

Applying Water Based Clear Coat

Instructional Bulletin #5.92 (Revision 0)

Dated: 01/05/2011

1.0 Scope

This bulletin provides instructions for applying Valspar's AquaGuard 510 Gloss and Drytac's EnduraCoat UltraFlex gloss clear coats.

2.0 Required Materials

- Printed Graphics (Check Avery ICS PG or ICS Fleet documents to ensure water based clear coats are recommended and warranted.)
- Waterbased Clear coating
 - Valspar AquaGuard 510 Gloss
 - Drytac EnduraCoat UltraFlex Gloss
- Liquid laminator with the appropriate mayer bar to apply correct coating thickness
 - Valspar AquaGuard 510 - [#32 mayer bar](#)
 - Drytac EnduraCoat UltraFlex - [#36 mayer bar](#)

3.0 Product Usage

- Graphics must be printed on approved printers, with approved ink and media only ([Reference Instructional Bulletin #5.80 or ICS warranty documentation](#)).
- Before applying water based clear coat printed graphics must be fully cured. It is recommended to allow graphics to dwell a minimum of 24 hours for a full cure.
- Graphics must be coated with Valspar AquaGuard 510 or Drytac EnduraCoat UltraFlex coating through a liquid laminator at a dry coating film thickness of 30 microns. The coating must be fully cured, this is assured by the media reaching a minimum of 150°F (31°C).
- The printer, ink, media, liquid coated, and coating must all be used in accordance with all recommendations, instructions, and manuals provided by the participating manufacturers.

3.1 Checking Viscosity

Checking for proper viscosity (and using the appropriate mayer bar) will ensure proper coating thickness with the recommended mayer bar.

3.1.1 Valspar

- AquaGuard 510 coating must be tested for viscosity and the rating recorded prior to using. The rating must fall within a viscosity range of 35-40 seconds on a ZAHN #2 Cup.

3.1.2 Drytac

- Drytac EnduraCoat UltraFlex coating must be tested for viscosity and the rating recorded prior to using. The rating must fall within a viscosity range of 18-22 seconds on a ZAHN #2 Cup.

4.0 Liquid Laminator Operation

- Reference the manufacturer's instructions for recommended operation procedures of the liquid laminator.

4.1 Operation Tips and Tricks

- **Setting the Throughput Speed:** Speed is directly determined by dry times. It should be set so that the material that is wrapping up does not feel tacky to the touch.
- The typical settings for speed and temperature are 1.5 – 2.0 fpm on the dial and a temperature setting of 600 – 650 degrees F on the thermostat. (NOTE: These are starting points only.)
- When the print comes out of the heating section it should be dry to the touch.

5.0 Clear Coat Adhesion Testing

After applying the clear coat the adhesion to the printed graphic must be checked. The cross-hatch method is recommended for this test.

5.1 Equipment

- Cross hatch tool
- 3M 610 test tape
- Soft brush or tissue
- Plastic squeegee to smooth down tape

5.2 Test method (ASTM D 3359)

- Using the cross hatch tool score the clear coat. Score in one direction then repeat at a 90 degree angle. Use enough pressure to ensure that the coating is scored, but not the ink or film layers.
- After cutting, use brush or soft tissue to remove any debris.
- Apply overlaminate or tape strip over abraded area. Use plastic squeegee to ensure tape is fully applied.
- Allow the tape to dwell for 60 seconds and then remove the tape. Tape should be removed in smooth rapid motion at a 180 degree angle.
- Inspect the abraded area for clear coat removal from the substrate.
- The clear coat should not remove with the tape. If it does the adhesion of the coating is not adequate. If this occurs contact your Avery Dennison technical representative.

5.2 Inspection

- Inspect the cut area, and the adhesive side of the tape for any removed clear coat.

6.0 Precautions

- Read the material safety data sheet prior to processing. It contains instructions for precautions when handling clear coats. If clear coat comes in contact with skin, wipe clear coat off with a clean, dry cloth (do not use solvent). Wash and rinse the affected area with soap and water.