

Application Preparation Guidelines

Substrate Selection, Preparation and Substrate Specific Application Techniques

Contents

How to use this guide	2	Steel untreated	8
Health & safety	2	Electro-galvanised	8
Substrate requirements	3	Phosphate-coated galvanised	8
Cleaning methods	4	Rusted	8
Method 1: General Cleaning	4	Unwarranted metals	8
Method 2: Solvent Cleaning	4	G. Painted or primed substrates	8
Method 3: Isopropyl Alcohol Cleaning	4	Common types of paint	9
Substrate cleaning & application guidelines	5	Baked enamel paint	9
A. Film, media & sheeting	5	Latex paint	9
General guidelines for film-on-film	5	Oil-based enamel paint	9
B. Building materials	5	Two-part urethane paint	10
Brick	5	Powder-coated paint	10
Ceramic tile, formica, marble, decorating stone	5	Textured paint	10
Concrete, bare	5	H. Plastics and rubber	10
Concrete, sealed & painted	5	ABS	10
C. Composites	6	Acrylic	10
FRP (Fibreglass reinforced plywood)	6	Fibreglass	10
Urethane foam-filled trailer sides & doors	6	PETG	11
D. Flexible substrates	6	Polycarbonate	11
Banners	6	Polypropylene & polythene	11
Canvas-curtain sided vehicles	6	Polystyrene, styrene	11
Panaflex awning & sign facing	6	Rubber & caulking materials	11
E. Glass	6	I. Poster board	11
F. Metals	7	Expanded PVC	11
Aluminium	7	Paper-based poster board	11
Badly pitted or oxidised substrate	7	J. Wood products	11
Uncoated & unetched	7	Fibreboard or oriented strand board	12
Conversion coated	7	Hardboard	12
Chrome	7	Plywood	12
Stainless steel	7	High density overlaid	12
For vehicles only	7	Medium density overlay plywood	12
		Other wood products	12
		Special testing or surface preparation	13
		A. Flame treating	13
		B. Outgassing test	13
		C. Tape snap test	14

Application Preparation Guidelines

Substrate Selection, Preparation and Substrate Specific Application Techniques

How To Use This Guide Effectively

This guide tells you:

- How to select and prepare a substrate so that the film will adhere well.
- How to apply film to specific types of substrates.

For the best results:

- Use this Guide in conjunction with General Procedures for Interior and Exterior Dry Applications.
- Read all the Substrate requirements on page 3. This section helps you determine the general types of substrates which can be used. Refer to the film or sheeting Product Guide for specific substrate recommendations.
- Review the cleaning methods on pages 3 and 4. All recommended substrates can be cleaned with one or more of these methods.
- locate the type of substrate you plan to use and review the preparation and application techniques provided.

Health and Safety

CAUTION

Refer to the package label and the Material Safety Data Sheet for health, safety and handling information on the products referenced in this guide.

CAUTION

Any activity performed for a long period of time in an awkward position or with a high amount of force is potentially a risk for causing musculoskeletal strain, pain or injury. When applying graphics follow these practices to improve comfort and avoid injury:

- Alternate your tasks during the application.
- Schedule regular breaks.
- Perform stretches or do exercises to improve circulation.
- Avoid awkward reaching.

Application Preparation Guidelines

Substrate Requirements

A great deal of time and effort goes into designing and making a graphic. The next step to obtaining a high-quality, long-lasting graphic is to use the proper preparation and application techniques for each type of substrate.

Films and sheetings can be applied to most substrates that are:

- **Clean.** All substrates must be considered contaminated and must be cleaned prior to application, with the last cleaning step being done immediately before application. Even a freshly painted substrate can collect dust before graphics can be applied.
- **Dry.** Any moisture trapped beneath the graphic will cause the graphic to fail prematurely. Moisture prevents the adhesive from adhering correctly, can cause bubbles, and can freeze in cold environments.

Moisture results from:

- Inadequate drying after cleaning as well as from application solutions.
- Failure to pre-dry some substrates such as polycarbonate sheeting.
- Condensation at low temperatures.
- High humidity environments.

It is impossible to keep the substrate dry if there is condensation or high humidity.

Because of the difficulty of removing all of the moisture, wet application methods are not recommended for use on vehicles or non-flat surfaces.

- **Relatively non-porous.** Porous materials absorb moisture which affects the ability of the film or sheeting to adhere to the surface.
- **Smooth.** It is more difficult for the adhesive to make good contact with textured surfaces if the roughness is greater than that of 150 grit sandpaper. Refer to General Procedures for Interior and Exterior Dry Applications, for application techniques to rough surfaces.

Application Preparation Guidelines

CAUTION

Before handling any chemical products, always read the container label and the Material Safety Data Sheet.

CAUTION

When using any equipment, always follow the manufacturers' instructions for safe operation.

- There are three basic cleaning methods: General cleaning, Solvent cleaning and Isopropyl alcohol cleaning. The type of substrate determines which procedure to use.

- The use of improper cleaning methods and techniques before applying the film voids the warranty.

Always test cleaners in an inconspicuous area before using. Some cleaners may dull your substrate or leave contaminants on it. Lower solvent content cleaners may not clean the type of contaminants you have.

Method 1: General Cleaning

1. Clean the substrate immediately before applying film. Dust and other contaminants can collect quickly on the substrate and prevent film from adhering properly.
2. Use detergent and water to clean the substrate.
 - For most surfaces, interior or exterior: Wash the substrate with 1 ounce of synthetic detergent per gallon of lukewarm water. Avoid soaps or preparations that contain waxes, oils or lotions. Be aware that some window cleaners contain waxes.
 - Be aware that the chemicals used in some automated vehicle washing equipment may interfere with adhesion.
 - For interior walls where grease and/or oil is present on the substrate: Wash the substrate with a solution of TSP (trisodium phosphate) and lukewarm water. Prepare the solution according to the manufacturer's written instructions.

Cleaning Methods

3. Dry thoroughly with clean, lint-free paper towels.

Method 2: Solvent Cleaning

Important Note

Local air quality regulations may regulate or prohibit the use of surface preparation and cleaning materials based on solvent (VOC) content. Consult your local air quality regulations.

Procedure

1. Saturate a clean paper towel with a solvent.
2. Wipe with a lint-free paper towel before the solvent evaporates from the substrate. As the paper towel becomes dirty, discard it. A dirty towel just moves the dirt around, it doesn't remove it.
3. Make sure the substrate is completely dry. If necessary, use a heat gun to dry any retained liquid.
4. Apply the graphic immediately. Dust and contaminants prevent the adhesive from performing as expected.

Method 3: Isopropyl Alcohol Cleaning

Note: Because it evaporates quickly, IPA (isopropyl alcohol) is not an appropriate cleaner if the substrate is warm or the conditions are windy. In such conditions, use the General Cleaning Method.

1. Saturate a clean paper towel with IPA.
2. Wipe with a lint-free paper towel before the IPA evaporates from the substrate. As the paper towel becomes dirty, discard it. A dirty towel just moves the dirt around, it doesn't remove it.
3. Make sure the substrate is completely dry. If necessary, use a heat gun to dry any retained liquid.
4. Apply the graphic immediately. Dust and contaminants prevent the adhesive from performing as expected.

Application Preparation Guidelines

A. Film, Media and Sheeting

Important Note

Many graphics can be applied over existing graphics however some may not be covered by a warranty in this case. For details please contact Stewart Signs.

General Guidelines for Film-on-Film Applications

- The top graphic can be either larger or smaller than the bottom graphic. However, be sure the top graphic is at least 10mm-20mm larger or smaller than the bottom graphic, all the way around.
- In stainless steel applications, the bottom film must be recommended for application to stainless steel. If the top film is not recommended for application to stainless steel, the top graphic must be smaller than the bottom graphic.
- If the films will be applied to something other than a flat surface, both films must be recommended for that type of surface, such as corrugations or simple curves.
- If the removal of the top film is to be warranted:
 1. It must be a changeable film (certain restrictions apply).
 2. It must be applied over a film that is permanent or requires heat and/or chemicals to be removed.
 3. The bottom film must be firmly attached to the substrate and in good condition.
- The bottom film must be cleaned, even if it

Substrate Cleaning and Application Guidelines

is freshly applied. Use **Method 1: General cleaning**, followed by **Method 2: Solvent cleaning**. Do not use this method if the bottom graphic is digitally printed and does not have an overlamine.

B. Building Materials

Brick

1. Prepare the muriatic acid solution according to the manufacturer's package instructions. Muriatic acid can be found in most home improvement stores.
2. When using muriatic acid, follow the manufacturer's safe handling instructions.
3. If the surface is textured, prime it following the package instructions provided with these materials, which are available from 3M
 - 3M Scotch-Grip Industrial Adhesive 34.
 - 3M Scotch-Grip 1300L. this works the best, however do not use if the yellow colour will be objectionable.

Ceramic Tile, Formica Laminate, Marble, Decorating Stone

Clean the surface. Use **Method 3: Isopropyl alcohol cleaning**.

Concrete, Bare

Note: If you are applying 3M Scotchprint graphics for pavement signs, refer to the pavement graphics guide.

1. Allow new concrete to age 6 to 12 months.

Application Preparation Guidelines

Curing is necessary to remove the strong alkali in fresh concrete.

2. Brush with a wire brush to remove loose debris.
3. Use the same steps recommended for Brick substrates.

Concrete, Sealed and Painted

Clean the surface. Use **Method 1: General cleaning**, or **Method 3: Isopropyl alcohol cleaning**.

C. Composites

Some composites require special consideration to ensure that the graphic performs as expected.

FRP (Fibreglass Reinforced Plywood)

Gelcoat that cracks will also crack the film or sheeting.

1. Test for outgassing.
2. Use a mild abrasive or buffing wheel to remove any residue, if the gelcoat has chalked.
3. Clean the surface. Use **Method 1: General cleaning**, followed by **Method 2: Solvent cleaning**.

Urethane Foam-filled Trailer Sides and Doors

1. Test for outgassing
2. Clean the surface. Use **Method 1: General cleaning**, followed by **Method 2: Solvent cleaning**.

Substrate Cleaning and Application Guidelines

D. Flexible Substrates

Images printed on 3M wear coat and transfer media can be transferred to some substrates. These are unwarranted constructions. Contact Stewart Signs for specific substrates.

Banners

Clean the surface. Use **Method 3: Isopropyl alcohol cleaning**.

Canvas-Curtain Sided Vehicles

1. Before applying graphics, the substrate must be evaluated by a 3M technician whenever 3M materials are used, as some curtain-sided materials are not warranted.
2. See curtain-sided instruction guide.
3. Clean the surface. Use **Method 1: General cleaning**, or **Method 3: Isopropyl alcohol cleaning**.

3M Panaflex Awning and Sign Facing

Clean the surface. Use **Method 1: General cleaning** or **Method 3: Isopropyl alcohol cleaning**.

E. Glass

We accept no liability for glass breakage due to temperature differences across the glass, which can be caused by sunlight on dark areas of the graphic. Size, thickness, quality of cut, edge treatment, tinting and frame design affect temperature stress.

- If the glass has a water-repellent treatment, clean the surface using **Method 1:**

Application Preparation Guidelines

General cleaning followed by **Method 2: Solvent cleaning**.

- If the glass does not have a water-repellent treatment, clean the surface using **Method 3: Isopropyl alcohol cleaning**.

F. Metals

Any painted surface with bare metal or rust spots should be entirely resurfaced as recommended for the following metals.

Aluminium

For the best results, use etched and degreased aluminium or anodised aluminium.

Clean the surface. Use **Method 3: Isopropyl alcohol cleaning**.

For other types of aluminium, follow these additional procedures prior to cleaning.

Badly pitted or oxidised substrate

Use a commercial acid-brightener.

Uncoated and unetched

1. Remove white rust (oxidation).
2. Smooth with 100 grit or finer abrasive.
3. Degrease and etch or degrease and prepare with an amorphous chromate and non-chrome conversion coating.

Conversion coated

1. Remove white rust (oxidation).
2. Be sure that coating adheres tightly to the

Substrate Cleaning and Application Guidelines

aluminium and is free of any powdery residue.

3. Coating should meet these requirements:
Chromate ASTM B 449, Class 2.

Non-chromate ASTM B 449, Class 1.
Air-dried, acrylic on non-chrome coated ADSM D 3359 for tape snap adhesion, ASTM D 4541 for adhesion the same as a chromate-coated aluminium of the same alloy.

Chrome

1. Clean the surface. Use **Method 1: General cleaning** then **Method 2: Solvent cleaning**.
2. 3M Scotchlite Reflective Sheeting must be edge sealed.

Stainless Steel

1. Clean the surface. Use **Method 1: General cleaning** then **Method 2: Solvent cleaning** then **Method 3: Isopropyl alcohol cleaning**.

For vehicles only

Note: The film used must be recommended for stainless steel.

1. Make sure there is no moisture remaining on the substrate, underneath rivets or in body seams.
2. Special consideration must be given to the lower panel on all panel seams. Use a 3M Plastic Applicator PA-1 wrapped with a clean paper towel to clean difficult to reach areas.

Application Preparation Guidelines

3. Cut around the base of all rivets. Do not remove the caps. Reheat the rivets and re-brush the film down around the rivets.
4. Do not edge seal.
5. Cut film back 3mm-4mm on panel seams.
6. Avoid applying film over horizontal rivets that are less than 50mm apart.
7. Keep all vertical film seams at least 50mm away from all vertical rows of rivets.
8. Do not apply film to 90° angle (square) corrugations.

Steel

Do not apply film directly to unpainted steel. Any painted surface with bare metal or rust spots should be refinished. After painting, follow preparation recommendations found in Painted or Primed Substrates.

Untreated

1. Contact metal treatment suppliers for recommendations on treatment and finishing.
2. Prime and paint.

Electro-Galvanised

Follow the recommendations for untreated.

- Zinc electroplated
- Cold rolled
- Hot rolled pickled
- Black iron

Phosphate-Coated Galvanised

1. Remove white rust (oxidation).

Substrate Cleaning and Application Guidelines

2. Rinse with water and dry. All water must be removed.
3. Check for moisture by applying a piece of film to the steel. Bake it in a 149°C (300°F) oven for 5 minutes. Check for blisters in the film.
4. Prime and paint.

Rusted

1. Abrade the substrate lightly with a right angle grinder or random orbital sander. Use a 3M Scotch-Brite Surface conditioning Disc (super fine-grey) of appropriate size.
2. Clean the surface. Use **Method 3: Isopropyl alcohol cleaning.**
3. Test the cleaned substrate by wiping with a clean paper towel.
4. Repeat the IPA wipe if there is any evidence of dust or solvent film.
5. Prime and paint. Apply a fast-dry paint to any areas that have been abraded down to bare metal.

Unwarranted Metals

- Brass
- Copper
- Lead
- Magnesium
- Tin, Tin plate or Alloys

G. Painted or Primed Substrates

All surface treatments, primers and topcoats must adhere well to the base material. If the paint is not firmly attached to the base material, the graphic and the paint may pull

Application Preparation Guidelines

away from the substrate. Any visible signs of peeling, lifting or bubbling of the paint indicates poor paint-to-substrate adhesion. Original paint may not have adequate adhesion to some substrates. Even removing changeable films may pull off paint that is not firmly attached to the base material.

- Avoid finish paints that tend to chalk. Chalked paint on weathered surfaces must be removed by mechanical buffing. Chalked paint that is on the interior must be re-primed.
- Test for chalking with the Tape Snap Test.
- Be aware that some tinted paints may bleed through some films or sheetings.
- Be aware that some graphic materials may bleed through onto the paint.
- Avoid paints that contain migratory agents or agents that are difficult to adhere to. Some paints, especially those sold as graffiti-resistant, may contain ingredients such as silicones, chlorinated waxes, or other ingredients in relatively high amounts. It may not be possible to obtain adequate adhesion to these types of paint.
- Follow the drying and curing times recommended by the paint manufacturer. Under-cured paint may outgas, prevent the adhesive from adhering adequately, or prevent a removable or changeable product from removing as expected.
- The primer and the paint should be produced by the same manufacturer and formulated as companion products to ensure good adhesion between the paint layers.

Substrate Cleaning and Application Guidelines

Common Types of Paint

Baked Enamel Paint

These are the easiest paint systems to manage.

1. Bake according to manufacturer's recommendations and cool to room temperature.
2. Clean the surface. Use **Method 1: General cleaning** then **Method 2: Solvent cleaning**.

Latex Paint

High quality gloss or semi-gloss paints provide the best application surface.

Low lustre or matte paints contain matting agents that may contribute to poor film adhesion.

Some formulations do not allow films to adhere well.

Although most paints are usually dry to the touch within one hour, you cannot apply the graphic immediately after painting. Paint manufacturers typically recommend waiting one week. Even latex paint contains solvents that continue to evaporate for a period of time. If you must apply the graphic sooner, perform the Tape Snap Test in several places to ensure adequate dryness.

Clean the surface. Use **Method 1: General cleaning**.

Oil-based or Enamel Paint

Clean the surface. Use **Method 1: General cleaning**.

Application Preparation Guidelines

Two-part Urethane Paint

Two-part urethane paints must be cured before applying a graphic. If the paint has not thoroughly cured bubbles will form under the applied graphic. Follow the recommendations of the paint manufacturer.

As a general guideline, proper curing requires temperatures above 21°C (70°F) for 5 to 7 days, depending on paint thickness and temperature. This type of paint does not cure at temperatures below 9°C (50°F).

1. Test for outgassing.
2. Clean the surface. Use **Method 1: General cleaning** then **Method 2: Solvent cleaning**.

Powder-coated Paint

These paint systems are available in a wide range of formulations. Some formulations do not allow films to adhere well.

Clean the surface. Use **Method 1: General cleaning** then **Method 2: Solvent cleaning**.

Textured Paints

1. Clean the surface. Use **Method 1: General cleaning**.
2. Test for substrate integrity with the tape snap test.
3. If any dust comes off on the tape, clean the surface again.

Substrate Cleaning and Application Guidelines

H. Plastics and Rubber

Because of the wide variety of plastic and rubber materials, it is important that you clean an inconspicuous area before cleaning the entire substrate to be sure the method does not damage the material.

Dry the rigid plastic sheet before applying the film. Use the method recommended by the plastic manufacturer. Failure to properly dry the plastic can cause bubbling within the plastic sheet and under the applied film during the heating stage of the forming process.

PETG sheeting and some acrylic sheeting may not need predrying. Consult your plastic manufacturer.

Common Types of Plastic

Some types of plastic require special consideration to be sure the graphics will perform as expected. Check the list below.

ABS

Clean the surface. Use **Method 1: General cleaning**.

Acrylic (such as Lucite and Plexiglas)

Clean the surface. Use **Method 1: General cleaning**.

Fibreglass

1. Test for outgassing. Time factors for this test should duplicate the time involved between production of the fibreglass and the application of film.

Application Preparation Guidelines

2. If bubbles appear under the film, cure the fibreglass 1 week or bake for 2 hours at 65°C (150°F) and retest.
3. Remove oily contaminants. Do not use solvents as surface cleaners. Clean the surface. Use **Method 1: General cleaning**.
4. Rinse and dry.

PETG

Clean the surface. Use **Method 1: General cleaning**.

Polycarbonate (such as Lexan)

The mechanical strength of moulded safety products, such as sports helmets, may be reduced if certain films or sheetings are applied. Therefore, these are not warranted.

1. Follow the fabrication and handling procedures recommended by the resin manufacturer. Moulding and filling techniques, surface preparation and handling also affect the mechanical strength.
2. Test for outgassing. If there is bubbling do not use the substrate; outgassing can continue for extended periods and may take weeks to show up in the field.
3. Clean the surface. Use **Method 1: General cleaning** or **Method 3: Isopropyl alcohol cleaning**.

Polypropylene and Polythene

1. If the film is not specifically recommended for these substrates, Flame treat the substrate.

Substrate Cleaning and Application Guidelines

2. Clean the surface. Use **Method 1: General Cleaning**, then **Method 2: Solvent Cleaning**.

Polystyrene, Styrene

Do not use for exterior applications.

Clean the surface. Use **Method 1: General cleaning**.

Rubber and Caulking Materials

Not warranted. Films and sheeting have poor adhesion to these materials.

I. Poster Board

Expanded PVC (such as Sintra and Lustra)

Clean the surface. Use **Method 3: Isopropyl alcohol cleaning**.

Paper-based Poster Board (such as Foam-core)

Remove dust with a tack cloth.

J. Wood Products

Because wood absorbs moisture, it must have a thick smooth coating of high-quality paint on both sides and all edges.

All faces of exterior surfaces must be primed and painted with conventional, high-quality, exterior paints that are formulated for wood.

All faces of interior surfaces require only a prime coat.

Application Preparation Guidelines

Some substrates listed below require edge sealing. Two examples of appropriate materials are aluminised, urethane edge sealer or polysilicone paint.

Fibreboard or Oriented Strand Board

1. Test for paint coating integrity with the Tape Snap Test.
2. Clean the surface as outlined in Painted or Primed Substrates

Hardboard

1. Use material that is fused or tempered and is smooth both sides.
2. Fill any voids with wood filler and sand with fine-grit sandpaper.
3. Prime and Paint.
4. Clean the surface as outlined in Painted or Primed Substrates.

Plywood

Surfaces must be smooth impermeable, and weatherproof.

1. Fill any voids with wood filler or other suitable sealer.
2. Sand smooth.
3. Coat the edges multiple times with an edge sealer.
4. Remove any loose contamination.
5. Clean the surface as outlined in Painted or Primed Substrates.

Substrate Cleaning and Application Guidelines

High Density Overlaid, General use or sign grade only

1. Seal the edges
2. Scuff the face with 200 grit or finer sandpaper.
3. Lightly wipe with a tack cloth to remove any dust.
4. Clean the surface as outlined in Painted or Primed Substrates.

Medium Density Overlay Plywood, Exterior Grade Plywood (fir only, not oil treated)

1. Seal the edges.
2. Prime and paint the substrate.
3. Clean the surface as outlined in Painted or Primed Substrates.

Other Wood Products

Avoid heavy resin-coated woods.

Follow the surface preparation recommendations of the wood supplier.

1. Seal the edges.
2. Prime and paint the substrate.
3. Clean the surface as outlined in Painted or Primed Substrates.

Application Preparation Guidelines

A. Flame Treating

CAUTION

Heat or open flames may contribute to a flash fire or burns. Follow these precautions when using a heat source for flame treating.

- Read and follow the instructions supplied with the heat source.
- Avoid personal contact with the heat source. Wear heat-resistant gloves and safety glasses.
- Do not use heat sources near solvent mixtures or residues, or where solvent vapours may be present.

CAUTION

Always provide adequate ventilation to remove emissions that result from the heat of flame treating. Failure to provide adequate ventilation can result in operator exposure.

Flame treating changes the molecular structure of the substrate. It oxidises a very thin layer of the film allowing the adhesive to wet the surface and make a good bond.

1. Clean the substrate so that it is free of dirt and oil.
2. Use a burner designed to produce a continuous "ribbon of flame." Either a straight or curved flame will work, depending on the shape of the object to be treated. This does not exclude using a series of small burners to accomplish the same result.

Special Testing or Surface Preparation

3. Obtain the correct "atmosphere" at the tip of the flame by having an excess of oxygen. Use an air to natural gas ratio of 11 or 12 to 1 on a volumetric basis. In the case of propane gas, the ratio is 24 to 1.
4. Place the flame so that the tip of the outer blue envelope just touches the surface of the material. The inner, yellow or red cone does not treat as effectively as the outer tip.
5. Treat the substrate for 1 second. Flame treating operations that overexpose the plastic may tend to deform or soften it. Flame treating is NOT heat treating.
6. Check for proper treatment by pouring water on the substrate. If the water "beads up" into droplets, the surface is not adequately treated. Water will "wet" the substrate with a film of water if the treatment is done correctly. Dry thoroughly before applying the film.
7. Do not touch the substrate before application.
8. Apply the film to the substrate soon after flame treating. The surface oxidation will disappear within minutes after treatment.

B. Outgassing Test

1. Apply a 135 x 135mm piece of polyester film or the film or sheeting used to make the graphic. Films vary in their ability to allow the gas to escape. Use sheeting 390 or polyester for greatest assurance that the substrate will not outgas.
2. Wait for 24 hours or, if possible, ovenbake for 2 hours at 65°C (150°F) or 5 minutes at 176°C (360°F).

Application Preparation Guidelines

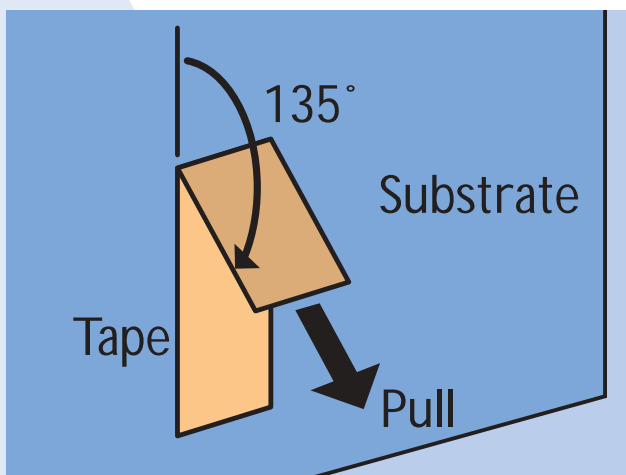
Special Testing or Surface Preparation

3. If bubbles appear under the film, the substrate is outgassing.
4. If the paint or substrate is outgases, wait 24 hours and test again. Continue to apply test pieces until the substrate no longer outgases. If the substrate continues to outgas, contact the substrate manufacturer for assistance.
4. If separation occurs, removal without damage is not warranted for removable or changeable products.

C. Tape Snap Test

Because substrates vary, this test is only an indicator of general surface characteristics. It may not be indicative of the entire area.

1. Firmly apply a 25mm strip of aggressive, pressure-sensitive tape over the area to be tested.
2. Remove the tape by pulling it back upon itself at a 135° angle using a rapid, firm pull.



3. No separation should occur between the top coating and the layers underneath. No paint or chalking should be present on the tape.