

Technical Bulletin 3.0

Application Bulletin of Mactac ColourWrap Series

The present Technical Bulletin provides detailed information on how to apply Mactac ColourWrap Series. For specific information on products' properties please consult the corresponding technical datasheet.

REQUIRED TOOLS

To ensure proper application of the material, you will be needing the following tools:

- Mactac Cleaner (Product Code BO7680001) to clean the surfaces prior to application.
- Professional heat gun to heat the material.
- Infrared thermometer to verify surface temperature when heating the material.
- Soft Mactac plastic squeegee Europe (Product Code EB8860002)
- Protective strips Mactac Squeegee Strips (Product Code BR8340001)
- Cutter with new blades for a clean cut.
- Mactac Glove (Product Code BQ0810001) to protect and facilitate application.
- Lint-free cloth for cleaning

SURFACE PREPARATION

Application of the product is recommended only on painted metal surfaces. Painted metal surfaces selected for application need to be properly cured and completely dried accordingly to paint manufacturer's instruction.

Even if they appear clean, all surfaces should be cleaned prior to application following the instructions below:

- Wash with soapy water, then rinse with clean water (do not leave any traces of soap on the surface).
- Clean away grease and any other residues with Mactac Cleaner, especially in the more critical shaped surfaces such as corrugations, complex curves or more demanding substrates.
- Dry the surface using a dry cloth or a clean paper towel
- Rivets and seams may need longer time to dry due to trapped moisture in the complex areas.

Before starting application, ensure all the surfaces have been cleaned correctly and completely dried.

APPLICATION METHOD

Mactac ColourWrap Series has a high degree of conformability compared to other Mactac wrapping products (as for example Mactac TF series) and is designed for full wrapping even of 3D shapes (e.g. curves and recesses) on painted metal substrates.

Use only the dry method application technique. The product should never be applied outside the application temperature range indicated in the technical datasheet.

To ensure application suitability, always test the selected product under actual application and end-use conditions before going into full production.

APPLICATION ON FLAT OR SEMI-FLAT SURFACE

1. Prior to application, verify that the surface is properly prepared and cleaned.
2. Cut the material to approximate needed size and position the material (with liner) on the part to be covered.
3. Remove the liner, making sure to keep the film flat and close to the application surface to minimize the risk of dust entrapment.
4. Reposition the material and fit it on the application surface. Laying it flat and removing wrinkles.
5. Squeegee the film on the surface, using overlapping strokes with firm and uniform pressure. Ensure to cover the entire surface area to activate Mactac ColourWrap pressure sensitive adhesive.
6. If any bubble is created during application, remove it by strongly pressing with the flat side of the squeegee or your fingertip, thanks to Mactac ColourWrap Bubble Free feature.

APPLICATION ON CURVED SURFACES

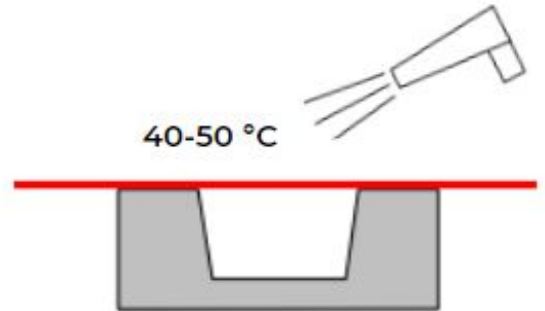
Concave surfaces

This hollow or bowl-shaped form implies that the material will be laid into a rounded or curved-in surface. Prior to application, make sure that the profile is thoroughly clean as indicated in the previous section.

- 1) Apply the material with the squeegee over the corrugation or recess, following the irregular shaped surface. Do NOT stretch the film or push into the corrugation yet.



- 2) Heat the film to a temperature of 40-50 °C and use an IR thermometer to ensure that the surface of the vinyl had reached the requested temperature. Apply Heat on all the corrugation area uniformly and avoid (local) overheating.



- 3) When temperature is confirmed, press the film into the deepest part of the corrugation/recess, using your finger. Start always from the deepest part of the corrugation where the maximum stretch is required for the material. To facilitate sliding of the finger, wear Mactac Glove and wet your finger with soapy water. Ensure 100% contact between the surface and the vinyl



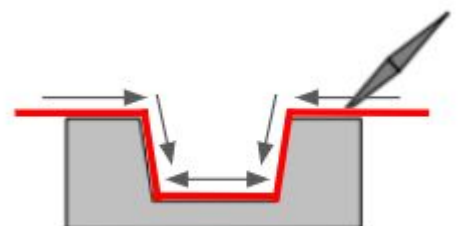
- 4) Repeat the same procedure on the other deep side of the corrugation, always ensuring the film is at the required temperature (40-50 °C).



- 5) Press firmly the central part of the corrugation using a squeegee, fingertip or the palm of the hand. Ensure to apply uniform on all the film surface pressure.



- 6) Once all the film is in contact with the profile, press firmly again with the squeegee. Check the complete application and prick any air bubbles using the appropriate tool.



In order to avoid any lifting after application, it's mandatory to proceed with the post-heating technique:

- Re-heat all the areas where the material has been stretched with a heat gun to a temperature of 90-95°C.
- Keep the heat gun at a distance of 4-5 cm from the material.
- Move the heat gun very slowly to stabilise ± 50 cm of material.. Be careful to avoid local overheating
- Use an IR thermometer to ensure surface of vinyl reaches the required temperature.
- Let the material and the surface cool down prior to any cutting of edges or overlays.

The same application instructions should be followed when applying Mactac ColourWrap on different concave surfaces such as recesses of car bumpers, door handles, etc.

Convex surfaces

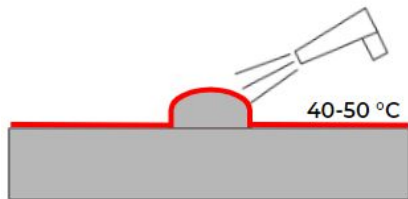
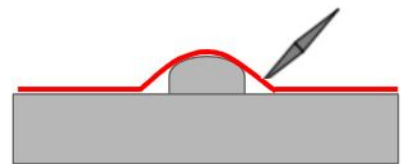
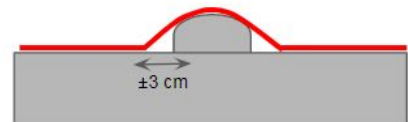
When applying Mactac ColourWrap on convex surface, heat the material to 40-50 °C using an heat-gun. Apply stretch uniformly in different directions and ensure to use large pieces of material. Avoid to stretch small portions of material. In case you need to correct mistakes prior to squeegeeing, reposition the material and re-apply heat (40-50 °C).

Once the material is correctly positioned, squeegee it on the surface using the same technique as for flat surfaces.

Riveted surfaces

This small convex shaped form implies that the material will be stretched and laid onto a rounded or curved-out surface.

- 1) Position the film over the entire riveted surface of application, leaving a ± 3 cm gap between the flat surface and the substrate around the rivets.
- 2) Collect the bubbles around the rivet without putting the film out of shape. Prick a hole in the vinyl around the rivet and squeeze out any air trapped between the vinyl and the rivet using your fingertip.
- 3) Press the vinyl down hard around the rivet using the squeegee and a hot air gun. The temperature should be between 45 and 60°C. Be careful to avoid local overheating.



Note: When stretching Gloss metallic films for application on 3D curves and deep corrugations, a limited loss of gloss can be expected in the part subjected to the highest stress and heat.

REMOVAL

Mactac ColourWrap Series can be removed using heat. Here below the steps on how to proceed:

- 1) Heat the vinyl to a temperature of 50-60°C using a heat gun.
- 2) Peel off the permanent material in small pieces at a time. Pull the material firmly keeping an angle of 60 to 90° between the substrate and the film.
- 3) Any residue of adhesive can be removed by using Mactac Remover (Product Code BO7710001) and a lint-free towel or the hard part of a squeegee.

DISCLAIMER

All Mactac statements, technical information and recommendations are based on tests believed to be reliable but do not constitute a guarantee or warranty. All Mactac products are sold with the understanding that the purchaser has independently determined the suitability of such products for its purposes. All Mactac's products are sold subject to Mactac's general terms and conditions of sale, see <http://terms.europe.averydennison.com>

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