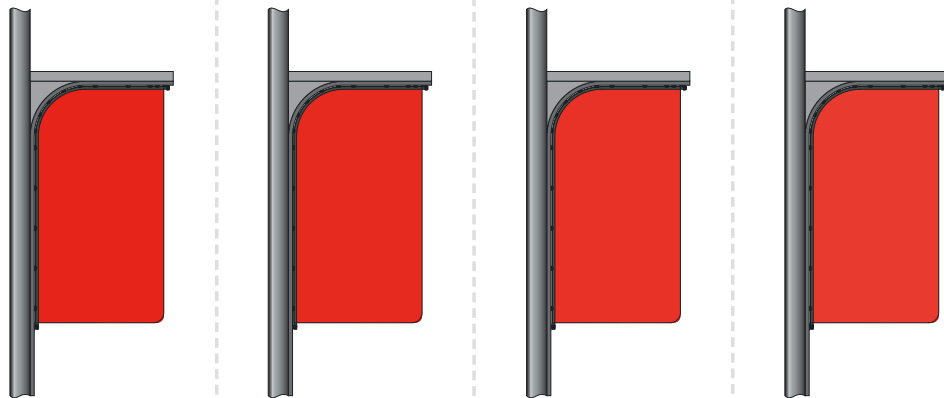


DYE SCREEN VS DIGITAL PRINT

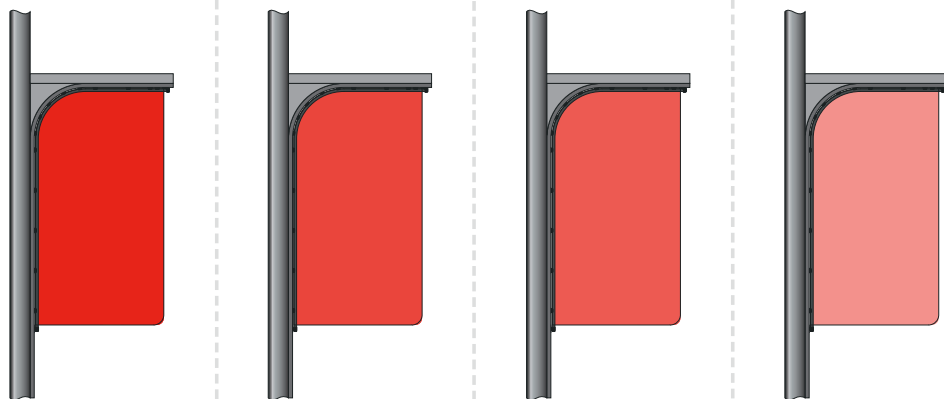


COLOUR FADE COMPARISON

DYE SCREEN



DIGITAL PRINT



Life of dye-screen printed flags vs digitally printed flags

The question is often asked which type of flag lasts longer: a dye-screen printed flag or a digitally printed flag? To understand the answer we must look at several factors including the printing processes.

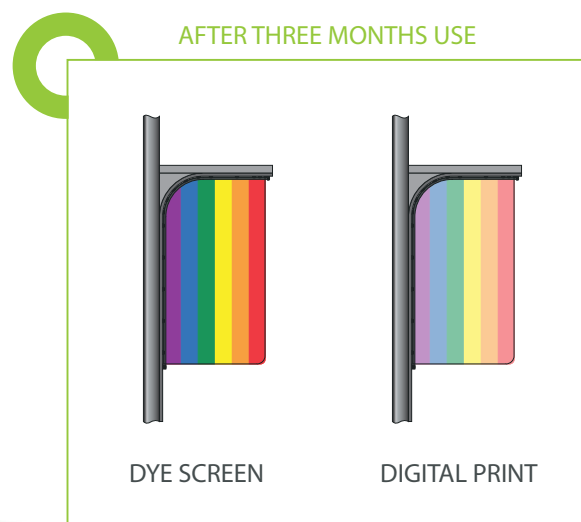
Digital flags fade more quickly

Dye-screen printing involves using SOLID colour dyes squeezed through mesh screens. The individual coloured dyes are applied in high volume and squeezed through the mesh. There is a lot of dye used, around 6-7 times that in a digitally printed flag and this has two effects:

1. Firstly the flag is fully saturated with colour giving a deep rich image and:
2. Secondly, it gives the fabric a lot of sunlight, UV and weather protection.

Digital printing requires spraying a fine amount of ink onto the fabric exactly the same as an ink jet printer does onto paper. If you put too much on it bleeds (spreads out) and the colours run into each other.

The inks used are not solid colours as used in dye-screen printing - they are a blend of colours called CMYK that is used to make the final colour. Because they contain no 'solid' dye particles they are much less resistant to fading in sunlight and UV. Pastel or lighter shades will fade very quickly on digitally printed flags as there isn't much ink required to achieve the pastel or light colour.



Dye-screen colours are locked in

Another important distinction is the baking or sublimation process.

Dye-screen printed flags are baked at 180°C for 20 minutes allowing full penetration of the dyes into the fibres. They are permanently locked in so to speak.

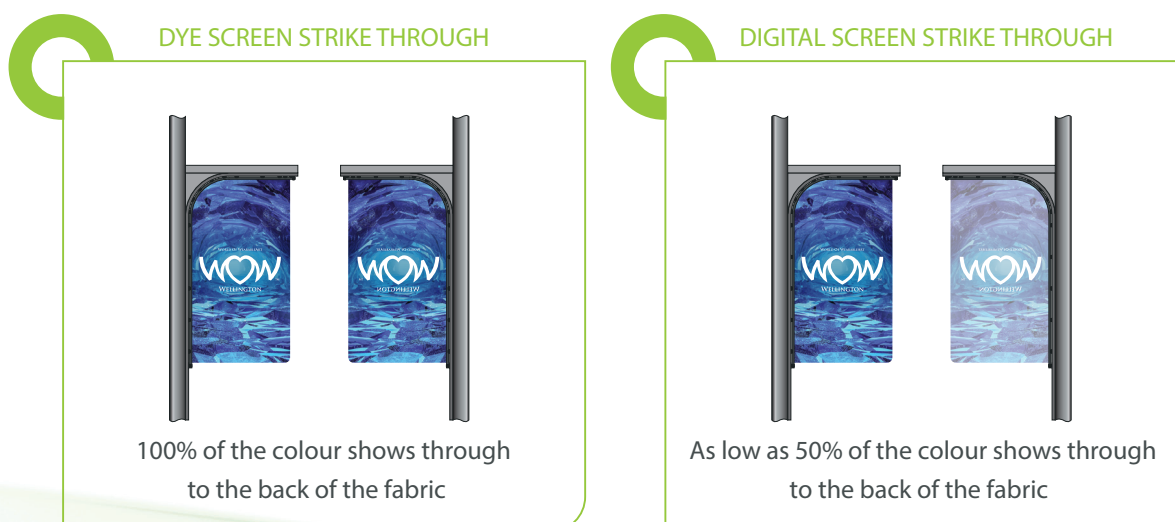
The curing process for digital flags is only around 10 – 15 seconds and this means that the ink tends to stay on the surface of the fibres rather than 'in' the fibres.

This is why it takes so much longer for dye-screen printed flags to start fading, and in some cases with some colours the fabric will decay before the colour disappears.

All country flags produced around the world are produced using the dye-screen printing process for the reasons explained above. A digitally printed country flag would start to fade after 4-6 weeks - and that would certainly not be a good look! The same goes for streetbanners. Both streetbanners and country flags are flown 24/7 and people's expectations are that they should look good for many months of continuous flying.

100% showthrough on dye-screen printed flags

Only dye-screen printed flags will give you 100% showthrough. Both sides are fully saturated and there is no difference in image quality on the reverse side. Digital printing is printed from one side only and will have only up to 90% show through for bold colours and as low as 50% showthrough for lighter colours. This means colour fade will be quite dramatic on the reverse side after 1 month or so.



Resolution

Digital printing is used for low volume and complex images when viewed up close because digital printing results in a finer resolution. This is great for internal displays however resolution for flags is not so critical as they are viewed from many metres away.

In fact, even complex or photographic images produced by the dye-screen printing process will look more vibrant from a distance due to the saturation of the ink in the fabric.

Watch the trick!

Initially, a digitally printed flag will look very good. It's ideal for short term use but blacks, dark blues, greens and reds will not look as rich and saturated as a dye-screen printed flag. If you hold them up in the sunlight you will notice the difference straight away.

The real trick is to place the flags several metres away from you against a window or have someone hold them up from a distance in the sunlight and compare the two. Then you will see the difference.

Environment and Sustainability

Both the inks and dyes used in dye-screen and digital printing are water based and environmentally friendly.

Dye-screen printed flags, however, have a significant advantage over digitally printed flags as they simply last longer. Not having to replace digitally printed flags so often means fewer flags have to go the landfill.

One final word

A dye-screen printed flag will outlast a digitally printed flag. You will not notice any significant colour fade until after around 6 months or so and the fading process will be gradual. In addition, the fabric is better protected from the elements and is much less likely to tear.

Fading of flags made from a digital printing process will be noticeable after 1 month. There is no real difference between digital manufacturers as the process, inks and fabrics are almost identical. There is no magic digital printing method that gives superior life over another.



DYE SCREEN VS DIGITAL PRINT

Flagmakers has 3 digital printing presses and uses them extensively for short-run, internal and external banners and other products. Our latest printer bought 1 year ago has the latest print head technology and uses 8 colours giving great looking oranges and light blues.

Flagmakers has been producing flags for over 50 years and continues to experiment with different printing methods, inks and fabrics and remains one of the largest flag manufacturers in Australasia. We are the preferred supplier to the NZ Government, Official licensee to the All Blacks and the official/preferred supplier for RWC 2011, CWC 2015 & Lions tour 2017 all of which used dye screen printed flags.

Flagmakers Ltd.

