3M

Application Tape
Premasking and Prespacing Tapes

Product Bulletin

Product Description

An application tape is an adhesive-backed translucent material that is used as an aid in applying graphics.

Typical uses of application tapes are:

- to add stiffness to make application easier
- to protect the film from stretching during application
- to protect the graphic image from scratching during application
- to aid in the registration of cut graphic parts
- to protect applied graphics from damage during other operations

Each tape has a different level of adhesion. This ensures that the tape you use has a lower adhesion to the film than the film does to the substrate.

Product Line

Paper Application Tapes

premasking	3M™ Premasking Tape SCPM-19
	3M™ Premasking Tape SCPM-44X
prespacing	3M™ Prespacing Tape SCPS-2
	3M™ Prespacing Tape SCPS-55
	3M™ Prespacing Tape SCPS-100
	3M™ Prespacing Tape IAT ecg

Film Application Tapes

prespacing	3M™ Clear Prespacing Tape SCPS-101

Product Characteristics

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

Physical & Application

Material	Paper Application Tapes: paper	
	Film Application Tapes: clear film	
Thickness (paper)	110 µm to 120 µm (0.11 mm to 0.12 mm)	
Thickness (film)	90 µm to 100 µm (0.09 mm to 0.10 mm)	
Adhesive type	pressure-sensitive	
Adhesive appearance	clear	
Adhesion	1.5 to 3.5 N/25mm	FTM 1: 180° peel, substrate stainless steel, cond. 24h 23°C 50%rh

Each tape has a different adhesion, designed to work with the films, inks and graphic protection as recommended in this bulletin.

Application method	Lamination of Application Tape dry only!

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

Usage Recommendations

Application tape is not required for all films or types of application. It is even specifically not recommended for certain films or applications.

The type of premasking or prespacing tape to use depends on the type of grahics produced and the last component (ink, overlamintate or clear) that was applied to the graphic construction.

When to use an Application Tape

An application tape can reduce stretching, wrinkling and air entrapment during hand application of the graphic. Typically we recommend the usage of an application tape when the graphic meets at least one of these criteria:
- graphic construction is less than 100 µm
- striping or intricately-cut graphics
- cut graphics; eliminates the time consuming layout of individual parts on the application surface.

The use of Film Application Tape is recommended for assembling multi-colored graphics.

Important notice

Always check for ease of part pick up before releasing the job. This is particularly important if the cut graphics include small letters, narrow stroke letters or intricate designs.

Graphic film with Controltac™ and/or Comply™ should not be removed from the liner and then be reapplied to the liner. These key application features will be lost if you prematurely remove the liner.

Do not use an application tape for graphic installations on textured substrates. The graphic may not have enough initial adhesion to the substrate to allow tape removal without lifting the film of the substrate.

Surface	Large format (> 0.5 m²)		Small format (< 0.5 m²)	
Most unprinted Scotchcal™, Controltac™ films	SCPM-19		SCPS-100	SCPS-101
Graphics with exposed Comply™ liner	SCPS-55			
Premium ElectroCut™ films (SC 100) and ElectroCut™ Film SC 80	SCPS-100	SCPS-101	SCPS-2	SCPS-101
Wrap Film 1080	SCPS-55			
Glass decoration films SC 7725	SCPS-55			
Mirror films SC 7755	SCPS-2			
Intermediate and promotional ElectroCut™ films SC 30, SC 50, SC 2330, SC 5525	IAT ecg			
Most overlaminates	SCPM-19		SCPS-100	
Thick overlaminates (i.e. graphics for floors)	not required			
Overlaminate for window graphics SC 8914i	not recommended			
Solvent inks, uncleared	SCPS-100			
Most solvent clears	SCPS-100			
8920	SCPM-44X			
1955abc	SCPS-100		SCPS-2	
Film 3545C with solvent clear	SCPM-44X		Do not use this products for prespaced graphics	
UV inks, uncleared	SCPM-44X			
Most UV clears	SCPM-44X			

Shelf Life, Storage and Handling

Storage conditions!	Tape ages especially when stored at elevated temperatures. Its adhesive becomes more aggressive.
Handling	Store Film Application Tape rolls in a vertical position.
	Unrolling the tape during mechanical application can cause the tape to stretch resulting in pop-off and curl of the graphic. If graphic film applied with tape has been improperly stored, the removal of the tape after graphic installation might be more difficult and result in edge lifting.
Unused application tape	Shelf life is 1 year from the date of purchase when stored in a cool, dry place out of sunlight.
Graphics with application tape applied	After the tape has been applied store the graphic in a cool, dry place out of sunlight. Store graphics flat or wrapped onto a core with a minimum diameter of 150 mm (6"). Very stiff films (i.e. reflective material) store flat only. Apply the finished graphic laminated with Paper Application Tape within one year from the date of its processing.
	Storage of graphics laminated with any Film Application Tape above 25 °C can cause lifting or tunneling. In order to minimize this effect it is recommended to apply the finished graphic laminated with Film Application Tape within 3 months from the date of its processing.
	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.

Prespacing Tape for Cut Graphics

Applying an application tape to prespaced cut graphic parts eliminates the time-consuming layout of individual parts on the application surface.

About Removing Film from Liners

Graphic film with 3M™ Comply™ adhesive, or 3M™ Controltac™ graphic films: Do NOT remove these films from their liners and then attempt to reapply the film to the liner. The liners on these films play an important role in how the films apply to a substrate. Key application features will be lost if you prematurely remove the liner.

For films with Comply™ adhesive where there is liner exposed, use only prespacing tape SCPS-55 and with Comply™ v3 adhesive specifically, use this prespacing tape for only large cut graphics.

Procedure for Prespacing Graphics

1. Follow the recommended cutting sizes found in each film's 3M Product Bulletin.

2. Make the cut only through film and adhesive. Refer to 3M Instruction Bulletin 4.1 for specific recommendations.

3. Weed (remove) the background material that will not be used in the graphic.

Note: Use caution to avoid lifting very narrow characters from the liner.

4. Apply the appropriate application tape specified in the Usage Recommendations Tables. See the Techniques for Applying Application Tape section later in this bulletin for more specific instructions.

5. Trim the graphic to size.
Note: Always check for ease of part pick up before releasing the job. This is particularly important if the cut graphics include small letters, narrow stroke letters or intricate designs with narrow stroke widths or if applying prespacing tape to an exposed liner of a film with Comply™ adhesive.

6. If the prespacing tape does not adequately pick up the cut graphic parts or adhere well to the liner, a heat lamp vacuum applicator may be required. Process the graphic with its prespacing tape in a heat lamp vacuum applicator at 150°-180°F (66°- 82°C). The duration of this process is dependent upon the type of equipment used. Typically, a two-minute cycle with little or no dwell time at the peak temperature will provide satisfactory results.

7. If the prespacing tape does not remove all of the prespaced cut graphic parts easily from the liner, reapply the tape using a squeegee to secure the elements back to the liner. Then gently pull the graphic, liner-side down, over the corner edge of a surface. This helps loosen any imbedded kiss cut edges. See FIGURE 1.

FIGURE 1
Loosening Prespaced
Graphics from a Liner
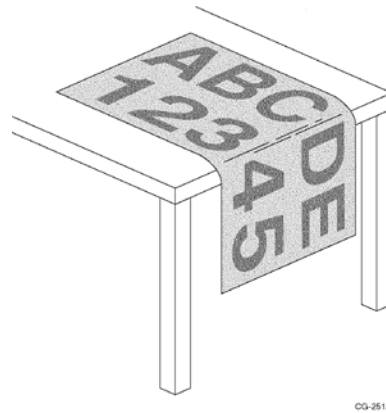
Techniques For Applying Application Tape

In addition to other Bulletins specified in this document, the following Bulletins provide details that you may need to successfully apply a graphic.

- Application, substrate selection, preparation and substrate-specific application techniques. 3M Instruction Bulletin 5.1.
- A guide to understanding and applying graphics to common indoor and outdoor wall surfaces. 3M Instruction Bulletin 5.37.
- Application, general procedures for indoor and outdoor dry applications. 3M Instruction Bulletin 5.5.

Preparation of Printed Graphics Before Applying Application Tape

Be sure that printed graphics are thoroughly dried or cured before applying application tape. For specific recommendations, see the Instruction Bulletin for the inks being used.

If sheets must be stacked, wrap the stacks with polyethylene and seal to minimize moisture absorption or loss during storage and handling. This can prevent uneven moisture absorption or loss, both of which results in the edges of the sheets waving or curling.
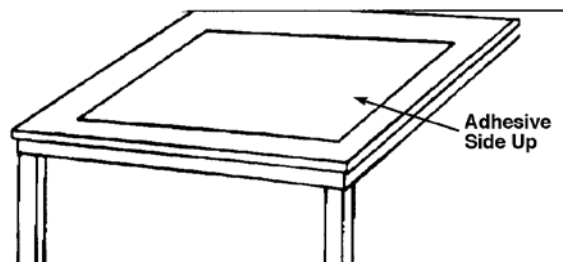
Cutting Films with Application Tape

Certain precautions should be noted when cutting. For specific recommendations see 3M Instruction Bulletin 4.1.
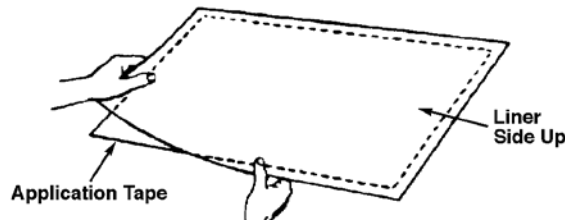
Hand Premasking Procedure

1. Lay an appropriately-sized piece of application tape adhesive-side-up on a table. See FIGURE 2.

FIGURE 2
Lay the Application Tape
Adhesive-Side-Up
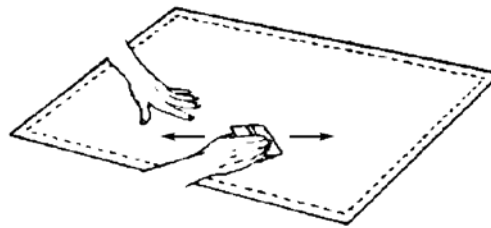

Adhesive Side Up

2. Align the graphic face-down on the application tape adhesive. See FIGURE 3.

**FIGURE 3
Align the Graphic Face Down**

3. Squeegee the graphic from the liner side to adhere the application tape. Work from the center out. See FIGURE 4.

**FIGURE 4
Squeegee the Graphic and
Application Tape**

4. Flip the entire graphic/application tape assembly over and squeegee the application tape side. Again, work from the center out.

5. Trim the graphic to size or cut it to shape. See Cutting Films with Application Tape

Mechanical Lamination   Numerous laminators are available. FIGURE 5 provides two examples. Follow the manufacturer's operating and safety procedures.

**FIGURE 5
Examples of Mechanical
Equipment**
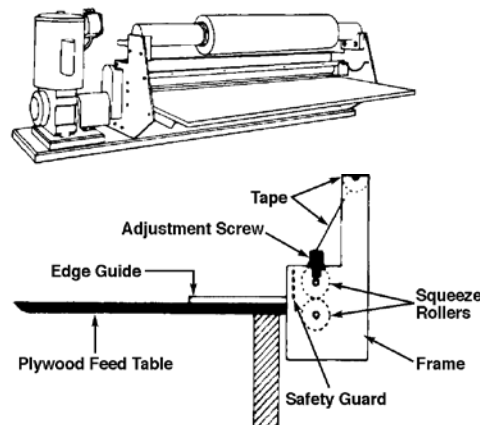
**Suggestions When Using 3M
Application Tapes**

- Do not apply brake pressure to the application tape feed roller. Brake pressure stretches the tape during lamination causing the application tape to shrink on the finished graphic.

- The application tape laminator should have at least one rubber squeeze roller at the nip site.

- The recommended nip pressure setting depends on the device used. In general, higher pressures and temperatures will provide higher adhesion of the application tape to the film and exposed liner. Excessive pressure can cause the application tape or the film's liner to curl.

- An edge guide and a feed table can be used to keep the graphic aligned with the application tape.

- After completing a job, the laminator may be left threaded, but remove the pressure from the squeeze rollers. Prolonged pressure flattens the rollers, which can cause lamination problems.

- A heated roller may be used up to a temperature of 93°C.

Techniques for Removing the Liner and Application Tape

- To remove a liner, *always* peel the liner away from the graphic construction (application tape/graphic film).

Note: Never peel the graphic construction away from its liner; this can stretch or distort the underlying graphic.

- To remove the application tape after the graphic film is properly applied to the substrate:

    1. Remove the application tape by peeling it away from the graphic film at a low angle of approximately 180°.

    2. Resqueegee all edges to ensure good adhesion to the substrate.

Important Notice

After applying application tape, avoid exposing the graphic to sunlight except during application. Sunlight, or UV light, can cause the tape to permanently bond to the film.

Remarks

This bulletin provides technical information only.

Important Notice

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.

Outdoor exposure of the film might lead to slight color fading, gradual change of gloss and wear over time, which is 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.