

# Renegade GP

Version 02 07.11.2007

**Renegade GP is a high-performance, fast-curing, UV screen printing ink specifically formulated for point-of-purchase applications. GP provides printers an ink system for multiple uses of a wide variety of substrates. Renegade GP offers opacity and high gloss while maintaining a rapid cure surface with excellent outdoor durability.**

## Performance Properties

- 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
- Flexible for multi-layer applications / die-cutting
- N-VP and heavy-metal free
- Compatible with UP Series

## Printing

Mix ink well prior to use. While supplied in press-ready condition, GP may be reduced up to 10% with 1004 Universal Thinner. Care should be taken to print the ink at optimal temperatures of 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 on color and printing conditions.

## Curing

Ink will cure well when printed through 355 (140cm) plain weave polyester mesh or finer. GP's optimal cure window of 125-150 mJ / 550-650 mW is generally achieved with one-200 Watt per inch mercury vapor lamp at belt speeds between 70-90 feet per minute (21-27 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 within 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% of GP Overprint / Mixing Clear will increase 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

- Pressure Sensitive Vinyl
- Top-Coated and Print-Treated Polyesters
- Polystyrene
- ABS
- Polycarbonate (not for use with adhesives)
- Rigid Vinyl
- Coated and Uncoated Paper
- PETG
- Polyethylene Coated Card Stock
- Expanded Foam PVC (Sintra®, Celtec®)
- Foam Board
- Acrylic
- Fluted Polyolefins\*, Polyethylene Sheet\*

\* With the use of Adhesion Promoters (1534 at 3% or 11939 at 3%), Renegade GP will adhere to fluted polyolefins such as Coroplast® and polyethylene sheet. Best adhesion forms after a six (6) hour post-cure. The modified ink's shelf life is at least 3 days. Either adhesion promoter provides excellent water resistance.

## Light fastness

At full strength and cured properly, GP colors are formulated to withstand 2-3 years of exterior exposure. The use of GP Overprint / Mixing Clear will increase the duration of outdoor durability. For all applications which will be exposed for up to 3 years, it is recommended that a premium grade, calendared vinyl be used.

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.

For very light fast applications requiring orange, blue-shade red, green-shade yellow, and /or medium-shade yellow, we recommend using GP BS Red Toner, GP GS Yellow Toner, GP 111 Lemon Yellow, and GP Orange Toner when small quantities of red, yellow, and orange are required for tinting white for pastel shades. The Polymeric color match system in many cases is not recommended for long-term exterior exposure due to many pastels and transparencies in the system. When using the color match system, contact Polymeric Imaging Inc. directly for possible color match recommendations.

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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 (110-120cm) plain weave mesh. Use Solar Shield Clear for extended weatherability and to improve the non-tarnishing properties of the product.

## Additives

- 1004 Universal Thinner - up to 10% as needed
- 13973 Static Cling Modifier - 2% as needed
- 1534 Adhesion Promoter - 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 GP MV HT Base. For best results, 380 (150cm) or finer mesh and a smooth, thick 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 date of manufacture.

## Color Availability

Renegade GP 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 Dense Black
190 Process Blue	026 Brilliant White
200 Peacock Blue	Overprint / Mixing Clear
205 Reflex Blue	Metallic Mixing Clear
BS Red Toner	GS Yellow Toner
Orange Toner	

\* 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	Mixing / Overprint Clear
Tinting White	Shading Black

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