



Cold Roll Lamination

For 3M™ Laminates

Description

Applications and Uses

3M™ Laminates are intended only for use with 3M™ Vinyl Films in one or more of the following applications. Any other application is NOT warranted by 3M or covered by the Worldwide 3M™ MCS™ (Matched Component System) Warranty unless 3M gives its prior written approval for the application.


- Provide protection for the inks or toners
- Provide protection from environmental conditions such as dirt and water
- To change the gloss of the finished graphic

Limitations of End Uses

The following uses and applications are specifically NOT warranted.

- Application to non-3M films
- Printing on the laminate

Health and Safety

 Caution
<p>Read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for health hazard data, precautionary information, suggested first aid, and environmental information when handling any chemical products. For health and safety information for 3M products, or in case of an emergency, call 800-364-3577 or 651-737-6501.</p> <p>When using any equipment, always follow the manufacturers' instructions for safe operation.</p>

Sheet Preparation

Allow the printed graphics to dry completely before laminating. Refer to the drying instructions in the Instruction Bulletin for the particular ink series used.

Take steps to minimize the change in moisture content of the graphic liner. A change in moisture content can cause liners to curl and have wavy edges. Rack the sheets individually or as two sheets face-to-face, or wrap the stacked sheets with polyethylene and seal the stacks.

Lamination Procedure


Equipment

The procedures described in this Bulletin are based on a test laminator with the following design specifications.

- 3 inch (8 cm) diameter rolls
- 70 durometer (hardness) rolls
- 2 air cylinders, 1 inch (2.5 cm) in diameter

If your laminator has different design specifications, adjust the pressure control settings as needed. For example, at the nominal 30 pounds per inch gauge (psig) setting, a 2 inch (5 cm) diameter air cylinder produces a higher nip pressure than a 1 inch (2.5 cm) diameter cylinder.

Procedure

 Caution
<p>When using any equipment, follow the manufacturers' instructions for safe operation.</p>

1. Make sure the rolls of the laminator are clean.
2. Thread the laminate into the laminator.
 - a. Tape the laminate liner to the top of the clutch roll, if the laminator has one.
 - b. Pull the laminate through the nip until it is about 1 foot (25 cm) past the roll.
3. Set the pressure gauge of the laminator air cylinder to 30 pounds per square inch (2.1 kg/cm²).

Note: This value is a minimum recommended value and is based on results obtained from a test laminator. Your equipment may require a different setting.

4. Lower the roller.
5. Set the motor controls to RUN and FORWARD. Set the SPEED to approximately 2 feet per minute (61 cm per minute.)
6. Gradually start the laminator. As the laminate moves out of the nip, make sure there are **no wrinkles** in the web.

Note: If wrinkles occur, the pressure control setting may be too high; reduce the setting to achieve the desired result.

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- 7. Increase the web speed to approximately 15 feet per minute (4.5 m per minute).
- 8. Feed the graphic from the front of the laminator using the guide bar.

Note: Avoid stretching either the graphic or the laminate.

- 9. Cut the finished graphic from the web using a safety knife.
- 10. Trim the graphic.

Storage and Shipping

- Store the graphics in a clean, dry area, out of direct sunlight, and at a temperature less than 100°F (38°C).
- Ship the finished graphics lying flat or in a roll. To roll the graphic, wrap it image side out on a minimum 6 inch (15 cm) diameter core. This prevents the liner and the premask, if used, from wrinkling or popping off.

3M Related Literature

Listed below is related 3M Technical Literature that may be of interest. Contact your local 3M sales or technical representative to order these Bulletins.

Note: Also refer to the Product Bulletins and any related Instruction Bulletins for the 3M™ Vinyl Films and 3M™ Laminates you are using.

Subject	Instruction Bulletins
Cutting	4.1
Storage, maintenance and removal	6.5
3M™ MCS™ (Matched Component System) Warranty Bulletin	

For Further Information

Call or write for 3M Commercial Graphics Division product information or assistance.

In the United States:

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U.S.A. Technical service: 800-328-3908

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General inquiries: 800-374-6772

General fax: 651-736-4233

www.3M.com/imagegraphics

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Health & Safety

Refer to the package label and the Material Safety Data Sheet for health, safety, and handling information on the products referenced in this bulletin. For 3M products, if necessary, you may contact our Toxicology/Product Responsibility Department on 01344 858000.

Important Notice to Purchaser

The 3M products described in this publication are covered by a 3M warranty and limitation of liability.

3M's warranty provides that if 3M finds that goods are defective in material or workmanship they will be replaced or the price refunded at 3M's option but note that 3M does not accept liability for other direct losses (except for personal injury or death) or consequential losses relating to defective products or from information supplied by 3M.

Purchasers and users of 3M products, and not 3M supplying companies, are always solely responsible for deciding on the suitability of the 3M product for their required or intended use.

Technical Assistance

For help on specific questions relating to 3M Commercial Graphics Division Products, contact your local Technical Service Representative.

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