

# INKJET IMAGING PAPERS – PRODUCT RANGE TRISOLV



Technical documentation

## INKJET IMAGING PAPERS – PRODUCT RANGE TRISOLV

- TriSolv Papers are multilayer coated, water-, and weather resistant, bright white papers, specifically developed for solvent or UV-curing inks.
- The construction enables brilliant posters saving up to 30% ink. All TriSolv papers are qualified for billboard application, deliver high scratch resistance, and perfect folding performance. Due to its absorption capacity PrimeArt is best for Lite and Eco Solvent ink

# PRODUCT RANGE TRISOLV

## ■ TriSolv PrimeArt Paper 200 glossy 3686

- Premium Poster Paper
  - Photorealistic features
  - High degree of stiffness

## ■ TriSolv PrimeArt Paper blueback SA 210 glossy 3683

- Premium Poster Paper
  - Water-repellent surface
  - Blueback offers high opacity

## ■ TriSolv PrimeArt Paper 135 glossy 3684

- Premium Poster Paper
  - Excellent image quality
  - Suitable for city light / mega light poster

## ■ TriSolv PrimeArt Paper blueback 120 glossy 3682

- Premium Billboard Paper
  - Excellent colours
  - Blueback offers high opacity

## ■ TriSolv PrimeArt Paper SA 275 glossy 3685

- Premium Poster Paper
  - Excellent colour
  - Optimised for use on cutting plotters

## ■ TriSolv PostArt Paper 135 satin 3689

- Quality Poster Paper
  - Good ink limit
  - Brilliant colours

## ■ TriSolv PostArt blueback 120 satin 3687

- Quality Billboard Paper
  - Brilliant colours
  - Blueback offers high opacity

# PRODUCT RANGE TRISOLV

## A few basic tips

- Depending on your printer, you have to test the heating temperatures. This value may already be implemented in the profile.
- Choose practical input profiles before running your print job
- Feed paper a few centimetres through before you will start the first print job. This will prevent damage caused while the paper is standing idle during the heating up process .

## PRODUCT RANGE TRISOLV

### Colour densities, ink restrictions, colour brilliance

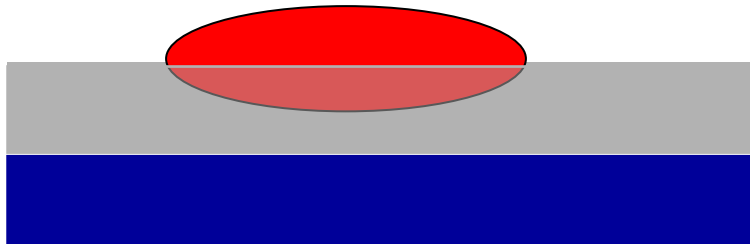
- Our internal tests point out that TriSolv Papers do have higher optical densities after printing than most of the competitive materials.
- Due to that you achieve the same colour densities with lower ink consumption.
- TriSolv Papers are developed for price conscious printing (= less ink).

# PRODUCT RANGE TRISOLV

## Colour densities, ink restrictions, colour brilliance

conventional porous coating  
(water / solvent)

wet

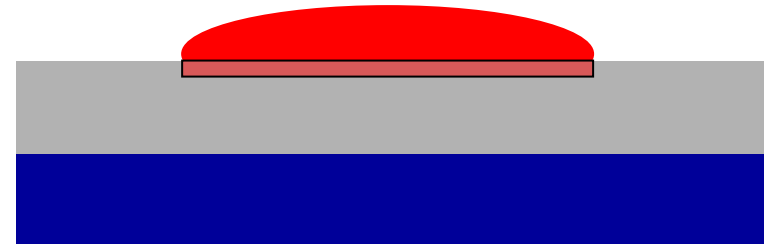


dry

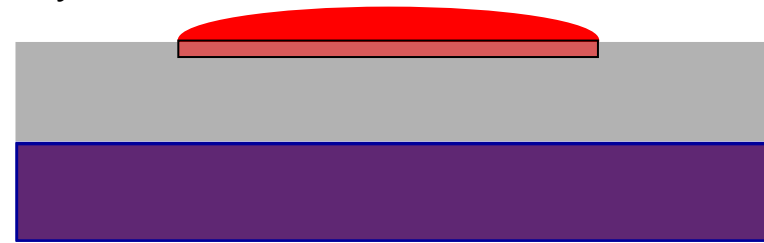


Film forming / swellable coating  
(solvent / water / UV-curing)  
TriSolv Paper Family

wet



dry

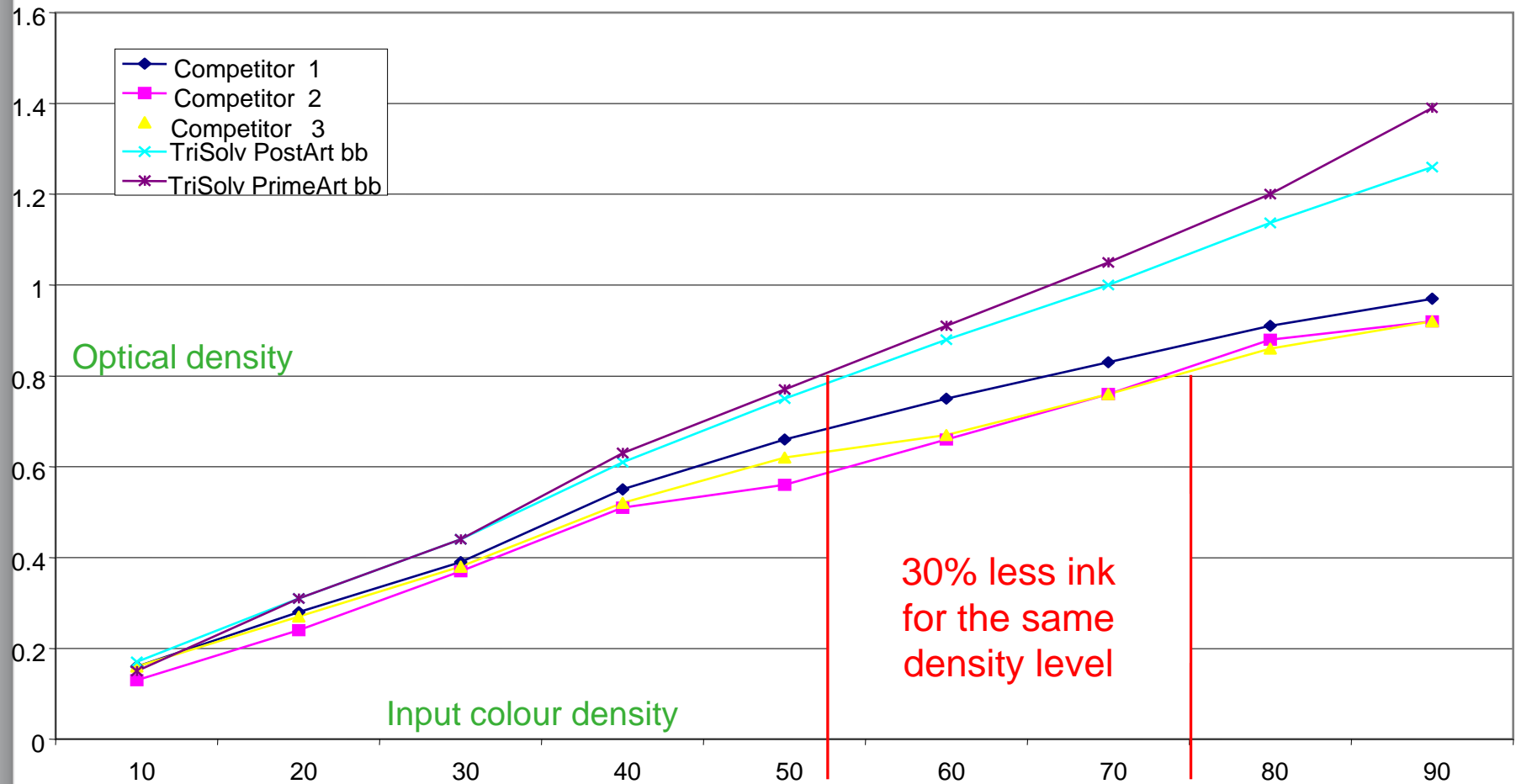


# PRODUCT RANGE TRISOLV

## Different product design - explanation

- The previous chart shows that the inks, depending on the media design, more or less penetrate the media and its coating.
- The construction of the TriSolv Papers is comparable to professional billboard media for screen and offset printing.
- The ink only penetrates the water-, and scratch resistant layer of the coating. This encapsulation process or film forming design saves ink and delivers high colour saturation.
- The following Chart shows the different colour density results depending on the paper used - all printed with the same setting. The prints were done on a Mimaki JV3 160S in July 2004.

# PRODUCT RANGE TRISOLV - OPTICAL DENSITIES





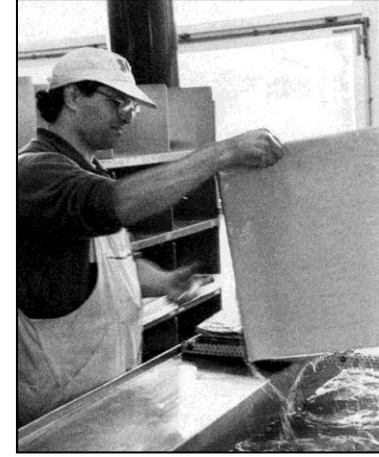
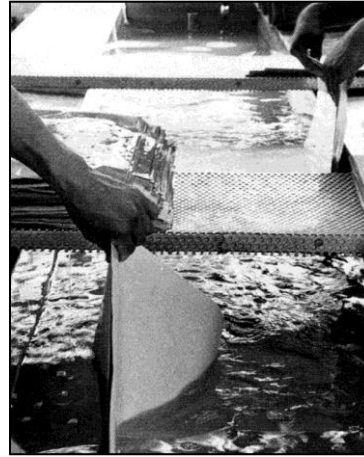
## PRODUCT RANGE TRISOLV - DRYING PERFORMANCE

- The drying performance of TriSolv products is dependent on the air in the room – air becomes easily saturated with low quantities of solvent: if the air is saturated with solvent the media will not dry any further.
- We recommend sufficient fresh air supply and the use of a filter system (please see the printer manufacturers recommendations).
- Solvent gas sinks, therefore it is important to filter the air from ground level.
- It is also recommended to have ventilation near the drying station as this speeds the evaporation of solvents

## AFTER PRINT PROCESSING, BILLBOARD APPLICATION

- TriSolv Papers can be used for the wet billboard application, both the blueback versions as well as the whiteback - PrimeArt 200 is also suitable for dry billboard application.
- Attention should be paid to the application instructions of the billboard associations. The most important criteria is the right preparation of the billboard poster – NB billboard companies work with a 1cm white border overlap in the tiling!
- It is important that TriSolv papers are completely soaked through before pasting: therefore for wet billboard application the media should be soaked for up to 15 minutes and then placed in an airtight plastic bag or container. We recommend keeping TriSolv papers overnight, or at least eight hours. Longer periods, e.g. three days/ a weekend will not impair application.

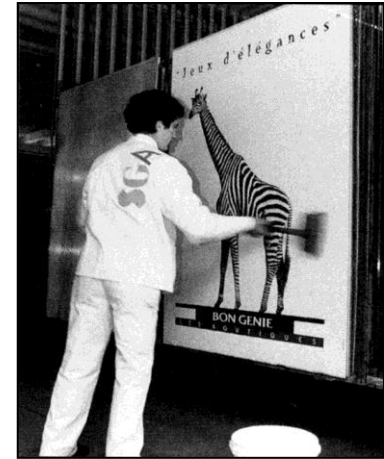
## AFTER PRINT PROCESSING, BILLBOARD APPLICATION



- Soaking the folded poster for up to 15 minutes in water (not in glue!)
- Wipe off excess water.
- Store the wet folded paper in an airtight plastic bag or container for a minimum of 8 hours.

## AFTER PRINT PROCESSING, BILLBOARD APPLICATION

From  
8 hours  
to  
3 days



- Apply glue to the billboard, paste the wet TriSolv paper onto the billboard and then paste the glue over the paper.
- Nearly 85% of all billboards posters are mounted in this way (international standard). The glue is also standardized in most countries.
- The TriSolv Paper family is qualified by billboard companies for this kind of application.

# LAMINATION

- Printing with Eco -/ Mild - Solvent inks, we recommend the use of pressure sensitive lamination films. These inks contain a certain quantity of solvents which will stay in the paper. The heat produced during the lamination sweat the solvent up to the surface, causing problems with the encapsulated film adhering to the media surface.
- We have not seen any limitations in combination with real solvent inks for either hot or cold lamination.
- Before laminating you have to wait to ensure that the print is thoroughly dry – not just touch dry – we recommend waiting at least 12 hours.

## CREATING YOUR OWN PROFILE

- Test the heating temperatures of your machine and refer to the recommendations from the ink and printer manufacturer
- Reduce the primary colours, see hints „target densities“
- Set the „ink limit“ not higher than necessary, the higher the longer the drying time
- Choose a high quality print mode (e.g. 720 dpi, 8 passes)
- Create ICC profile  
or use one of our prepared profiles on our website.
- Print

## CREATING YOUR OWN PROFILE

- TriSolv Papers have been developed especially for solvent printers with high quality results for close-up indoor application, as well as for outdoor applications hung at a greater distance.
- Since TriSolv has a unique receptor layer, you may end up with disappointing results if you use profiles either built in the printer or those created for other media (e.g. photo paper or vinyl).

# CREATING YOUR OWN PROFILE

- As a starting point for creating a profile you should adjust your printer to the target densities that are common in graphical industry. If there is a demand for brighter, more saturated colours and sufficient drying to evaporate additional, you only have to increase the ink restrictions for primary colours accordingly.

	Nominal density 100% coverage	tolerance
Cyan	1.20	+/- 0.10
Magenta	1.15	+/- 0.10
Yellow T	0.85	+/- 0.05
Yellow E	1.20	+/- 0.10
Black	1.55	+/- 0.15

- Printed samples with these densities C,M,Y,K can be requested – using your own densitometer you can adjust densities for your application.



# CREATING YOUR OWN PROFILE

## Ink restrictions

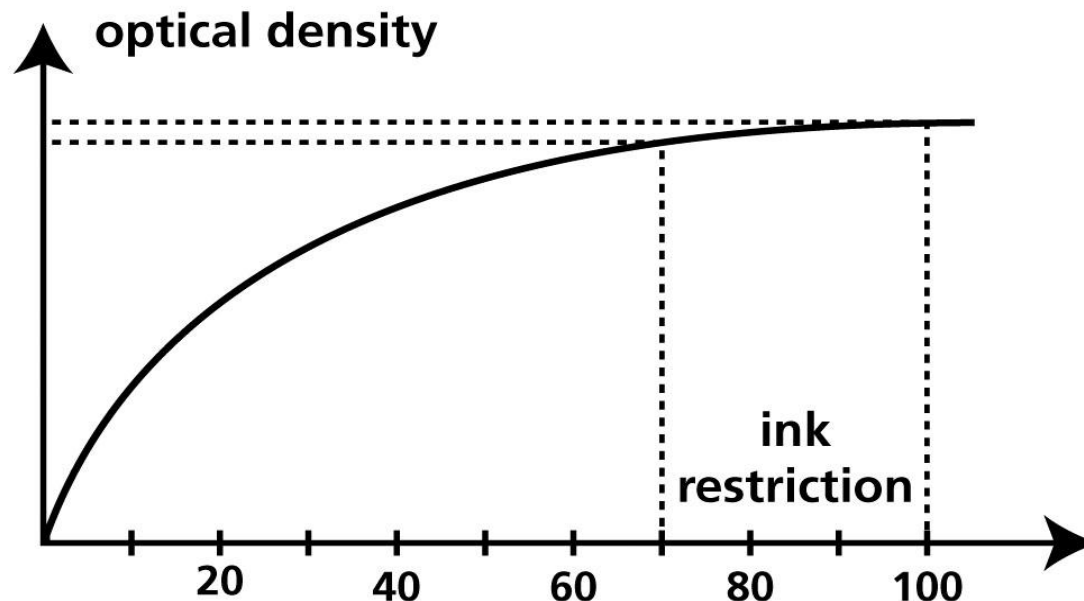


## INK RESTRICTIONS OF PRIMARY COLOURS

- Ink restrictions are an important factor they optimize ink costs, drying times (productivity) and colour gamut.
- The restriction is necessary, as printers tend to print with ink quantities which are higher than the graphical standard recommends.
- By reducing each channel (cyan, magenta, yellow and black) the primary colour densities are comparable to those of the common values in the graphical industry - combining offset printing acceptable colours with top drying performance.

# INK RESTRICTIONS OF PRIMARY COLOURS

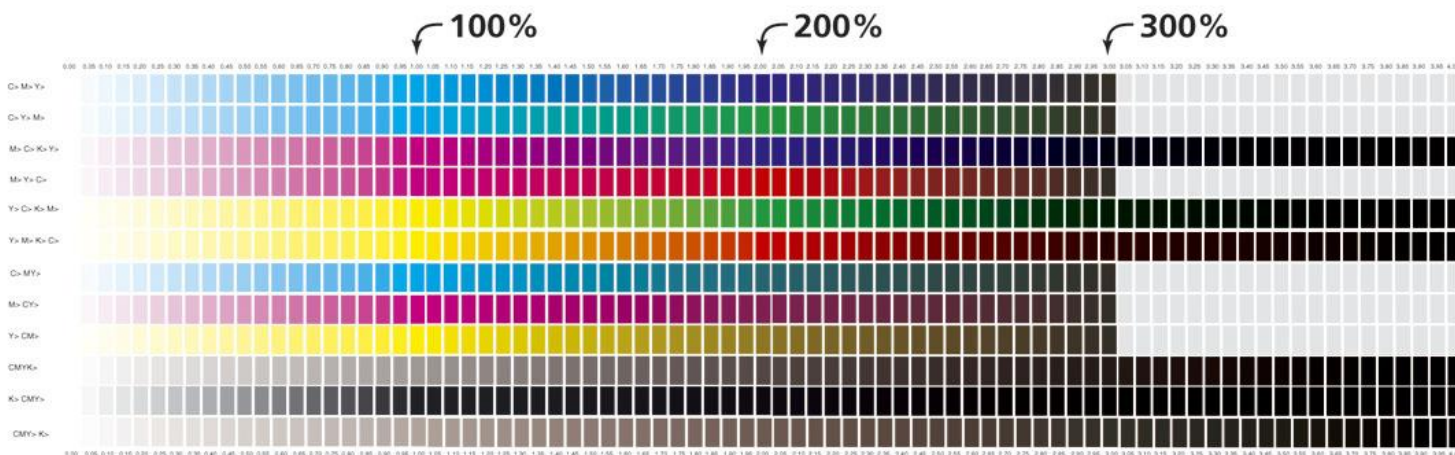
- These density curve (for primary colours) demonstrates how optical density depends on ink restrictions. In this case the ink restriction value is set to 70% with a optical density loss of 30%.



- The impact of ink restrictions on optical density is non linear. Small reductions in optical density may have a strong impact on ink consumption.

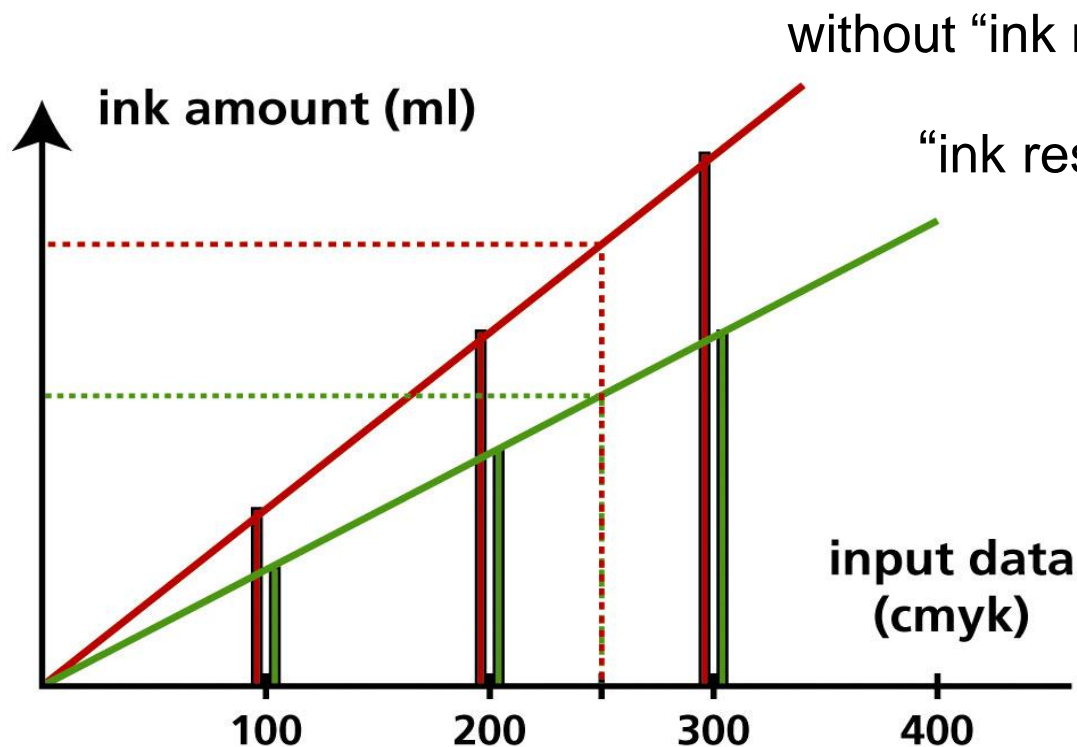
# INK LIMIT

- The input data (pre-ripped job file) contain colour percentages up to 400% CMYK. The rip software converts these values to output colour percentages under these given limits. A normal ink limit value for solvent ink would be between 240% and 320%. Should drying time be an issue then the ink limit should be set to a lower value.



# INK LIMIT

- This diagram shows the influence of ink restrictions on the ink amount at the same ink limit value.



- Ink restrictions of 70% for secondary, tertiary, and quaternary colours = less ink is used for printing → leading to an ink limit value of 250%.

## ICC PROFILE - PRINT MODE

- Once you have complete ink restrictions and ink limit value the ICC profile can be created.
- Before starting paper calibration, choose the same print mode and printing quality options used in the first steps (ink restrictions, linearisation,).
- To achieve good print results using the 'quickest' production mode is NOT recommended.
- Example: For Mimaki JV3-160S we prefer the use of 720 dpi resolution and 8 passes, printing bidirectional with one ink layer and heating units at a temperature of 35° C (95° F).