

Avery Dennison[®] Instructional Bulletin 2.01

Tips for Cutting of Avery Dennison Films

Revision 4

Introduction

Avery Dennison pressure sensitive opaque signage films can be cut successfully on a wide variety of computerised cutting equipment including both friction fed and sprocket fed plotters as well as flatbed plotters. Cutting different films often requires adjustment of equipment settings to obtain a satisfactory result. Generally, thicker films are more difficult to cut than thinner films while reflective films generate more wear on the blade. Refer to the relevant technical data sheet to select the correct product for any particular application.

Ambient Conditions

It is recommended that films be stored in the original packaging until the material is to be converted. The best working conditions in a production area are 18 - 20°C and 45 – 50% RH. Material left over night should not be subject to temperatures lower than 13°C. Films should be wrapped in polyethylene if overnight storage is needed. Fluctuations in temperature and relative humidity should be avoided as much as possible.

Cutting

Blade pressure is an important factor in successful sign cutting. Determining the correct pressure to place on your knife depends on several factors, which only you can determine. For each different type of material i.e. cast, calendered, reflective etc. an adjustment will need to be made to the pressure / weight to achieve a satisfactory cut. A general rule of thumb is that more pressure is not necessarily better, the lightest weight or the least amount of pressure that will cut through the face stock and adhesive is the best to use. If too much weight or pressure is used it may score the liner, fracturing the silicone coating, exposing uncoated paper to the adhesive. This may inhibit the graphic releasing from the liner with the application tape. Always make a test cut prior to cutting the desired graphic.

A very sharp blade is essential. If you are experiencing cutting problems with Avery Dennison vinyl, try a new blade. There are three types of blades available:

- 30° blade for most vinyl films and polyester
- 45° blade for thin sandblast materials, most reflective films and calendered vinyls.
- 60° for sandblast films and 911 EVG reflective

Avery Dennison signage films can be cut on friction fed and sprocket fed computer sign cutting machines as well as flatbed plotters.

Note: Special attention may need to be taken when cutting a material with a #90 Polycoated StaFlat liner due to its 'soft / spongy' nature. Test cutting prior to production may be needed. Begin the test with a lower pressure setting and increase until the desired cut is achieved.

When cutting reflective films, graphics for the same application should be cut from one piece of material. This will avoid any perception of a colour difference or colour shift on the viewing angle. This is not considered a defect of the material.

Weeding

Since the open side of most letters are on the right hand side, it is recommended that the matrix be weeded using a rocking motion from right to left.

When weeding large letters or graphics, there may be a large, hard to handle matrix area to deal with. We recommend that the matrix be cut into smaller areas to help make the weeding process easier to handle and less cumbersome.

Transferring

Using the proper application tape is paramount in the successful conversion of Avery Dennison signage films. An application tape incorporating adequate adhesion strength to lift the graphic is needed. At the same time if the adhesion level of the application tape is too high, the graphics will not transfer to the application substrate. Always pre test the application tape for suitability before production.

Pressure must be applied to the application tape when applying it to the graphic. The use of either an Avery Dennison squeegee or roll laminator is recommended. After applying the application tape, turn the graphic over so the liner is face up. Re-squeegee the graphic again on the liner side to apply even pressure to the graphic.

Place the graphic with the liner facing up and remove the backing away at 180° with one hand, holding the application tape and graphic down with the other hand. Apply the graphic to the substrate according to Instructional Bulletin 1.4. For information relating to substrate cleaning and preparation, refer to Instructional Bulletin 1.01.

Trouble Shooting

Face film tearing when cutting

- Replace used blade with a new blade
- Reduce blade pressure / weight
- Reduce cutting speed

Blade 'skipping' over film producing perforations or rough edges

- Replace used blade with a new blade
- Reduce blade pressure / weight
- Reduce cutting speed

Blade is cutting liner

- Reduce blade pressure / weight to suit film thickness

Blade not cutting completely through face film

- Replace used blade with a new blade
- Increase blade pressure / weight

For further information, contact your local Avery Dennison Graphics representative.

Warranty and Limited Remedy

This instructional bulletin describes a technique. The information contained herein is believed to be reliable, but Avery Dennison makes no warranties, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. To the extent allowed by law, Avery Dennison shall not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential, in any way related to the technique of making a graphic regardless of the legal theory asserted.

The above information provides basic information on how to apply pressure-sensitive graphics. The instructions are designed to help ensure success across a broad range of applications. Depending on the size and complexity of applications, a certain amount of expertise is needed.

Professional applicators can be hired to ensure proper application of finished graphics. When mounting graphics in remote geographic areas, professional applicators can offer the added benefit of local service.

Avery Dennison has a vast network of Certified Installers who have been specially trained and certified in accordance with our recommended techniques.

You can review the Certified Installer list here: [Find a Graphics Installer](#)

Consider hiring a professional whenever the application requires:

- Multiple panels to be registered
- Complex surfaces, such as rivet and corrugated trucks
- Harsh environmental conditions (i.e. outdoor applications in high heat climates)
- Remote geographic locations

For further information, contact your local Avery Dennison representative.

