

Application Instructions for Avery DennisonTM Films

Instructional Bulletin #4.00 (Revision 4)

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1.0 Consult Product Data Bulletin

- Before starting application consult the appropriate product data bulletin for information regarding minimum and maximum application temperatures, recommended substrates, and immediate service conditions before and after application. These factors are critical to a successful application and future decal performance. Once assured that all factors are understood with respect to the product, and all factors comply with the product recommendations, cleaning and surface preparation can begin.

NOTE: Documentation of application date, material lot number, and application conditions (temperature, etc.) is required to support warranty claims in the event of decal failure.

2.0 Surface Preparation

- All application surfaces must be considered contaminated and must be cleaned according to Instructional Bulletin #1.10 Surface Cleaning and Preparation.
- The surface must be completely dry. Check all seams, rivet heads, and corrugations for any remaining moisture or solvent. If moisture or solvent is present, a heat gun may be used to dry the surface completely. Do not use a torch or open flame.

NOTE: Always ensure the painted surface has been properly processed per the paint manufacturer's specifications or recommendations. The drying or curing period of the paint system must be followed. Failure to adhere to the above can result in poor decal performance and difficult removal characteristics.

3.0 Application Tools

- Squeegee
- Heat Gun
- Razor Knife
- Rivet Brush
- Masking Tape
- Weed Burner (torch with flame spreader attached)
- Marking Pencil
- Air Release Tool (Straight Pin)

4.0 Temperature

- Ambient Air Temperature - Air temperature of environment
- Surface Temperature - Substrate temperature of vehicle or surface

NOTE: The markings can be applied if the ambient air and substrate surface temperature are between the minimum and maximum application temperature specified in the appropriate Product Data Bulletin. If the substrate surface temperature is below minimum requirements, the substrate must be heated until minimum application temperature has been achieved. During cold temperature months, it is recommended to use a weed burner on the surface of the substrate before and after application. This will increase the surface temperature of the substrate and accelerate the ultimate adhesion of the film.

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5.0 Registration

- Use a pencil, pen, or marking tape, to mark the decal location on the application surface.
- If a chalk line has been used, replace all chalk marks with pencil or pen lines. Remove the chalk dust before applying decal.
- When overlapping multi-part decals, apply individual sections beginning with the rear of the vehicle and working towards the front and/or beginning with the bottom of the vehicle and working toward the top. The actual overlap should be at least 0.25 in.(6mm) width and less than 0.5in. (13mm).

6.0 Key Application Tips Before Proceeding

- Surfaces must be completely clean and prepared according to Avery Dennison Instructional Bulletin #1.10. This is a critical first step toward successful decal application.
- Follow the guidelines toward minimum and maximum application temperatures and required service conditions before and after application.
- Do not use application fluid or the “wet method” during installation. Water or application fluid not properly squeezed from underneath the film can remain between the substrate and the decal thereby reducing ultimate adhesion.
- The decal must be squeegeed before and after premask removal. During premask removal, decals are exposed to potential edge lifting. In order to eliminate this, re-squeegee the decal (especially the edges). Wrap a squeegee sleeve or soft clean rag around the squeegee to prevent potential damage to the decal.
- All smooth body seams or edges must be cut flush with the edge, and be free of caulk, and sealant. The decal must be re-squeegeed along the cut edge to prevent potential edge lifting.
- When applying decals to roll-up doors, the decal must be applied over the entire surface of the door while the door is in the closed position. After the initial application all seams need to be cut completely on the top and bottom edge of the seam removing about 1/8” of material creating a small gap. After cutting the film, each seam must be squeegeed down so there are no loose edges of film.
- Rivet and corrugation substrates require heat sources during application.
- For large bolt heads, square bolts, or stainless steel rivets, the film must be cut around the rivet head. Refer to the information at the end of this bulletin regarding OVERSIZE RIVET BOLTS.

7.0 Application Procedures

The following instructions show a step by step procedure for installing large premasked markings on a flat with riveted surface. The method used is the Top Hinge Method. Other methods can be used (such as center or vertical hinge method or no hinge method) at the discretion and expertise level of the applicator. For questions regarding application procedures or instructional videos on proper application techniques contact Avery Dennison’s Customer Technical Support Department.

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7.1 Application procedure large premasked marking top hinge method – Avery Dennison Films

1. Using previously marked registration masks position the marking on the application surface using small pieces of tape to hold it in place.
2. Once the decal has been properly registered, apply a masking tape hinge along the top edge of the decal.
3. Cut through the masking tape along the sides of the decal, being careful not to score the application surface.
4. Flip the marking up over the hinge and remove the liner. Always remove the liner from the marking.
5. Hold the decal away from the application surface with one hand and squeegee from the top center downward and outward. Use firm, short, overlapping strokes. As rivets are encountered, use light, even squeegee pressure to gently drape film over the rivet heads. This will help prevent wrinkling of the film. Remove the masking tape hinge (if one was used). Re-squeegee the top edge to which the tape hinge was applied using overlapping, upward strokes. NOTE: Prior to removing premask, (Step 9), check final decal positioning.
6. Before premask is removed, use a pin to puncture the decal in 3 or 4 places around the rivet head (do not cut with a knife or razor blade or tearing may result). NOTE: Applicators may prefer to perform steps 6-8 after premask removal rather than before premask removal.
7. Press any entrapped air toward the puncture holes using a squeegee.
8. Use a heat gun to gently warm the film over the rivets and place the rivet brush on top of each rivet. Immediately after heating, with short strokes, move the brush back and forth from side to side over the rivet head.
9. Remove the premask/application tape from the decal by peeling back on corner of the mask and pulling it back at a 180° angle.
10. Place the rivet brush at a 45° angle as illustrated and apply the film to the sides of the rivet head using a circular motion. A heat gun must be used to ensure proper film conforming to the rivet. NOTE: Some rivets, such as “huck bolts” will require cutting around rivet due to size or structure of rivet to prevent tenting.
11. Re-squeegee the entire decal using very firm squeegee pressure, including all edges. Puncture any air bubbles with a straight pin and re-squeegee from the edge of the bubble towards the puncture.

7.2 Application procedures for oversize rivet bolts/stainless steel rivets

- Following are recommendations and comments concerning application of Avery Dennison™ XL Film to oversize rivet bolts.

7.2.1 Films that can be used

- Only cast films with permanent adhesives can be used.

7.2.2 Application Temperature

- Reference minimum and maximum temperatures on Product Data Bulletin.

7.2.3 Application procedures to oversize rivet bolts

1. Apply the film to rivet area per instructions outlined in the above application procedures.
2. After the film is applied (premask removed) to all areas including rivets, the film must be cut completely around rivet.
3. Cut the film around the rivet and be careful to make sure the film is cut around the entire rivet. Cuts should be done at a 90° angle to perpendicular.
4. Reheat rivet area with heat source.

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8.0 Professional Application Services

- 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. 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
- Contact the Professional Decal Application Association at 800-562-2596 for information on member applicators and services.

Revisions have been italicized.

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