

M-Flex is an extremely durable, UV curable, digital printing ink specifically formulated for applications on various plastics, where a high level of flexibility is required. With exceptional adhesion characteristics, post-press finishing operations such as die cutting, CNC routing, saw cutting and guillotine trimming can be performed with no edge chipping or loss of ink adhesion to material. The distinctive characteristics of M-Flex allows for head-bending on Acrylic, ABS, Expanded PVC, HIPS, PETG, and Polycarbonate materials. Made with only the finest long-term outdoor pigments, M-Flex provides an excellent color gamut for your color certified printers.

Performance Properties

- Excellent stretch and flexibility(no vacuum forming)
- Extremely broad range of adhesion
- Flexible for multi-layer constructions
- Elevated color strength for backlit applications
- Brilliant color array and high densities
- Tremendous finishing characteristics
- Manufactured for Flatbed presses
- Water Resistance

Recommended Substrates

- Acrylic
- ABS
- Corrugated Plastic
- Expanded PVC
- High Impact Styrene (HIPS)
- HDPE (min. 40 dyne)
- PETG (Copolyester)
- PET films
- Pressure Sensitive Vinyl and Reflective Vinyl
- Aluminum and painted metal sign materials
- Many other plastic and laminate materials

Lightfastness/Weatherability

M-Flex digital ink is lightfast for up to two years on outdoor durable material. Comparative weathering tests have been completed on 4-mil vinyl. The ink withstood 1,000 hours of exposure under ASTM D3424-11 Method 4 in a Q Sun Xenon Arc unit. Although there is no direct correlation between accelerated weathering and real time exposure, the inks are expected to have good lightfastness/weatherability for up to two years of outdoor exposure.

Accelerated machine weathering is used as a reference standard and cannot 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.

Colors Available

- CMYK
- Light CMYK
- White

Roller Coating and Screen Printing applicable products

The Solarshield Coatings can extend weathering and light fastness of the M-Flex Series. Please call Customer Service for recommendations. (Some environmental conditions such as coming into contact with certain solvents or alkali material may degrade the pigment and/or ink. Thus, we would recommend a UV coating to protect and enhance the printed piece.)

Curing / Processing Guidelines

Ink will cure well when utilizing an optimal cure window of 200-250 mJ/ cm², 755 mW/ cm² is generally achieved with one 300 watt per inch Fusion(mercury vapor) lamp. This should provide thorough cure of the product. Adhesion should be a minimum on 95% from curing unit with final adhesion developing within four (4) 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 M-Flex system, when properly cured, develops an extremely durable and flexible 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 production parameters prior to printing. The intensity of cure, weight or caliper of the material and/or elevated ambient temperatures and humidity of the printing and storage environment will influence some media.

Storage

Care should be taken to store ink in tightly closed containers located in a cool (60-80°F/15-27°C) dark

place. With suitable conditions, unopened ink is expected to have a shelf life of approximately twelve (12) months for colors and six (6) months for white, from date of manufacturer.

Precautions

Read the 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 off with a clean, dry cloth (do not use solvent). Wash and rinse the affected areas with soap and water.

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