



# DEEP DRAW

## UVD – VAC Series

\* Patented

UVD-VAC Digital Vacuum Form is an extremely flexible UV curable digital printing ink specially formulated for first surface interior and second surface exterior applications of various plastics used in extreme deep-draw vacuum forming. UVD-VAC Digital Vacuum Form ink exhibits outstanding elongation characteristics while maintaining excellent adhesion and opacity. Additionally, this ink provides ideal characteristics for heat bending and routing acrylic sheets with no chipping or loss of adhesion.

### Performance Properties

- Extreme elongation for draw depth, (deep draw application)
- Superb water / moisture resistance
- Flexible for multi-layer applications/die-cutting
- N-VP and heavy metal free
- Elevated color strength for backlit applications

### Curing/Processing Guidelines

Ink will cure well when utilizing an optimal cure window of 310 - 350 mJ / 755 mW, and is generally achieved with two (2) 300 watt per inch mercury vapor lamps. This should provide thorough cure of the product. Adhesion should be a minimum of 95% from curing unit with final adhesion developing within four hours of initial polymerization.

If a loss of gloss or adhesion due to insufficient cure is noticed, a decrease of saturation levels will increase light penetration and improve cure.

The UVD-VAC vacuum forming system, when properly cured, develops an extremely flexible formable ink film. Even though the cured ink film has been engineered to optimize processing and handling, the printer must assume responsibility for pre-testing and qualifying the parameters for stacking printed parts prior to each run.

The intensity of cure, weight or caliper of the material and/or elevated ambient temperatures and humidity of the printing and storage environments will influence block resistance.

Polymeric Imaging Inc. also recommends that the printer consider the use of slip-sheets or racks being used until printed parts have cooled. It is recommended that additional precautions be made for shipping by truck as temperature in trailers can exceed 160F / 70C. Polymeric Imaging Inc. does not recommend the stacking of UVD-VAC on two sided prints.

### Recommended Substrates

- Polystyrene
- PETG
- Polycarbonate
- High Impact Polystyrene (HIPS)
- PVC
- Acrylic

### Lightfastness

Extensive weathering tests are currently in progress. Estimated exterior durability is three (3) to five (5) years until actual tests are completed. Actual exposure tests should far exceed three (3) to five (5) years.

Accelerated machine weathering's are reference standards and can not precisely reproduce actual outdoor performance. Based on prior correlation of accelerated testing versus real time exposure, 500 hours is equated to approximately one year, 45° south Florida.

### Storage

Care should be taken to store ink in tightly closed containers located in a cool (60 - 80°F / 15 - 27°C) dark place. After long production runs excess ink from the screen should be properly disposed. With suitable conditions, unopened ink is expected to have a shelf life of approximately twelve (12) months from date of manufacture.

### Precautions

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

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