

Ultrabond WR Series



Ultrabond WR is distinct in its ability to offer non-blocking, flexibility needed for banner applications with additional adhesion to many point-of-purchase stocks. This versatility provides screen printers an opportunity to reduce ink inventory by stocking a single ink line. Unlike other multi-purpose inks, Ultrabond's exceptional flexibility and adhesion stands up to the demand of the most stringent finishing requirements.

Version 1.10.05.2005

Performance Properties

- Adhesion to wide variety of substrates
- Suitable for sewing, grommets and die-cutting
- Low tack finish allows double face printing
- Water and abrasion resistant
- N-VP and heavy metal free
- High hide opacity provides better color trapping

Printing

Mix well prior to use. While supplied in press ready condition, WR may be reduced up to 10% with #6494 Thinner. Care should be taken to print the ink at optimal temperature 70-90°F (21-27°C). Cool ink will have heavier viscosity and will not flow properly. Hot ink will be lower in viscosity resulting in poor definition and decreased opacity.

Coverage

3,600 to 3,800 square feet per gallon based on ink deposit of .40-.60 mil dependant on color and printing conditions.

Curing

Ink will cure well when printed through 355 (140cm) plain weave polyester mesh or finer. WR's optimal cure window of 125-160 mJ / 550-650 mW is generally achieved with one 200 watt per inch mercury vapor lamp at belt speeds between 75-100 feet per minute (20-30 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 curing unit with final adhesion developing within four 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% WR Mixing/Overprint Clear will increase light penetration and improve cure.

The WR Ultrabond system when properly cured develops an extremely versatile high gloss, water resistant 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.

Under curing of WR Ultrabond can radically affect the physical

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MIX 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

properties of the inks. Do not expose stacks of printed materials to environments that may introduce high levels of moisture and water. Printed materials must be stored in a dry area. It is also recommended that additional precautions be made for shipping by truck as temperatures in trailers can exceed 160F / 70C.

Recommended Substrates

- Vinyl and Polyethylene Banner
- Electrostatic Vinyl
- ABS
- Card Stock and Paper
- Expanded Foam PVC (Sintra®, Celtec®)
- Print Treated Polyester
- PETG
- Polycarbonate (adhesive not recommended)
- Fluted Polyolefins* & Treated HD Polyethylene Sheet
- Polystyrene
- Tyvek
- Pressure Sensitive Vinyl
- Unsupported Vinyl
- Many Coated Metals

*With the use of Adhesion Promoter (3% 11939), Ultrabond will adhere to fluted polyolefins such as Coroplast®. Best adhesion forms after a six (6) hour post cure. The modified ink's shelf life is at least 3 days. This adhesion promoter also provides excellent water resistance. Plastic stock should have a surface treatment level of 40 dyne or higher.

Lightfastness

WR is lightfast up to three (3) years with a 355/inch or coarser mesh. Weathering tests have been completed on 4-mil vinyl printed with WR Series. The ink withstood 1500 hours of exposure with 4-hour cycle times of light and condensation at elevated temperatures with minimal color change and no shrinkage. To maintain a high gloss finish use WR Overprint Clear.

Accelerated machine weathering are reference standards and can not precisely reproduce actual performance. Based on prior correlation of accelerated testing vs. real time exposure, 500 hours is equated to approximately one year, 45° south Florida. The use of premium grade, calendared vinyl films are recommended for applications intended to weather up to three (3) years.

Polymeric Imaging

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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.

Metallics

Use the Metallic Mixing Clear to prepare metallic ink as it's 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, 280-305 (110-120cm) plain weave mesh is recommended. Use WR Overprint Clear for extended weatherability and improved non-tarnishing properties of the product.

Additives

- 6494 Thinner up to 10% as needed
- 11939 Adhesion Promoter, 3-5% as needed

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, Ultrabond halftones are available in a range of density levels. Additional control of density may be achieved with use of WR HT Base. For best results, 380 (150 cm) or finer and a smooth, thin stencil coating should be utilized with process printing.

	Press Ready	High Density	Backlit Density
WR Halftone Yellow	0 .90	1.10	1.35
WR Halftone Magenta	1.40	1.75	2.05
WR Halftone Cyan	1.40	1.80	2.20
WR Halftone Black	1.60	2.00	2.25

Color Availability

Ultrabond WR is available in twenty opaque standard colors. Custom matches, metallic, fluorescent and transparent colors are obtainable upon request.

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

Pantone Matching System® Colors

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

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

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