is responsible for determining the product's suitability, including adhesion and if needed, removal characteristics.*



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