



## TECHNICAL BULLETIN 5.09

### Application of Vinyl Graphic Products to Aircraft Painted Metal

This bulletin details specific surface preparation and application instructions of vinyl graphic products onto non-vehicular surfaces. Applications will be successful if the instructions are followed completely.

#### STORAGE of VINYL GRAPHIC PRODUCTS:

- Place vinyl graphic products lying flat in a clean storage area, free from excessive moisture and direct sunlight.
- Maintain ambient temperatures between the ranges of 65° - 100°F (18° - 37°C).

#### SURFACE PREPARATION FOR VINYL GRAPHIC PRODUCTS:

All surfaces are considered contaminated until properly cleaned. Thus, all surfaces **MUST** be cleaned prior to any application of vinyl graphic products. See the following steps:

1. Saturate a clean paper towel with a solvent approved by local EPA regulations (VM&P naphtha) and wipe the surface to remove any contaminants such as silicone, chalk or adhesives.
2. Dry the surface with a lint free paper towel before the solvent evaporates.
3. Spray the surface with Isopropyl Alcohol; follow immediately to dry the surface with clean dry towel. This should remove any residue remaining from the cleaning solvent.

#### GENERAL REQUIREMENTS FOR APPLICATION:

##### **Tools**

- The following tools are recommended for use and available from Sharpline by calling toll-free 1-800-888-4888.
  - Felt Block Application Squeegee P/N 0882-55
  - 3M Gold Squeegee P/N 0881-55
  - Snappy Knife P/N 077-55
  - Heat Gun P/N 9751-55
  - Air Release Tool P/N 0885-55

##### **Temperature**

- Apply vinyl graphic products when the air and application surface temperatures are above 50°F and below 100°F.
- Surfaces may be mechanically heated when air and application surface temperatures are below the minimum requirements. This may be accomplished by a portable heater, heat lamps, hot water or steam. If hot water or steam is used, the surface must be dried thoroughly before application.

##### **Key Points**

- Before beginning application, insure the surface was properly cleaned as previously outlined
- Check that air and surface temperatures exceed the minimum requirements.
- Use firm pressure with squeegee and/or felt block.
- Use overlapping strokes.
- Remove the application masking at a 180° angle.
- Re-squeegee entire graphic after removal of application masking.
- Make sure hands are clean.

## APPLICATION SEQUENCE FOR VINYL GRAPHIC PRODUCTS:

1. After properly cleaning the application surface, spray a light mist of Pro-Bond™ to each rivet head. This will enhance the bond and minimize tenting over the rivet of the vinyl graphic.
2. Position Vinyl Graphic  
It is recommended that the vinyl graphic be positioned in place on the aircraft with masking tape.  
As an aid for aligning and registering the graphic on the surface prior to application, make register marks on the side edge of the surface with a lead pencil, a marking pen, or small pieces of masking tape.
3. Remove Liner  
Lay back one half of the vinyl graphic against the aircraft and remove the liner by sharply flicking the graphic edge toward the face of the graphic with the ball of the thumb or a fingernail. A small bend at a corner or edge will cause the liner to separate from the graphic. Pull the liner away in a continuous motion at a 180° angle.  
*Note: Always remove the liner from the vinyl graphic rather than the vinyl graphic from the liner.*
4. Apply Vinyl Graphic  
Align vinyl graphic to register marks and tack it to the surface with thumb pressure at the corners. For larger graphics, use one or more additional tack points along top edge.  
Using an application tool (felt squeegee), begin application at the vertical center of the vinyl graphic and apply all the way to one edge. Then return to center with overlapping strokes and repeat the procedure applying to the opposite edge.
5. Applying Vinyl Graphic over Rivets  
To avoid wrinkles in the vinyl graphic allow some tenting of the vinyl. Do Not squeegee vinyl down around rivets until paper masking has been removed.
6. Remove Application Masking  
Mist application masking with an Easy-On™ or water solution. Allow this to soak for a minimum of two minutes. This will release the bond between the application masking and the face of the vinyl graphic.  
Remove application masking from the face of the vinyl graphic by pulling masking back upon itself always at a 180° angle.
7. Remove Entrapped Air  
Use an air release tool to puncture the graphic several times around the rivet head, then warm the vinyl graphic and form the vinyl over the rivet with a felt squeegee. Also inspect the graphic in the flat areas for air bubbles. To eliminate these bubbles, puncture the graphic at one end of the bubble with an air release tool and press out entrapped air with a felt squeegee moving towards the puncture.
8. Re-squeegee Vinyl Graphic  
When the entire graphic has been applied, re-squeegee the entire graphic using a felt squeegee.