

Imagemark XR+ Series

Version 02 07.11.2007



Our XR+ Series is a high-performance, fast-curing, UV screen printing ink specifically formulated for point-of-purchase applications with multiple adhesion performance. The XR+ Series is the broadest ink system of its type offering flexibility for pressure sensitive vinyl applications with unique versatility to adhere to nearly all point-of-purchase stocks, including HDPE and fluted polyolefin stocks without the addition of adhesion promoters and catalysts.

Performance Properties

- Outstanding adhesion to a wide variety of substrates
- Superior opacity for color trapping
- Non-blocking, high-slip finish for easy handling
- Superb water and abrasion resistance
- N-VP and heavy-metal free
- Compatible with UP, GP, and XR Series inks

Printing

Mix ink well prior to use. While supplied in press-ready condition, the XR+ Series may be reduced up to 10% with #11337 Thinner. Care should be taken to print the ink at optimal temperature 70-90°F (21-27°C). Cool ink will have a heavier viscosity and will not flow properly. Hot ink will be lower in viscosity, resulting in poor definition and decreased opacity.

Coverage

3,200 to 3,600 square feet per gallon based on ink deposit of .40-.60 mil, dependent upon color and printing conditions.

Curing

Ink will cure well when printed through 355 (140cm) plain weave polyester mesh or finer. Optimal cure window of 125-150mJ / 550-650 mW is generally achieved with one 200 watt per inch mercury vapor lamp at belt speeds between 55-70 feet per minute (17-22 m/min). This should provide thorough cure of the product. Cure speeds may vary as thicker material and dark surface colors require more energy. Adhesion should be a minimum of 95% from the curing unit with final adhesion developing with six hours of initial polymerization. Coarser fabrics can be utilized; however, cure parameters may need to be adjusted for increased ink film.

If a loss of gloss or adhesion due to insufficient cure is noticed, the use of 5-10% Overprint / Mixing Clear will increase the light penetration and improve cure.

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.

Recommended Substrates

- ABS
- Acrylic
- Anodized Aluminum
- Coated and Uncoated Paper
- Expanded Foam PVC (Sintra®, Celtec®)
- Foam Board
- *Fluted Polyolefins
- PETG
- Polycarbonates (not for use with adhesives)
- Top-coated and Print-Treated Polyesters
- *Polyethylene Banner Stocks
- Polyethylene Coated Card Stock
- *Polyethylene Sheet
- Polystyrene
- Pressure Sensitive Vinyl
- Rigid Vinyl
- Many Coated Metals

* A minimum of 40 Dynes of surface energy is recommended for all Polyethylene and Polyolefin stocks. Always check adhesion immediately and overnight to ensure the print meets the end use requirements prior to production runs.

Light fastness

At full strength and cured properly, XR+ colors are formulated to withstand 2-3 years of exterior exposure. The use of the XR+ Overprint / Mixing Clear will increase the duration of outdoor durability.

The use of premium grade, calendared vinyl films are recommended for all applications intended to weather for up to three (3) years.

Factors which will alter the outdoor durability of the ink include, but are not limited to: substrate grade/age, poor cure of ink film, formulas, directional positioning, ink film deposit, exposure to excessive abrasives and air pollutants. Under no circumstances should colors requiring long-term durability have mixing clear or white added to the formula.

In addition, we do not recommend using less than 5% of any color in a blended formula for outdoor applications. Colors which should not be used for outdoor applications are CMS 164 Red BS, CMS 114 Orange, 180 Warm Red, and 131 Brilliant Orange.

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MIX INK WELL BEFORE USE. Follow any indications on the package, ask for the safety data sheets and always follow the indications contained therein. In case of doubt, please contact our Technical Service department.

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Metallics

Use the Metallic Mixing Clear to prepare metallic ink as its increased viscosity helps insure a good particle suspension and extended shelf life.

Recommended mixing ratios by weight are:

- 28% Gold Paste
- 12% Silver Paste

For optimum coverage and opacity, use 280-305 (110-120 cm) plain weave mesh. Use Solar Shield Clear for extended weatherability and to improve the non-tarnishing properties of the product.

Additives

- 11337 Thinner - up to 10% as needed
- 13973 Cling Modifier - at 2% as needed
- 1534 Adhesion Promoter - up to 3% as needed
- 11939 Adhesion Promoter - 3-5% as needed
- 2980+ Catalyst - 3% as needed (will gel in 4 hours)

Precautions

Read the material safety data sheet prior to processing. It contains instructions for precautions 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.

Process Printing

For superior halftone reproduction, halftones are available in a range of density levels. Additional control of density may be achieved with the use of Halftone Base.

For best results, 380 (150cm) or finer mesh and a smooth, thin stencil coating should be utilized with process printing.

	Press Ready	High Density	Backlit Density
Halftone Yellow	0.90	1.10	1.35
Halftone Magenta	1.40	1.75	2.05
Halftone Cyan	1.40	1.80	2.20
Halftone Black	1.60	2.00	2.25

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 the gate of manufacture.

Color Availability

The XR+ Series is available in twenty opaque standard colors. Custom matches, metallic, fluorescent*, and transparent colors are obtainable upon request.

101 Primrose Yellow	210 Ultra Blue
111Lemon Yellow	220 Emerald Green
123 Medium Yellow	225 Forest Green
131 Brilliant Orange	226 Lime Green
135 Vivid Orange	235 Teal
141 Fire Red	240 Purple
151 Scarlet Red	260 Brown
155 Rubine Red	301 Opaque Black
160 Rhodamine Red	311 Opaque White
180 Warm Red	312 Jet Black
190 Process Blue	026 Brilliant White
200 Peacock Blue	Overprint / Mixing Clear
205 Reflex Blue	Metallic Mixing Clear

* Fluorescents are not included in statements detailing light fastness.

Pantone Matching System® Colors

The nine Pantone® approved Color Matching System (CMS) shades are used to simulate the Pantone® Color Specified colors. Formulas were designed for maximum opacity and are available in book or Imaging Color Source Software formats.

064 CMS GS Yellow	164 CMS BS Red
066 CMS RS Yellow	165 CMS Magenta
114 CMS Orange	230 CMS Blue
121 CMS YS Red	325 CMS Green
127 CMS Violet	Overprint / Mixing Clear
Tinting White	Shading Black

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