

SCREEN PRINTING

Screen printing boasts a remarkable versatility as it can be applied to an extensive array of substrates, offering unparalleled flexibility in creative expression and product application. This printing method transcends conventional limitations, enabling its utilization on an expansive range of materials. From the traditional mediums of paper and paperboard to modern polymer materials, textiles, wood, metal, ceramics, glass, and even leather, screen printing offers boundless possibilities for artistic exploration and product customization. Its adaptability across diverse substrates underscores its significance as a dynamic and multifaceted printing technique, catering to a wide spectrum of industries and creative endeavours.

Screen printing is a method that involves transferring a design onto a flat surface using a mesh screen, ink, and a squeegee. While fabric and paper are commonly screen-printed surfaces, specialized inks allow for printing on wood, metal, plastic, and glass. I've successfully used a screen-printing screen to transfer underglaze onto clay for kiln firing. The process typically entails transferring a design onto a fine mesh screen and pushing ink through to create an imprint on the surface below.

HOW TO SELECT THE RIGHT SCREEN MESH SIZE

Determining the appropriate mesh count is essential for optimizing prints on specific substrates in Screen Printing projects. Mesh count is typically measured using two primary methods:

UK T Measurement: This measures the number of threads per cm rather than the size of the holes.

US Mesh Measurement: This calculates the number of threads per inch, also not accounting for the size of the holes.

The most common and versatile mesh counts in screen printing are 110 (US) and 140 (US). A 110 mesh lays down a thick layer of ink, making it suitable for block letters and larger spot-color designs. On the other hand, a 156 mesh provides higher detail while still offering a substantial layer of ink, making it preferred for many printers.

Mesh size, denoted by the number of threads of mesh crossing per square inch, varies according to its application in the screen-printing process. For instance, a 110 mesh has 110 threads crossing per square inch. Higher mesh counts feature finer threads and smaller holes in the screen.

The selection of mesh count depends on the design's level of detail and the ink thickness. Designs with intricate details require screens with higher mesh counts to

ensure precise reproduction, as fine dots of detail may not adequately transfer through lower mesh counts.

Thinner inks, such as water-based ink, are best printed through high mesh counts to prevent them from flooding through larger holes in low mesh count screens, resulting in image blurring. Conversely, thicker inks like white plastisol ink are suitable for printing through low mesh counts, as printing thick ink through a high mesh count necessitates greater effort to achieve a satisfactory ink layer on the garment.

MESH INFORMATION VIA SIZE

43T (110 US): Perfect for printing with thicker inks on fabrics, paper, cardboard, and porous materials. Offers a higher ink deposit, ideal for larger design elements and under base layers.

55T (140 US): Versatile option for general-purpose printing on fabrics, T-shirts, and textiles, striking a balance between detail and ink flow.

77T (196 US): Well-suited for printing on textiles, apparel, garments, and paper where medium-level detail and ink coverage are needed.

90T (230 US): Designed for high-detail printing on fine fabrics, light textiles, and paper, commonly used for intricate designs, halftones, and CMYK printing. Recommended as a top layer mesh count.

120T (305 US): Perfect for fine detail printing on paper and card, offering superior ink control and sharpness for intricate graphics and high-resolution images.

INKS

In all our screenprinting workshops, we exclusively use Permaset Aqua Fabric Ink. These water-based inks offer numerous benefits: they are environmentally friendly, gentle on the hands, easy to use, and simple to clean from screens and equipment.

The Permaset range of inks provides vibrant colour, a soft texture, and excellent durability. These inks are renowned for their eco-friendliness, making them one of the most environmentally friendly textile inks globally.

Ideal for a wide range of fabrics including cotton, polyester, silk, and most synthetics, Permaset Inks are water-based, non-toxic, and phthalate-free. With low odour and easy cleanup using water, they offer a safe and convenient solution for textile printing.

FABRIC INKS

PERMASET AQUA is suitable for direct printing on light-coloured fabrics and textiles. There are Transparency inks. Transparency refers to inks that impart exceptionally

vibrant colours while maintaining a transparent quality. Ideal for application on light-coloured fabrics, transparent inks produce vivid and luminous prints.

For dark-coloured fabrics/textiles, PERMASET AQUA can be used with PERMASET First Down White as an under base.

Ideal for a wide range of applications including t-shirts, yardage, homewares, tote bags, flags, banners, sports and fashion wear, scarves, swimwear, upholstery, window furnishings, cushions, table and bed linen, tea towels, and tote bags.

Opaque inks contain a mixture of white pigment and colorant, resulting in a chalky appearance and dense consistency. These inks, also referred to as Supercover, possess the ability to completely obscure underlying colours. Specifically engineered for application on dark substrates, opaque inks eliminate the need for an undercoat.

Standard white ink is opaque.

USING OTHER INKS AND BASE MATERIALS

Water-based screen-printing inks are available for a variety of substrates such as fabric, paper, plastics, glass, wood, and more. They can be used for various applications including wallpaper, art reproductions, posters, packaging, notebooks, book covers, stationery, business cards, wrapping paper, placemats, cork mats, coasters, slip mats, skateboards, stickers, and backlit displays.

It is advisable to carefully review the ink manufacturer's instructions regarding

- Drying/curing times,
- Mesh size/range,
- Thinning of ink,
- Cleanup of screens
- Specific applications (e.g., wood, fabric, paper, etc).

In the realm of screen printing, an expansive array of ink options is available, each offering unique characteristics and effects to enhance the visual appeal and tactile experience of printed designs. Among these options are specialized inks such as puff paste, which imparts a three-dimensional texture to printed surfaces, adding depth and dimensionality to designs. Sparkling ink introduces a glittering effect, infusing prints with a captivating shimmer that catches the eye. Metallic ink, with its lustrous finish, lends a touch of sophistication and elegance to printed materials, creating stunning metallic accents that command attention. For designs that illuminate in the dark, glow-in-the-dark ink offers a captivating twist, imbuing prints with an ethereal glow that captivates viewers in low-light environments. These are just a few examples of the diverse range of ink options available in screen printing, each offering its own unique qualities to inspire creativity and elevate the impact of printed designs.

HEAT CURING OF PERMASET INKS (AKA SETTING)

The ink will need to be cured to set it permanently to the fabric. There are two quick options for people without a commercial tunnel drying (ink curing machine).

Hand Ironing: Ensure prints are completely dry before ironing by hand. While tunnel drying may yield optimal results, hand ironing can still provide satisfactory outcomes. Pay attention to metallic prints, as their pigment structure may reflect heat, affecting the ironing process. To address this, iron garments/fabrics inside out, focusing on the reverse side of the print. Apply high heat for approximately 3-5 minutes.

Tumble Drying: After air drying, transfer garments to a tumble dryer for approximately 30 minutes.

EQUIPMENT/TOOLS

Squeegees are available in various sizes to accommodate different printing needs. I have seen someone use a credit card once.

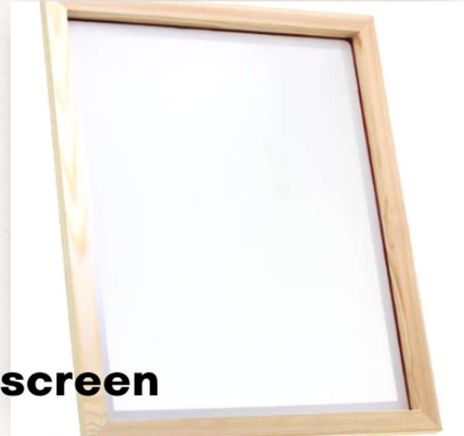
Screens are also offered in different mesh sizes and dimensions, with frames typically constructed from either wood or metal.

During screen preparation, tape is applied around the inside of the screen frame to secure the mesh, and additional tape may be used on the back of the screen to reinforce the mesh-to-frame connection. Additionally, tape can be utilized to patch any imperfections or "holes" in the filler, ensuring optimal printing results.

TOOLS



Squeegee



screen



masking tape



paintbrushes

www.ImprintCorner.com.au

SCREEN FILLER

In the Australian market, two prominent brands of screen filler are Speedball and Derivan, offering quality solutions for screen printing applications. Following the completion of a design or when a change is desired, screen cleaner is employed to effectively remove the screen filler from the screen. This process enables screens to be reused for subsequent designs, providing flexibility and cost-efficiency in the printing process. Moreover, screen filler serves the additional purpose of touch-ups, allowing for the correction of any imperfections or "holes" in the filler to ensure

precise ink application and maintain the integrity of the printed design.

SCREEN FILLER



AUSTRALIAN MADE



MADE IN USA

SCREEN CLEANER



AUSTRALIAN MADE



MADE IN USA

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