

## Recommendations for Rolling and Shipping Permacolor Laminated Images

Mactac studies and field surveys with numerous customers using Permacolor® laminates in Roll able Graphic applications, leads Mactac to make the following recommendations for rolling and shipping laminated images:

1. **Prior to rolling graphics:** a 2 - 4 hour wet-out period is strongly recommended for the adhesive system to build to ultimate adhesion. This will significantly improve your success with Roll able Graphics.
2. **For single-side laminated images:**
  - a) Roll laminated side out for shipping and storage.
  - b) An inside roll diameter of 3 - 5 inches, minimum, is recommended for graphics with *less than 10 mil total graphic thickness* (includes imaged media and PermaGard® or ColorGard™ overlaminates).
  - c) For images with a *total thickness of 10 mils or greater* an inside roll diameter of 10 - 12 inches, minimum, is recommended.
3. **For images laminated on both front and back sides:**
  - a) Roll images with the thicker laminate to the outside for shipping and storage. For example: if your image has 5 or 10 mil PermaFlex® on the front and 15 mil PermaFlex® on the back (for additional stiffness), roll the graphic with the 15 mil PermaFlex® side out.
  - b) All double laminated images should be rolled with an inside roll diameter of 10 - 12 inches minimum. Remember that a larger inside diameter is better.
4. **Packaging for shipment:**
  - a) To avoid exposing prints to moisture, package them in a sealed plastic bag during shipment.
  - b) Use a sturdy box to protect the prints from crushing and creasing.
  - c) Roll the graphics up on a core and suspend them in the box. Graphics that lay on their sides may result in flat spots and mattification in the printed graphic can occur.
  - d) Avoid exposing the laminated images from extremes in temperature and humidity.

Please keep in mind that this is a **recommendation**, individual experience should not be discounted. We recognize that different laminators and laminating methods may produce different results. The recommendations above represent our experience as having the “greatest” success in the field.

**IMPORTANT NOTICE:** The information given and the recommendations made herein are based on our research and are believed to be accurate, but no guarantee of their accuracy or completeness is made. In every case, user shall determine before using any product in full scale production, or in any way, whether such product is suitable for user's intended use for their particular purpose under their own operating conditions. User assumes all risk and liability whatsoever in connection with their use of any product. The products discussed herein are sold without any warranty as to merchantability or fitness for a particular purpose, or any other warranty, express or implied. No representative of ours has any authority to waive or change the foregoing provisions, and no statement or recommendation not contained herein shall have any force of effect unless in an agreement signed by the officers of seller and manufacturer. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent without authority from the owner of the patent. The following is made in lieu of all warranties, express or implied: Seller's and manufacturer's only obligation shall be to replace or credit such quantity of the product proved to be defective at its discretion.