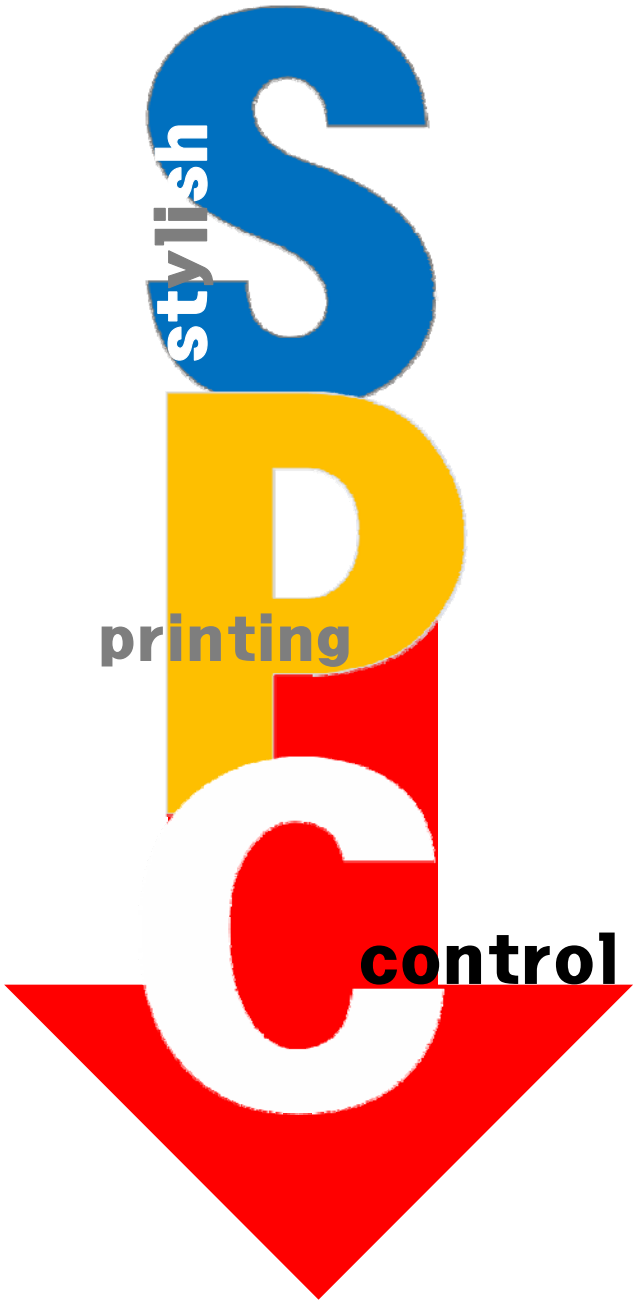

d·gen



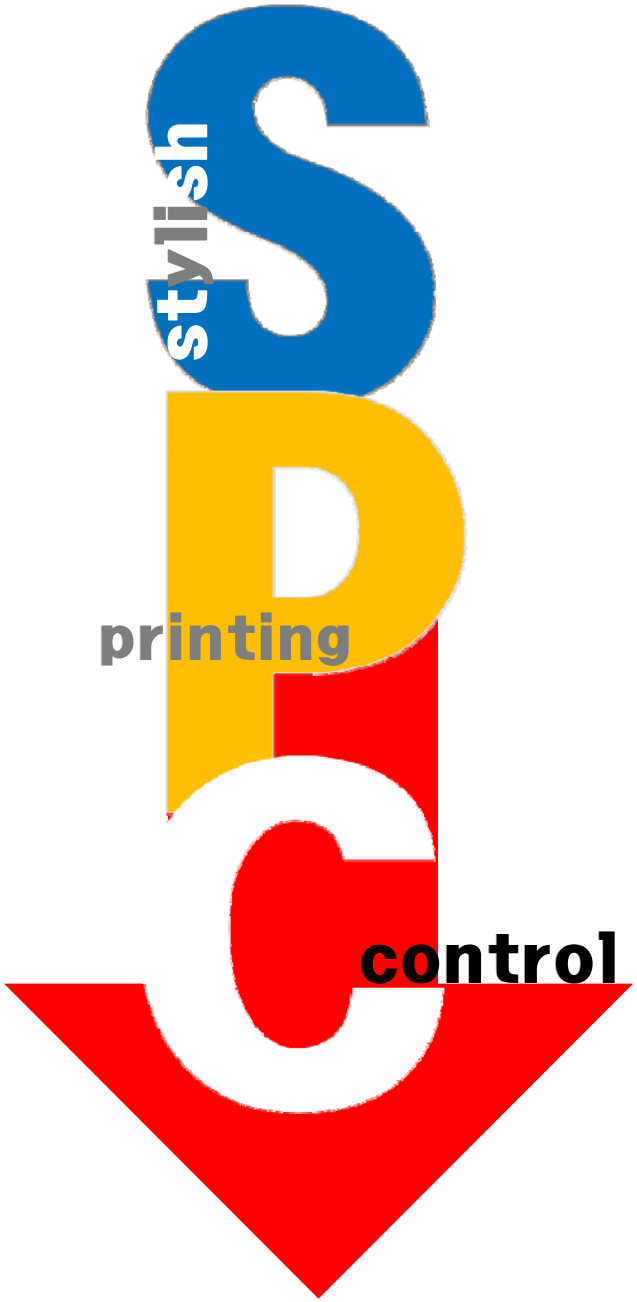
S.P.C.

The third dimension in digital direct-to-textile printing

FABRIC DOESN'T HAVE TWO DIMENSIONS ONLY!

The colour result in double-sided printing has always been the big challenge for printers: with screen printing in the past, with digital printing today.

In the past, the challenge has been brilliantly solved through the formulation of screen printing inks using technique and colour combinations.



Today, with digital printing, the challenge seems to be still open.

I say “seems”, because d.gen, born to focus on digital printing in order to **solve his customers’needs**, has now a solution for this technical problem still present in the modern digital printing.

We had now succeeded to **combine the characteristics of digital printing together with those of the conventional screen printing.** The result is a system which allows to print fabrics with innovative features through a direct-to-textile digital printing process.

The advantages of digital printing are widely known but the novelty of this system goes in the direction of completing and **improving the range of possible applications particularly in digital textile.**

d.gen's S.P.C System

STYLISH PRINTING CONTROL SYSTEM

- The digital printing technique is based on the concept of **controlling** the **quantity of ink** to obtain different shades and **different saturations**. This concept implies **different volumes** according to each colour intensity and saturation. In fact, **it prevents for the fabric to be soaked in the same way with colours having different saturation.** Also, it prevents to have penetration effects conditioned by the quantity of ink volume applied on the fabric.

- Summarizing **we have dark colours going deep into the fabric while the light ones stay on the surface.**

- This feature has no influence if the fabric to be decorated has no need of a double-sided image but it is extremely negative in those applications where the image has to be visibile on both sides. A common example is represented when printing flags and banners but, **more significantly, in the fashion area of printing scarfs and foulards.**

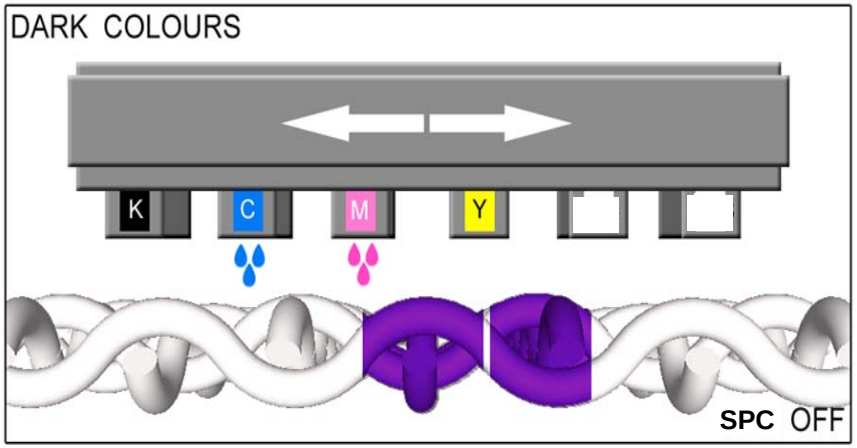
THAT'S S.P.C.

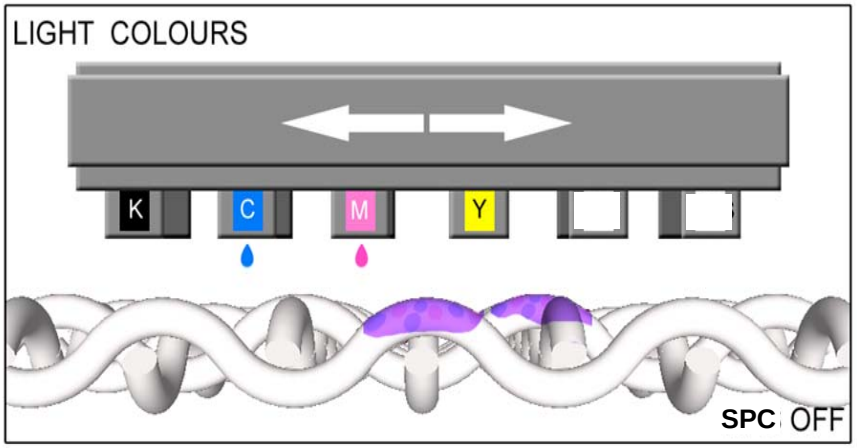
HOW THE SYSTEM WORKS

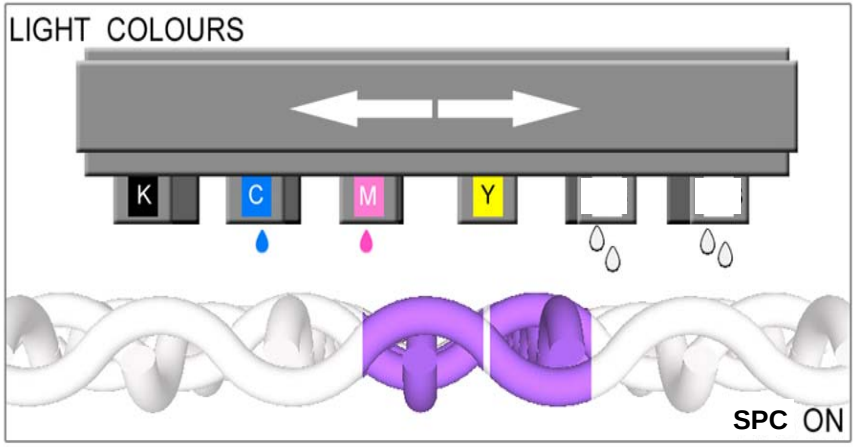
- The system is formed by two complementary elements:

  - **SPL(Stylish Printing Liquid):** not containing dyes or pigments. It works as a driver for the other dyes used in order to achieve, notwithstanding shade and intensity, a uniform quantity of ink volume;

  - **SPC Software** which allows for the intepretation of the graphics to be printed and also for the correct quantity of SPC necessary to equalize the ink penetration.



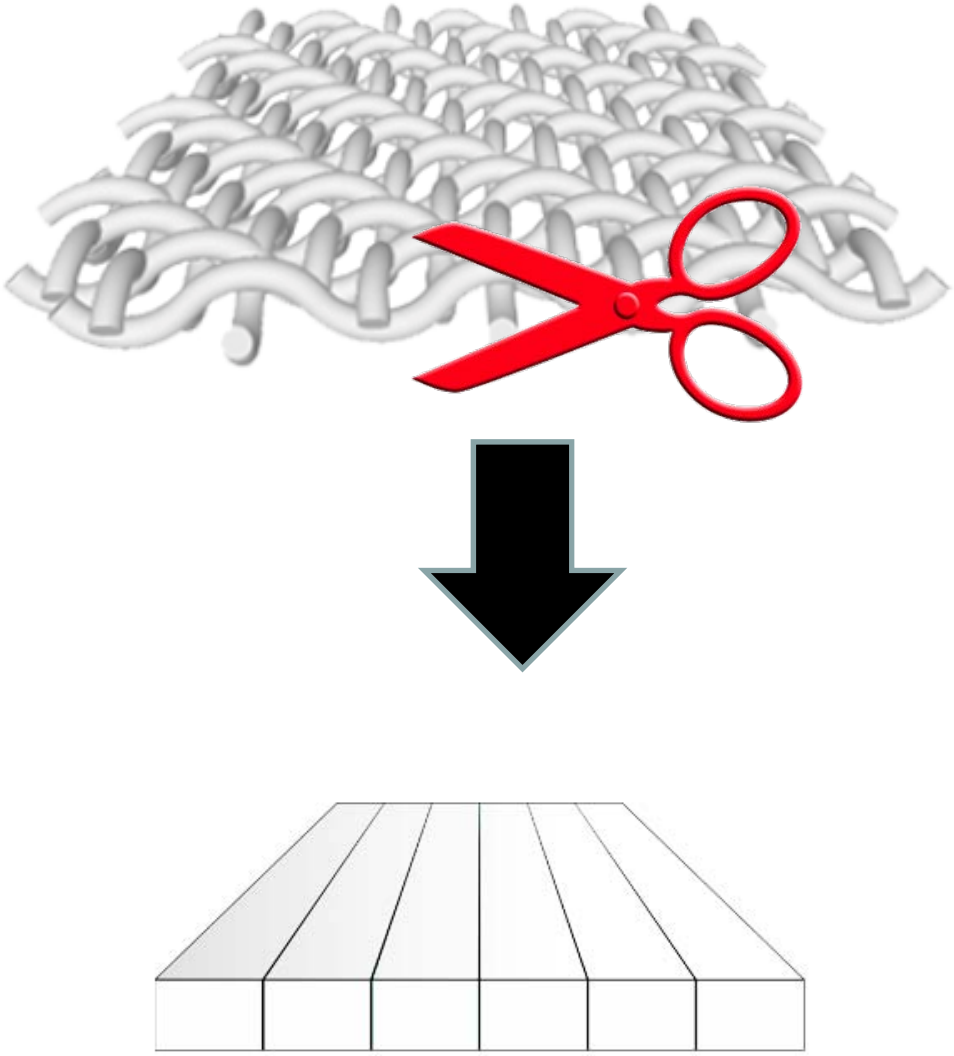


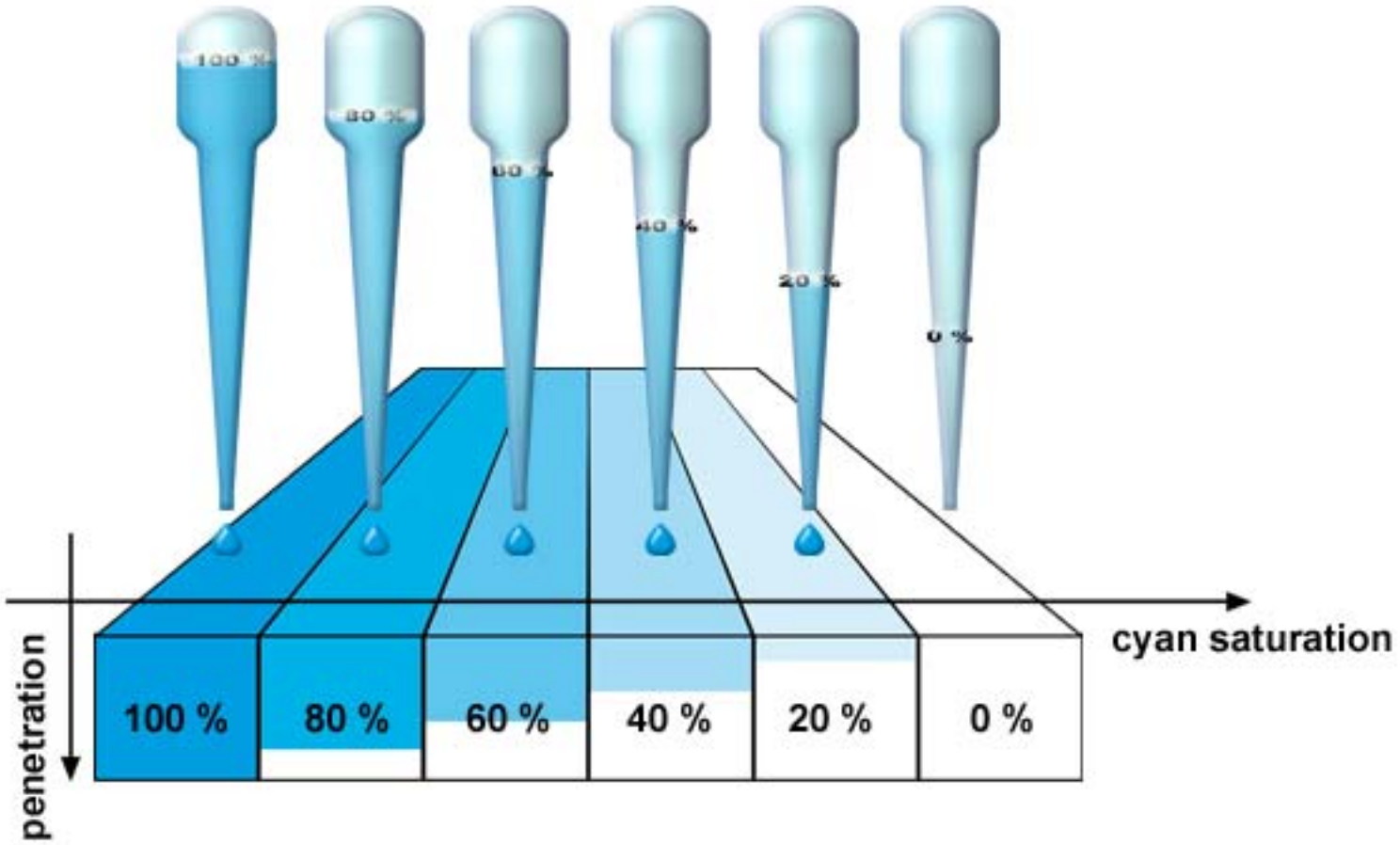


SPL(Stylish Printing Liquid) must be considered as an ink which allows for a correct dilution of all the other inks used during the printing.

In the printer it usually takes the position of the half-tone shades (Light Cyan, Light Magenta, Grey). Therefore, it cannot be used on those printers working with 4 colours only (CMYK).

YESTERDAY WITHOUT SPC





Uncomplete penetration for ligth colours

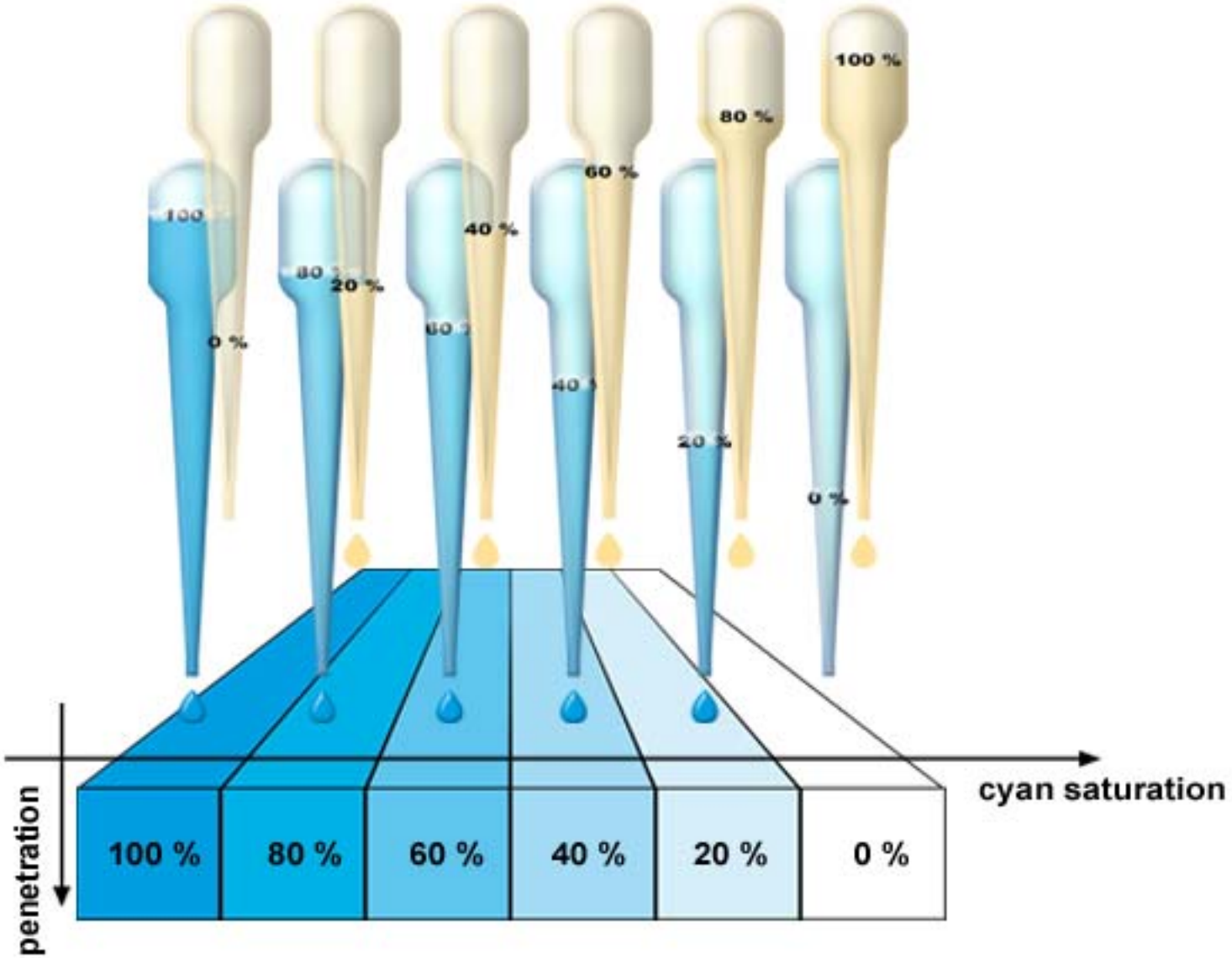
DIGITAL WITHOUT SPC

TODAY WITH SPC

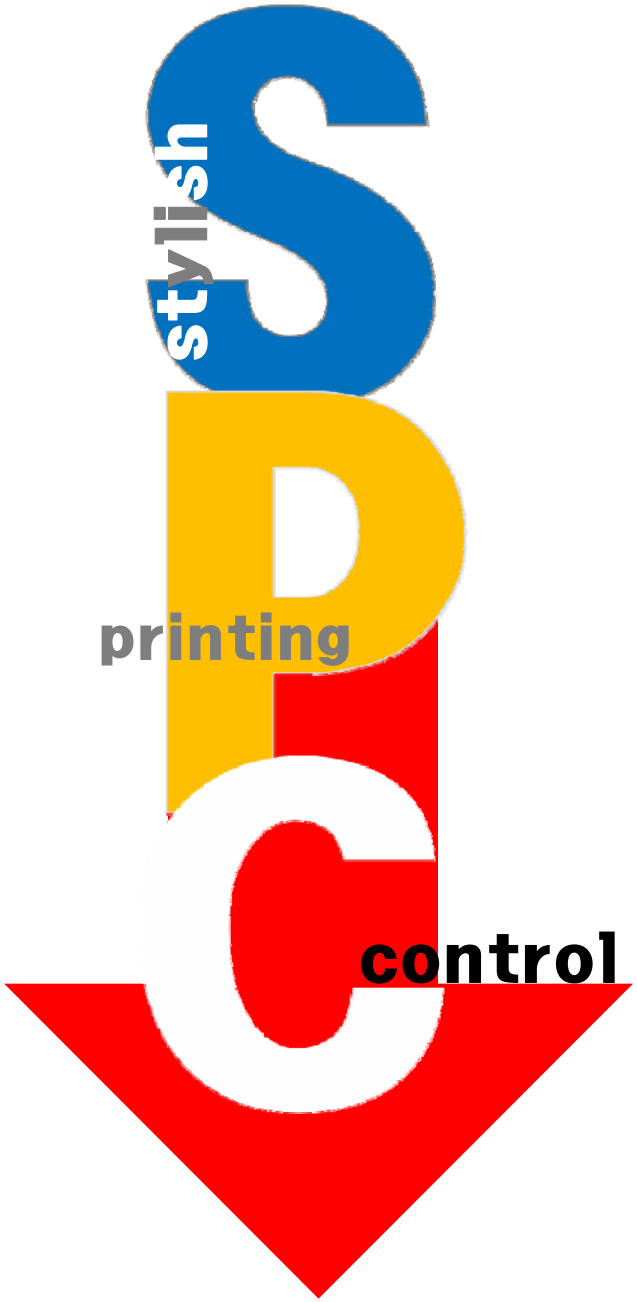
DIGITAL WITH SPC

SPC INK

CYAN INK



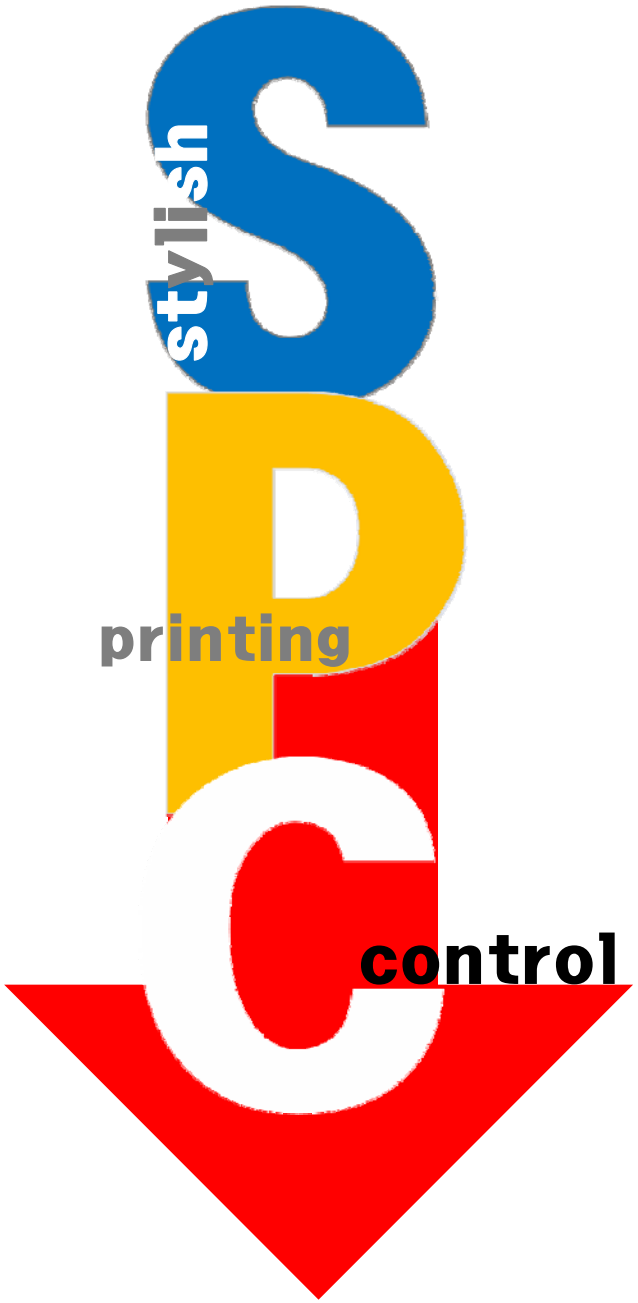
100% penetration also for ligth colours



HOW TO USE IT

- First of all it is necessary to consider the **ink limit** which the fabric, prepared for direct printing, can accept. This operation is absolutely necessary in order **to balance the printing outlines** and the possibility to penetrate the fabric layer.

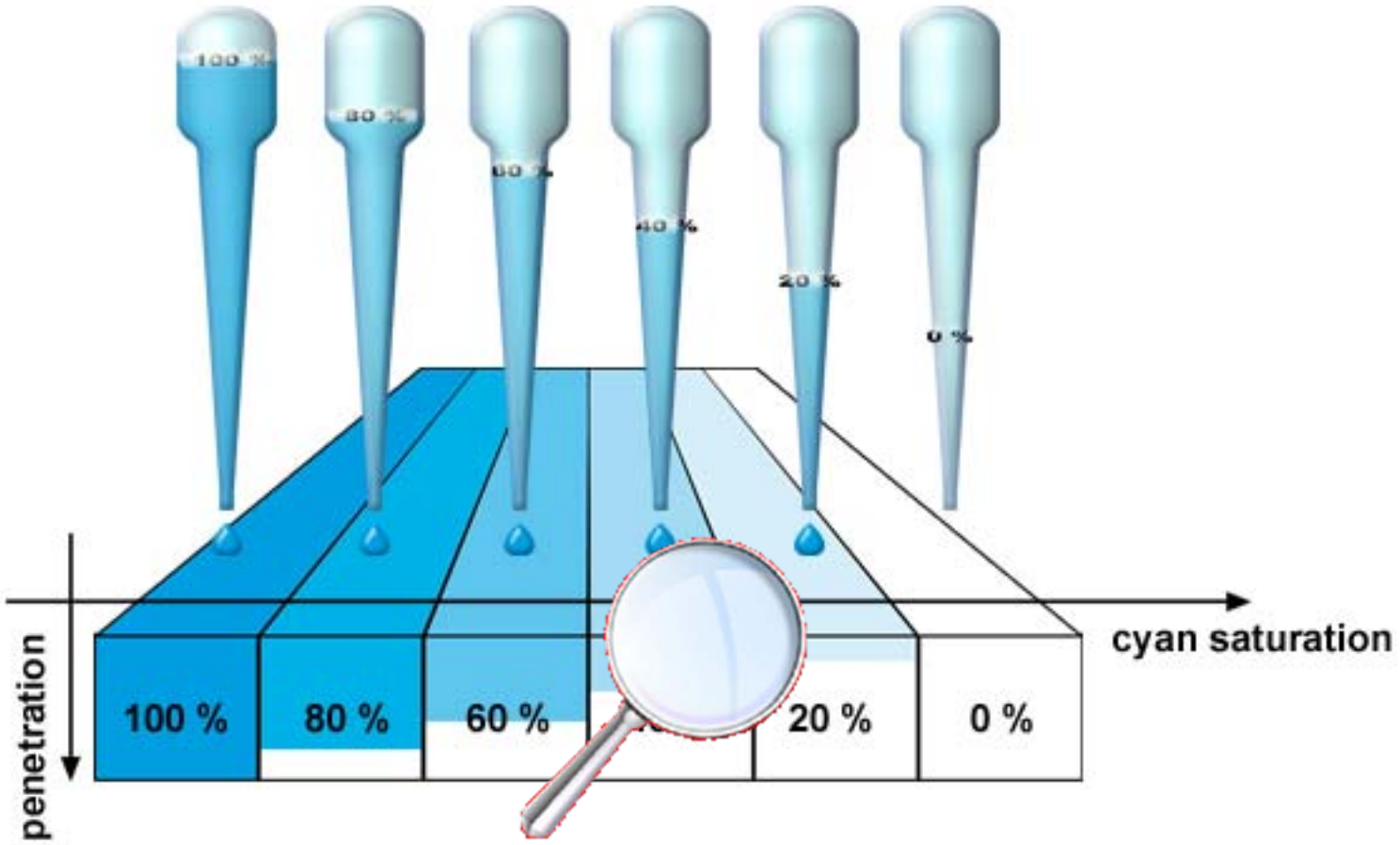
- The ink limit varies from one fabric to the other and strongly depend on the treatment which the fabric underwent before printing. Of course, the thicker the fabric , the higher the ink limit necessary to obtain an acceptable penetration and, therefore, a visibile **double-sided image** on the printed fabric.



- If we take, for instance, a six-colour graphic, the choice we can make is to have one or two **SPC positions thus eliminating the half tones or additional colours.** Obviously the half-tones replacement **does not implies a reduction of the colour gamut** while the replacement of some additional colours can slightly reduce it. However, this is something every single operator can easily decide by himself.

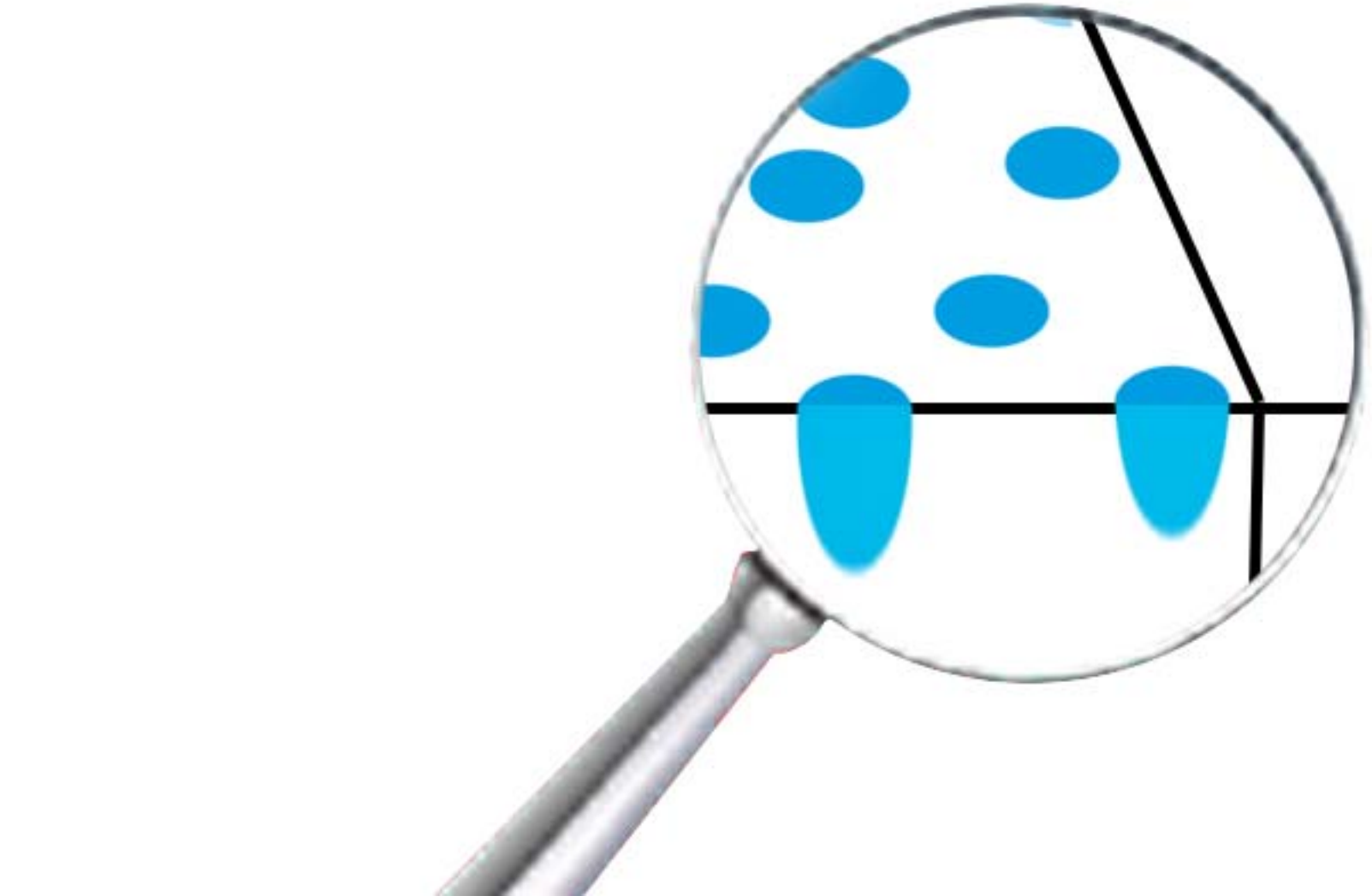
- The elimination of half-tone colours can rise some objections due to the possibility of dittering in the prints. This is not the case, but the contrary. As a matter of fact, the **SPC system**, bringing at most printing uniformity , **cancels the dittering effect** improving the colour shades even the lighter ones.

DIGITAL WITHOUT SPC



WITHOUT SPC

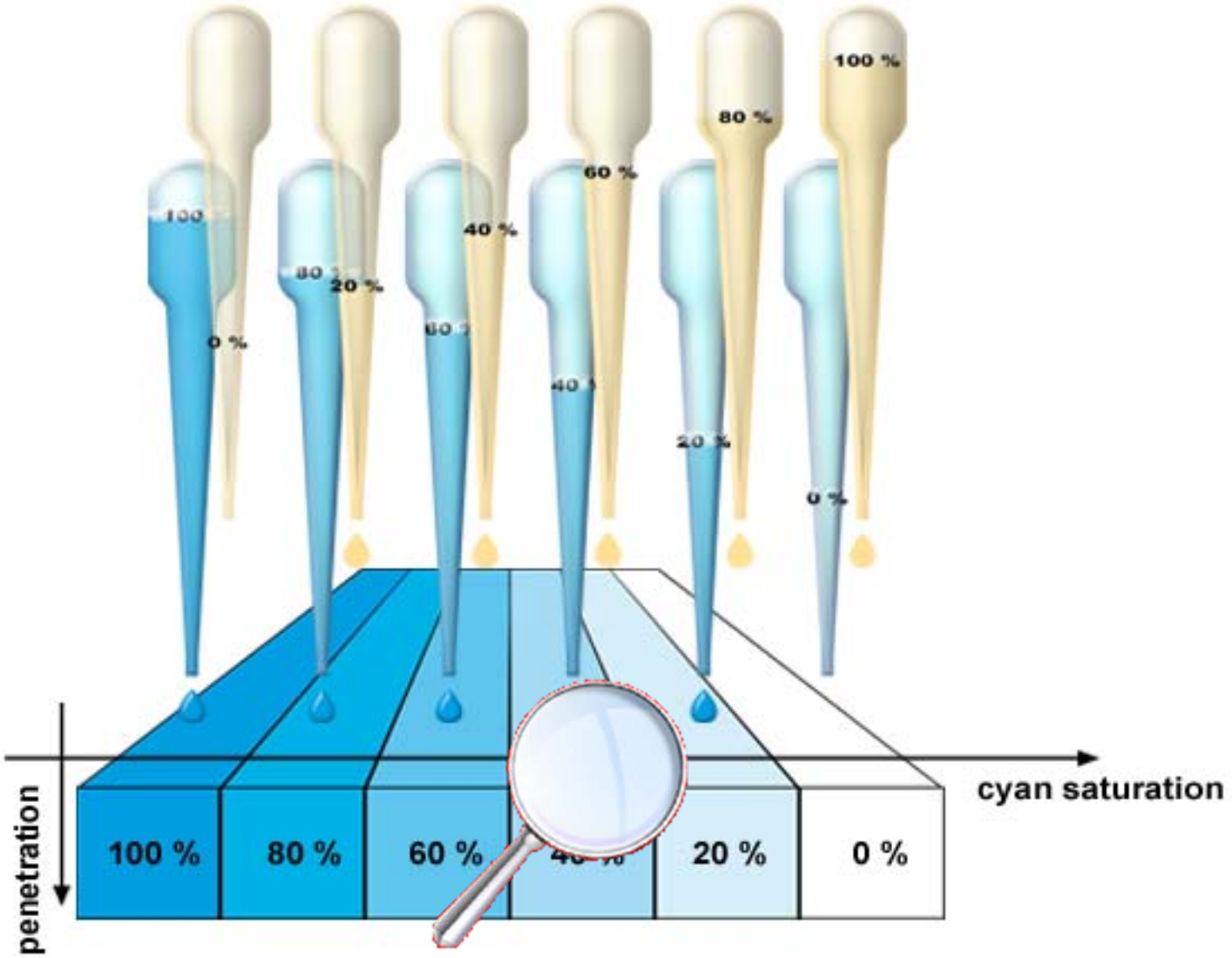
DITTERING



DIGITAL WITH SPC

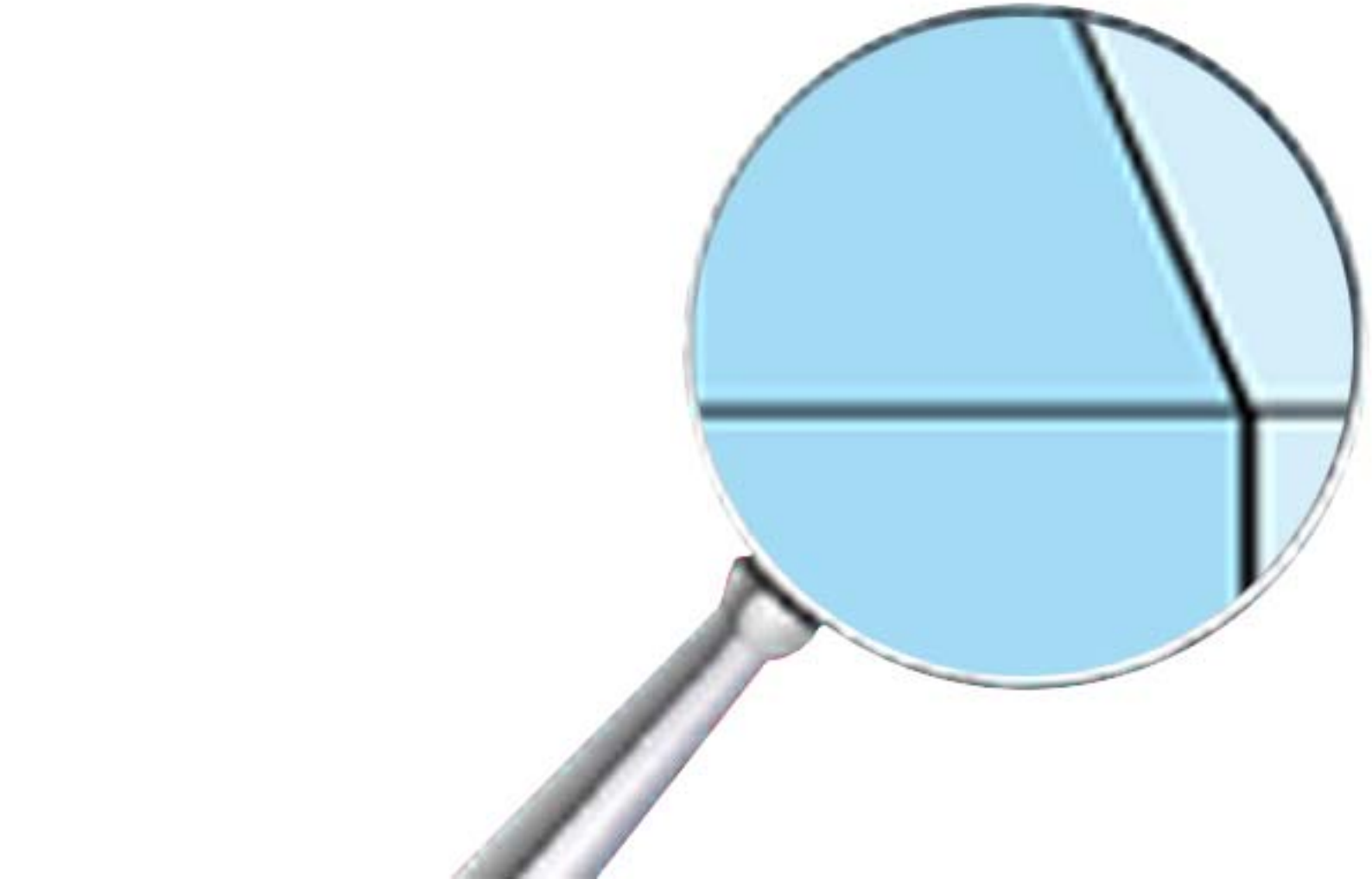
SPC INK

CYAN INK



WITH SPC

NO MORE DITTERING

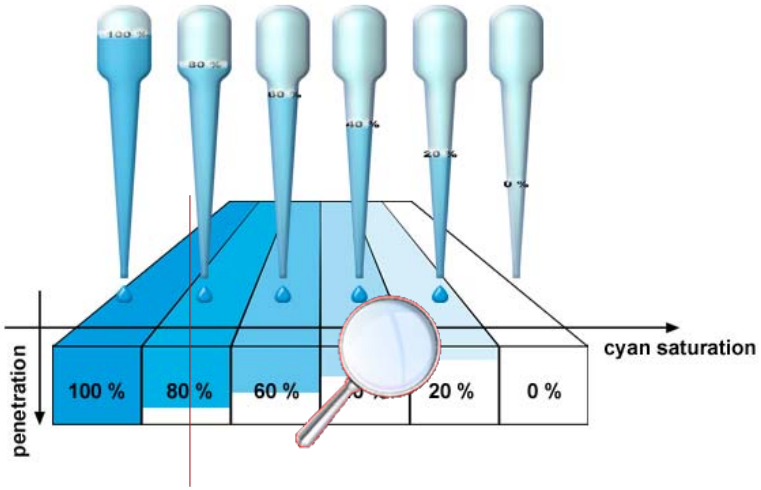


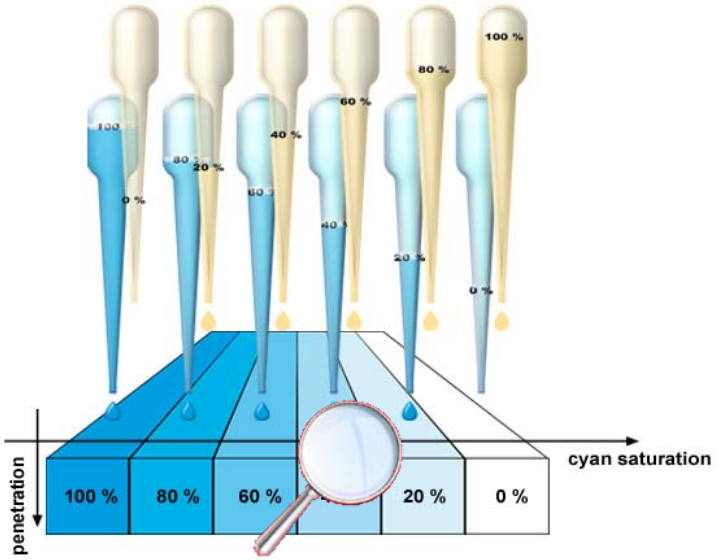
Summarizing

DIGITAL
WITHOUT SPC

DIGITAL WITH SPC

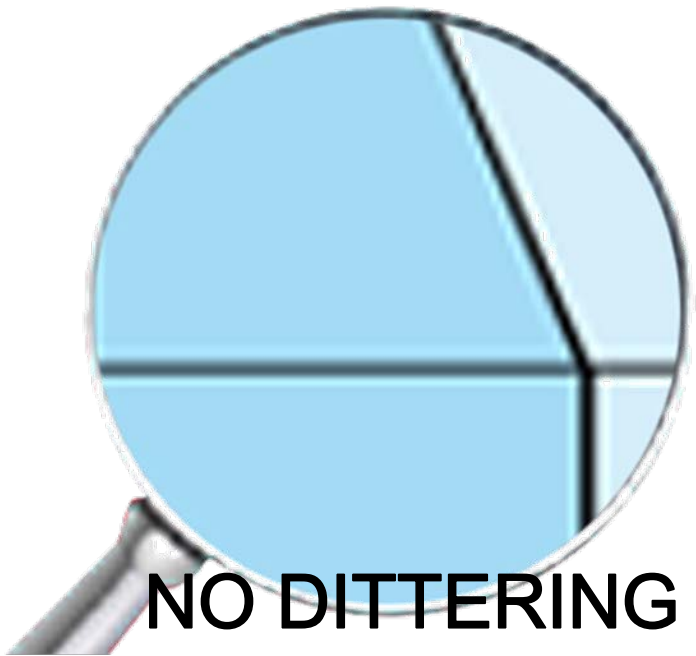
LIGHT COLOURS NO 100% PENETRATION



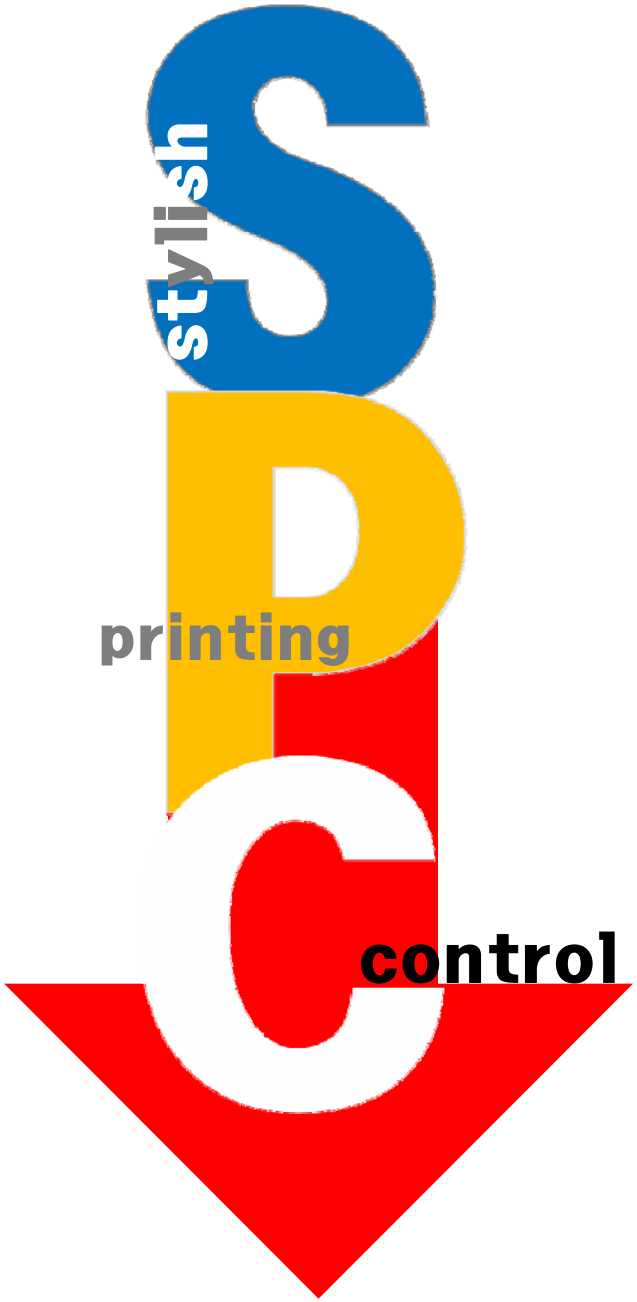


LIGHT COLOURS 100% PENETRATION

DITTERING



NO DITTERING



- **SPC is an universal product** which expresses the best of its characteristics in applications using disperse dyes for **polyester**, acid dyes for **wool** and **silk** as well as reactive dyes for **cellulosic** fibres both in high temperature fixing systems and steaming.

- **The Software can be used with all Rip already installed** and simply has the function to align the quantity of colour used with the ink limits decided or to be decided by the operator.

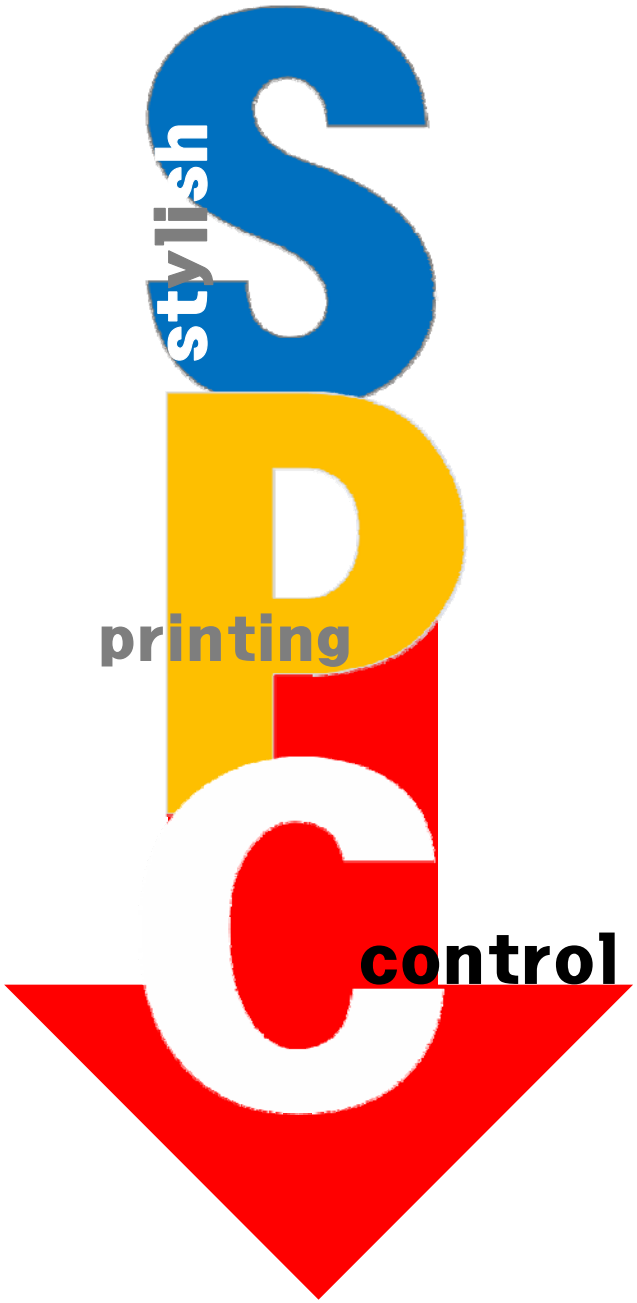
EXAMPLES

Without SPC

With SPC

Without SPC

With SPC



Advantages of the System

- Uniformity of ink penetration in double-sided printing effect
- Easy to use
- Developing new digital application sectors
- Creating new markets
- Solving dittering effect
- High quality double-sided textile prints now possible with digital process

gives the operators a new tool for more opportunities in Digital Textile.

Ladies & Gentlemen we can say:

the color is back!