Renegade GPS
Satin Series

Renegade GPS is a high performance, fast curing, UV screenprinting ink specifically formulated for point of purchase applications. GPS Series provides printers an ink system for multiple uses of a wide variety of substrates. Renegade GPS offers opacity and a satin finish while maintaining rapid cure rates. GPS provides a durable surface with excellent outdoor durability.

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Performance Properties
- Adhesion to a wide variety of substrates
- Superior opacity for color trapping
- Non-blocking finish for easy handling
- Superb scuff, mar and water resistance
- Flexible for multi-layer applications/die-cutting
- N-VP and heavy metal free

Printing
Mix well prior to use. While supplied in press ready condition, GPS may be reduced up to 10% with #1004 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
3,000 to 3,400 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. GPS's optimal cure window of 125 - 150 mJs / 550 - 650 mWs is generally achieved with one 200 watt per inch mercury vapor lamp, at belt speeds between 70 - 90 feet per minute (21 - 27m/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 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 adhesion due to insufficient cure is noticed, the use of 5 - 10% GPS Mixing/Overprint 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 Polyester
- Polystyrene
- ABS
- Polycarbonate
- Rigid Vinyl
- Coated and Uncoated Paper
- PETG
- Polyethylene Coated Card Stock
- Expanded Foam PVC (Sintra®, Celtec®)
- Foam Board
- Acrylic
- Fluted Polyolefin's*
- Polyethylene Sheet*

*With the use of Adhesion Promoter (3% of 1534 or 3% of 11939), Renegade will adhere to fluted polyolefin's such as Coroplast® and polyethylene sheet. Best adhesion forms after a six (6) hour post cure. The modified ink's shelf life with 1534 is 24 hours, and with 11939 is at least 3 days. Either adhesion promoter provides additional water resistance.

Lightfastness
At full strength and cured properly, GPS colors are formulated to withstand 2 - 3 years of exterior exposure. The use of GPS overprint clear will increase the duration of outdoor durability. For all applications that will be exposed for up to 3 years, it is recommended that a premium grade, calendared vinyl be used. Factors that 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 that should not be used for outdoor applications are CMS 164 BS Red, CMS 114 Orange, 180 Warm Red, 131 Brilliant Orange.

Lightfastness continued
For very lightfast applications requiring Orange, Blue shade Red, Green shade Yellow, or medium shade Yellow, we recommend using GP BS Red toner, GP GS Yellow Toner, GP 111 Lemon Yellow and GP Orange toner be used 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 directly for possible color match recommendations.

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.

Metallic's
Use the GP Series 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 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 Thinner up to 10% as needed
- 13973 Static 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 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

Process Printing
For superior halftone reproduction, halftones are available as special order only.

Color Availability

Renegade GPS is available in nine opaque standard colors. Custom matches, metallic, fluorescent are obtainable upon request.

GPS-111 Lemon Yellow	GPS-123 Medium Yellow
GPS-131 Brilliant Orange	GPS-141 Fire Red
GPS-151 Scarlet Red	GPS-180 Warm Red
GPS-190 Process Blue	GPS-200 Peacock Blue
GPS- 205 Reflex Blue	GPS-301 Opaque Black
GPS-311 Opaque White	

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.

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

We strongly recommend a preliminary test of printing and curing on the supports intended to use, in order to ascertain exactly the procedure, the working times and the obtained effect. MIX WELL BEFORE USE. Follow the directions on the package, ask for the safety data sheets and always follow the directions contained therein.

IMPORTANT– Only the correct use of the product will allow satisfactory results. For this reason, closely related to the product supplied, Polymeric must decline all direct and indirect responsibility for the proper or improper use of the product. Make certain that product is right for the desired use, work according to the instructions given in our technical data sheets. Before use contact Technical Service in case of doubt.

POLYMERIC IMAGING, INC.—117 East 14th Avenue, North Kansas City, Missouri 64116 USA
Tel: 816-221-5567 / 800-746-5567 sales@polymericimaging.com www.polymericimaging.com