

Permaset Aqua

Screen Printing Inks

Technical Data Sheet




With 60 years of manufacturing experience, Permaset is recognised both by the professional Screen Printing Trade and the Fine Artist as the premium producer of screen printing inks for textiles. Our great heritage continues with a dynamic reengineering of our successful line of quality textile inks. In keeping with this heritage of industry leading products, we have developed a totally water-based textile printing product with superior performance that eliminates the trade-off between softness and durability.

The development of Permaset Aqua represents a revolution in textile screen printing inks. By using advanced polymer technology combined with the purest pigments in a 100% solvent free base, the unique formula of Permaset Aqua offers an environmentally friendly, easy-to-use ink that provides excellent colour brightness with an unsurpassed balance of softness and durability to wash, rub and dry-clean, eliminating the need for additives.

Permaset Aqua is a ready to use, 100% solvent free water-based textile ink, designed for direct wet-on-wet printing on a wide range of natural and synthetic fabrics. The environmentally friendly formula provides intense pigment colour that is rich in coverage and produces exceptional colour yield. The resilient base holds fast. After heat curing, prints exhibit excellent rub, wash or dry-clean resistance whilst having virtually no handle on the printed fabric.

As a water-based product, Permaset Aqua is low odour and equipment is easily cleaned with water. Permaset Aqua performs at a higher standard. Enhanced screen stability allowing exceptional screen open time, results in cleaner printing over extended print runs. Ideal for use on Cotton, Polyester, blends, Silk and most synthetic fibres.

A first rate innovation, Permaset Aqua is the perfect textile printing ink for a broad range of textile applications.

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 & Mesh	Applications	Fabrics	Colour Range
For optimum fastness Permaset® Aqua should be heat cured. If drying in the screen too quickly, add 1-3% Permaset® Print Retarder	If necessary, thin with up to 5% water. Dried in ink may be washed out with conventional or eco-friendly Screenwash.	Monofilament. 43-120T (110-305 tpi) depending on application for standard and process colours. 43-90T (110-225 tpi) depending on application for SuperCover Metallic, Puff and Phosphorescent Green.	MUST be water resistant, fully dried and cured. Check first! Emulsion: Recommend: Fujifilm Dirasol® 916, or KIWO Polycol® Multi-Tex / Versa-Tex™ or ULANO® 925WR, or Chromaline® CP-Text™, or MacDermid Autotype Plus 6000 or Murakami TXR®/T9	15-21 m ² /L with 62T mesh. 611-856 square feet per gallon with 155 tpi mesh.	T-Shirts. Flags. Banners. Sports and Fashion Wear. Scarves. Swimwear. Upholstery and Window Furnishings.	Cotton. Cotton/ Polyester blends and most synthetic fabrics. The fastness to wash and dry cleaning on wool may be diminished.	17 Standard Colours + Jet Black, Std White and Print Paste. 13 SuperCover Colours + Black, 2 Whites and Print Paste. 4 Metallics, 8 Standard Glow, 8 Supercover Glow, Process set (CMY+K), Phosphorescent Green and Puff Paste.
Properties - Matt Finish. Solvent-free. Low odour. Intermixable, light fast, non-bleeding colours. Brilliant transparent shades in standard colours. Excellent opacity with SuperCover Colours. Soft handle. Excellent wash and dry clean resistance. Ironable.				Product Resistance After heat curing, prints exhibit excellent resistance to wet + dry rub.			

Drying and Curing

For optimum wash and colour fastness, prints should be fully heat cured. Whilst the below information is a guide, the curing schedule used should be chosen to suit the heat resistance of the fabric being printed. Care must be taken with IR dryers to ensure that prints are fully cured. When printing on synthetic blends and fabrics, a lower curing temperature and longer drying time is recommended. If your drying conditions fall outside these recommendations, please contact your local representative for technical assistance.

The following curing guidelines are recommendations for ink deposit temperatures, not dryer temperatures. This should be checked with temperature strips to ensure the appropriate temperatures are achieved.

2-3 Minutes @ 160°C (320°F)

5-6 Minutes @ 140°C (285°F)

8-9 Minutes @ 120°C (250°F)

If using Retarder, note that this will also slow dry in the oven. Ensure that a test wash is completed to confirm that cure regime is adequate.

Fastness

Light Fastness is good. Most colours achieve a rating of 8/8 on the Blue Wool Scale, but all are not less than 6/8. When fully heat cured, prints have excellent wash and dry clean fastness.

Colour Matches: Note that high temperatures combined with strong detergents can cause colour changes in some colour matches. It is therefore imperative that all formulations are checked for acceptable wash fastness properties prior to production.

Rub Resistance

After heat curing, prints exhibit very good resistance to wet/dry rub.

Permaset Aqua Standard Colours

Jet Black	Purple
Standard White	Junior Navy
Mid Yellow	Blue B
Yellow R	Light Blue
Orange R	Turquoise
Scarlet	Mid Green
Bright Red	Green B
Mid Red	Dark Brown
Rose	Brown R
Print Paste	Venetian Red

Permaset Aqua Glow Colours

Glow Yellow
Glow Orange
Glow Red
Glow Pink
Glow Magenta
Glow Violet
Glow Blue
Glow Blue
Glow Green

Permaset Aqua Bases

Puff Paste
Phosphorescent Green

Permaset Aqua SuperCover Colours

SuperCover Black
SuperCover White
SuperCover First Down White
SuperCover Mid Yellow
SuperCover Yellow R
SuperCover Orange R
SuperCover Scarlet
SuperCover Bright Red
SuperCover Mid Red

SuperCover Rose
SuperCover Purple
SuperCover Ultra Blue
SuperCover Blue B
SuperCover Light Blue
SuperCover Mid Green
SuperCover Green B
SuperCover Print Paste

Permaset Aqua SuperCover Glow Colours

SuperCover Glow Yellow
SuperCover Glow Orange
SuperCover Glow Red
SuperCover Glow Pink
SuperCover Glow Magenta
SuperCover Glow Violet
SuperCover Glow Blue
SuperCover Glow Green

Permaset Aqua Process Colours:

Process Black
Process Cyan
Process Magenta
Process Yellow

Permaset Aqua Metallic Colours

Metallic Pearl White
Metallic Silver
Metallic Gold
Metallic Copper

Ancillary Products

Fabrics must be held in place during printing by means of a pressure sensitive adhesive to ensure good definition and registration. **Permaset Table Adhesive** is suitable for this purpose.

Water based inks can be prone to drying in on the screen. To provide longer open time, **Permaset Print Retarder** can be added in very small amounts to slow the drying in process.

Safety and Handling

Permaset Aqua has been formulated to be free of any toxic chemicals. The range has no flash point, and as such is exempt from Flammable Liquids regulations. **Permaset Aqua** is free from Lead and other heavy metals except Copper. Comprehensive information on the safety and handling of products in the **Permaset Aqua** range of inks and ancillaries is provided in the appropriate Safety Data Sheets (SDS) which are available on request.

Environmental Information

Permaset Aqua is formulated to be environmentally friendly with enhanced performance characteristics. Permaset Aqua does not include CFCs, HCFCs, volatile solvents nor aromatic hydrocarbons. Unlike other inks (e.g. Plastisols) Permaset Aqua is also PVC and Phthalate free.

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 storage bucket), 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 wastes should 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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