



## Vehicle Application Guide



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## MACmark® Tuning Films Application Overview



### Selecting the media for application:

- a) Did you select the correct media for your application? – Do not attempt to use the thicker, textured Tuning Films on complex curves.
- b) Tuning Films are not designed or recommended to be printed or laminated. However, solvent and latex inks will print nicely on most finishes if desired.
- c) Is the media within proper shelf-life and stored in a reasonably controlled environment? (Ideal is 60° - 80°F @ 50% relative humidity)

### Pre-application Planning (Application Checklist):

Prior to application, plan your steps for a successful wrap by using the following checklist:

- 1) The ideal location for an installation is indoors in a controlled environment (60-80° F). Minimize changes in temperature, moisture, wind and dust.
- 2) Remove all trim items prior to the wrap. This includes: license fixtures, antennas, name plates, lighting fixtures, etc. Keep items organized and don't remove items you cannot comfortably put back on.
- 3) Inspect the vehicle and fill out the proper inspection sheet (online) and send it to MACtac®. This is required to qualify for the MACtac Vehicle Wrap Warranty. (TA2501)
- 4) The surface of the vehicle must be cleaned at least 12 hours prior to application and kept indoors to allow proper drying. If not possible, morning dew will re-wet critical areas, like seams and rivets which must be re-dried prior to application. Some of the modern finishes and finish enhancers like waxes and paint conditioners require using Xylene (a.k.a. Xylol) as a cleaner to remove.
  - i) Ref: TA2032 (Technical Assistance bulletin) for complete cleaning recommendations.
- 5) Just prior to application, the vehicle should be wiped down with isopropyl alcohol. Wipe with a wet rag and then towel off with a dry rag, do not simply allow evaporation. Pay special attention to edges, seams, around moldings and

gaskets and where objects were removed.

- 6) The recommended surface temperature of the vehicle for application must be above 60°F.
- 7) Layout and measure your graphics and tape or magnet to the vehicle to ensure everything lines up correctly and to avoid seams wherever possible.

### Tool kit:

The standard toolkit for vehicle applications is:

- A temperature adjustable industrial heat gun (propane torch is only recommended for installation of gloss Tuning Films)
- No-touch temperature gauge
- A soft squeegee or a hard squeegee with a low friction, scratch free sleeve
- A sharp knife with many replacement blades!
- Tape measure and positioning tape
- Air release tool (straight pin)
- Rivet brush for riveted applications
- Cotton gloves
- And a helper (if possible)!
- 610 tape for snap tape test
- Masking tape or magnets

### Application Basics:

- 1) Application begins at the back of the vehicle for vertical panels and from the bottom up for horizontal panels. This allows for all overlaps to face the back or the bottom which prevents wind and rain from causing a premature failure. Seams should have a 1/2 to 1 inch overlap.
  - a) Many vehicles are able to be wrapped without seams and this will achieve a cleaner look. Plan ahead if there are areas which require seams to make them as small and unnoticeable as possible. Avoid overlapping textured Tuning Films.
  - b) Use firm pressure on the squeegee to apply the media to the surface, starting at the high points in the middle and working out toward the edges.
- 2) For channels, wherever possible, lay the media through the channel rather than bridging and stretching the media. Any vinyl film can exhibit shrinking or tenting when overstretched or overheated.
- 3) In many difficult areas, a thin layer of an adhesive promoter or acrylic spray primer can enhance adhesion. Be sure to use the primer sparingly and allow it to completely cure according to the directions on the can, prior to graphic application.
- 4) To properly bridge a gap:
  - a) Apply the film to the flat areas first.
  - b) Use heat to soften the film, somewhere around 180° to 200°F.
  - c) Immediately push the film into the groove, starting at the middle of the groove and working out to both sides. Sometimes using a cotton glove or soft cloth instead of a squeegee is the way to go.

- d) Since the film cools quickly, it is important to work in small areas and continue to heat the film as your work moves along.
  - e) Finally, after the film has been applied you must heat the film to a higher temperature, being careful to not use too much heat on matte or textured films, to eliminate the stretching stresses created in this application. Move the heat source slowly. Now that the film has been applied you are also heating the body of the vehicle and it takes more heat to achieve the final temperature requirement. Using a no-touch temperature gauge is strongly recommended to insure this very important step is done correctly.
- 5) Edges, seams and trim should now be cut and re-squeegeed to ensure good adhesion. It is a very good idea to also use high heat along these areas to speed up the adhesive build and ensure a good application.
- a) Do not wrap films around 180° turns as this will most likely result in failure.
  - b) Do not wrap films under the edges of the car or into areas that do not clean well.
- 6) MACtac Tuning Films employ air egress technology that allows air to flow easily in all directions. This will minimize the need to pop bubbles. However, it is still possible to get an occasional bubble. Should a bubble appear use an air release tool or pin to pop the bubble. Do NOT use a knife as this starts a tear which can result in a failure.

### Tips and Tricks for Successful Applications:

- Know your surface and its limitations (Do not wrap gaskets, rust, rubber seals, ABS plastic, etc.)
- Fill out and submit the vehicle inspection report as required for warranty coverage.
- Provide a controlled environment and a clean vehicle.
- Use a felt squeegee or a felt edged hard squeegee to avoid scratching the films.



## MACmark® Tuning Films Application Overview



Thank you for your interest in MACtac's Tuning Film Series. Most of the MACmark Tuning Films feature the micro-structured air egress technology and all are repositionable for a successful application.

- 1) Our Textured series is best suited for flat to moderately curved surfaces normally found in a typical vehicle wrap. The Silver Moon, Black Leather, Carbon Fiber, and Brushed Metal vinyl films\*, are easy to handle, fast to apply and brilliant as a final product. Recommended for flat to simple curves such as:
  - a. Hoods
  - b. Spoilers
  - c. Roofs
  - d. Interior dash
  - e. Accessories such as laptops, cell phones, etc.
  
- 2) Our Sublime and Iridescent Films are also suited for flat and moderately curved surfaces; however, they are exceptional on complex surfaces. This 3.4 mil proprietary vinyl film is an easy to handle high gloss or zero glare matte finished product. These products are recommended for 2 and 3-dimensional curves such as:
  - a. Everything above plus;
  - b. Fleet
  - c. Moderate to complex automotive wraps

\* Please refer to MAC2839 for more information on all colors and finishes available.

- Always use a sharp knife for trimming (snap-off or replace blades frequently).
- Use an air release tool, not a knife, to relieve air bubbles.
- Heated media applied to cold metal will cool quickly. Apply enough heat to do the job correctly and work in small areas.
- Use heat to soften the film prior to stretching.
- Use heat to relax the film after it has been stretched into the channels or complex curves. This also allows the adhesive to build to a high bond quickly.
- Seams and edges are common failure points. Be sure that edges are clean and dry. Cut all seams and then heat and re-burnish all edges to insure a good bond.
- Do not over-heat or over-stretch the media. Channels that result in the film being stretched too far must be cut. Overheating matte or textured films can result in glossing and/or loss of texture.
- After all the film has been applied, go back and apply heat to the graphic to a high temperature with a heat gun in the areas the vinyl has been stretched to relieve stresses created by stretching. Use care with a heat gun to apply a liberal amount of heat, and avoid heating matte or textured films over 180° F.
- Trimming and Finishing Around Windows: Contact with Rubber Window Seals will cause the adhesive to fail. Therefore, graphics need to be trimmed off the rubber seals by 1/8 inch minimum or tucked under the rubber.

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