



With 60 years of manufacturing experience, Colormaker Industries is recognised by professional printers and fine artists as a producer of premium screen printing inks. This great record continues with the completely re-engineering of our ink range for synthetic substrates used in the Promotional Products Industry. In keeping with our heritage of industry leading products, we have developed a totally water-based printing product with superior performance that eliminates the use of solvents.

The development of PERMAPRINT® Hybrid Inks represents a revolution in screen printing inks. By using a blend of advanced polymer technology combined with pure pigment colours in a 100% solvent free base, the unique formula of PERMAPRINT® Hybrid Inks offers an environmentally friendly, easy-to-use ink that provides excellent colour brightness together with unsurpassed performance and eliminates the need for additives.

PERMAPRINT® Hybrid Ink is a water-based screen printing ink range that is formulated to provide great adhesion on a wide range of substrates typically used in the Promotional Products industry. It exhibits good water resistance once dried. This makes it a highly versatile multi-purpose screen printing ink that is much safer for the printer and much more friendly to the environment.

PERMAPRINT® Hybrid Inks are 100% solvent free, so equipment can be quickly and easily cleaned with water and solvent fumes are eliminated.

Important: Stir well before use.

Compatibility with all substrates must be checked before commencing a production run.

Main Characteristics

Drying	Thinning & Wash-up	Mesh Range	Stencil Type	Coverage	Applications	Substrates	Colour Range
For optimum fastness PERMAPRINT® Hybrid Inks should be air dried, or may be jet dried at maximum airflow. If drying in the screen too quickly, add 1-3% PERMASET® Print Retarder	If necessary, thin with up to 1-3% water. Wash screens out with water + detergent. Dried in ink may be washed out with an eco-friendly Screenwash such as Easiway 701.	Monofilament. Polyester 32-90T (83-229 tpi) depending on application for Standard Colours and Metallic Pearl Colours. Nylon mesh is NOT recommended. It is water sensitive and screen tensions can be affected with water based inks. Polyester mesh is recommended	MUST be water resistant, fully dried and cured. Check first! Emulsion: Recommend: Sericol Dirasol 916 or KIWO Polycol Multi-Tex or ULANO TZ or CHROMALINE CP-Tex or McDermid Autotype Plus 6000	15-21m ² /L with 62T mesh. 612-857 square feet per gallon with 155 tpi mesh.	Ideally suited to application on promotional products printed on heat sensitive substrates, but where some flexibility is also required.	Polypropylene Tote bags, Hybrids, polyester nylon rain wear, umbrellas. Care should be taken with some vinyls as plasticiser migration may soften the ink over time.	9 Standard Colours plus Black, White + Extender. Also, 8 Glow Colours + 4 Metallic Pearl Colours
Properties – Matt Finish. Solvent-free. Low odour. Intermixable, light fast, non-bleeding colours. Good opacity. Soft Handle. Limited wash resistance; not dry-cleanable				Product Resistance After air dry, prints exhibit good water resistance.			

SUITABLE SUBSTRATES

PERMAPRINT® Hybrid Inks are suited to printing on a wide variety of substrates, many of which are heat sensitive and found in the Promotional Products Industry. These include Polypropylene Tote Bags, Hybrids, Polyester/ Nylon carry cases and Umbrellas. Care should be taken with some vinyls as plasticiser migration may soften the ink over time. Care should also be taken with some uncoated papers as cockling may occur.

PRINTING

Screen meshes of 32-90T (83-229 tpi) monofilament polyester are suitable for most PERMAPRINT® Hybrid Ink applications. Ensure that there is adequate ink on the screen for an even print. Between prints, ensure that ink is flooded over the entire image area to prevent drying-in. Ensure that screen emulsions and blockout are water-resistant and fully cured.

IMPORTANT: When printing with PERMAPRINT® Hybrid Inks, it is essential to flood the image area after lifting the screen following each print stroke. Thin deposits of ink retained in the mesh will dry in very fast. By flooding straight away, fresh ink will wet out these deposits and prevent premature drying in.

Mesh: PERMAPRINT® Hybrid Ink is used commercially with mesh counts ranging from 32T metric (83 tpi) for high lay down artisan hand printing through to 90T (229 tpi) on applications where high detail is required. General purpose work is best with meshes around 77T (195 tpi). Polyester is recommended over nylon. Nylon is water sensitive and screen tensions can be affected with water-based inks.

Squeegee: Sharp square urethane squeegees from 60 to 75 Shore hardness are recommended for best image reproduction.

Stencil: Water resistant stencils are essential with PERMAPRINT® Hybrid Inks. Dual cure direct emulsions such as Sericol Dirasol 916 or KIWO Polycol Multi-Tex or ULANO TZ or CHROMALINE CP-TEX or McDermid Autotype Plus 6000 are recommended for long runs and maximum print resolution. Care should be taken to ensure that stencils are properly dried and exposed. Under-exposure will render most direct emulsions sensitive to premature breakdown with water-based inks.

Drying: PERMAPRINT® Hybrid Inks can be rack or jet-air dried and are also suitable for R.F. or Microwave dryers. PERMAPRINT® Hybrid Inks dry by simple evaporation over 20-30 minutes, depending on ambient temperature and humidity or can be jet dried at 65-75°C (149-167°F) for approximately 30-45 seconds using maximum air flow. In the case of porous substrates, drying is aided by absorption. Drying rates in all cases will be affected by ink thickness. Testing under print shop conditions on common substrates is recommended before commencing any production print run.

Ensure that adequate ventilation is provided during drying and that cooling is allowed before stacking to prevent blocking problems.

Whilst the information above is a guide, any heating schedule used should be chosen to suit the heat resistance of the substrate being printed. Care must be taken with IR dryers. When printing on synthetic substrates, lower temperatures and longer drying times are recommended. If your drying conditions fall outside these recommendations, please contact your local representative for technical assistance.

Any drying temperature guidelines quoted above are recommendations for ink deposit temperatures, not dryer temperatures. This should be checked with temperature strips or IR gun to ensure that the appropriate temperatures are being achieved.

Fastness

Light Fastness is very good-excellent. Most colours achieve a rating of 8/8, but all Colours except Glow Colours rate not less than 6/8. Figures for the Glow range are substantially lower, but not quantified at this time.

PERMAPRINT® Hybrid Ink Colours

Black
White
Yellow G/S (Primrose)
Yellow R/S (Golden Yellow)
Orange
Red Y/S (Scarlet)
Red B/S (Carmine)
Magenta
Violet
Blue
Green
Print Paste/Extender 1 L, 4 L +15 L sizes

PERMAPRINT® Hybrid Glow Colours

Glow Yellow
Glow Orange
Glow Red
Glow Pink
Glow Magenta
Glow Violet
Glow Blue
Glow Green
Available in 1 L + 4 L sizes only.

PERMAPRINT® Hybrid Metallic Pearl Colours

Metallic Pearl White
Metallic Pearl Silver
Metallic Pearl Gold
Metallic Pearl Copper
Available in 1 L + 4 L sizes only.

Ancillary Products

PERMASET® Print Retarder Available in 500 mL, 1 L, 5 L + 15 L.

Environmental Information

PERMAPRINT® Hybrid Inks do not contain ozone depleting chemicals such as CFCs and HCFCs. They are also formulated free of aromatic hydrocarbons. PERMAPRINT® Hybrid range is free of volatile organic solvent and does not contain any PVC resin nor any phthalate plasticisers. PERMAPRINT® Hybrid Inks are also free from Lead and other heavy metals.

Safety and Handling

PERMAPRINT® Hybrid Inks have been formulated to be free of toxic chemicals. The range has no flash point, and as such is exempt from Flammable Liquids regulations. Comprehensive information on the safety and handling of products in the PERMAPRINT® Hybrid range of inks and ancillaries is provided in the appropriate Safety Data Sheets (SDS) which are available on request.

Storage

Containers should be kept in a cool place and tightly closed when not in use.

Suggested Safe Disposal Method

- 1/ Wipe as much excess ink off the screen as possible, first with a squeegee (into a clean bucket for re-use), then with rags/paper (into bin)
- 2/ Hose out the screens in a contained vessel
- 3/ Capture the liquid waste and allow to settle
- 4/ Strain out solids, dry solids in the sun and dispose of as solid waste.
- 5/ Aqueous waste water can then be disposed of in sealed containers to a certified waste disposal entity.

Excess ink and wastes from the screen should be disposed of in accordance with the regulations of local regulatory authorities

The information and recommendations contained in this Technical Data sheet, as well as technical advice otherwise given by our Representatives, Distributors or Agents, whether verbally or in writing, are based on our present knowledge and believed to be accurate at the time of writing. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users will conduct their own tests to fully satisfy themselves that products will fully meet their particular requirements. Further, our policy of continuous product improvement may render some of the information contained in this Technical Data sheet out of date and users are requested to ensure that they follow current recommendations.



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