

## 4 Surface print



Magnified shot of **Surface printed** wallpaper. It shows the 'smudging' together of the inks as they are laid wet on wet. The result of this is an overall 'soft' look to the design.



Invented 1839. Continued as the only mechanised means by which to print wallpaper for the next 100 years. It was responsible for making wallpaper available to the masses and its immediate success marginalised **block printing**.

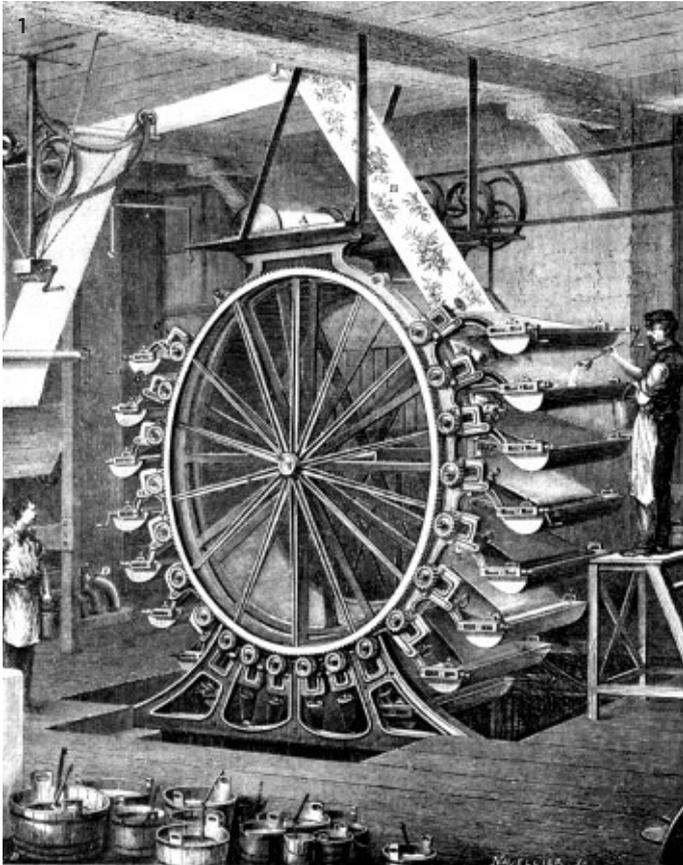
**THE SURFACE PRINT MACHINE IS THE OLDEST OF THE MECHANISED PROCESSES AND IS PREDECESSOR TO THE RELIEF PRINTING FLEXO MACHINE.**

Its construction is very reminiscent of a **flexo** machine in that it has a large drum cylinder, approximately 1.5 metres in diameter, with print 'stations' spaced around the circumference; the major difference being that the Surface machine generally has between twelve and twenty stations against the **flexo's** six. The print cylinders themselves are made of a very hard 'ceramic' type rubber and the area that you don't want to print is cut out from it, leaving the printing surface 'proud' on the cylinder.

The inks are water-based and transferred via a rotating woollen

or felt blanket. The blanket is soaked with ink at one end, whilst the other end is touching the back of the print cylinder. As the conveyor belt type blanket rotates it picks up the ink from the tray and delivers it onto the back of the print cylinder; the ink is then impressed directly onto the paper as it's rotated. The amount of ink transferred onto the cylinder is determined by the absorbency of the blanket. The more porous the blanket, the more ink; the harder the blanket, the less ink.

Because water doesn't evaporate in the same rapid way as **solvent** does, it is still wet when that part of the printed paper reaches the next print station. This process of wet ink falling on wet ink creates an effect whereby the colours lightly 'bleed' into each other, giving a very soft visual finish.



- 1 A twenty colour wallpaper (Surface) printing machine c1870
- 2 Typical 12 colour Surface print machine
- 3 Close up of Surface print cylinder

Surface printed papers are very distinctive, identified by the soft reticulation of inks and the dark lined edge around each separate colour, created as the ink is squeezed out under pressure from the cylinder.

