

Information

Oktober 2002

BASF Drucksysteme GmbH presents the digital nyloprint® plate generation for letterpress printing

With the new nyloprint D, the direct digital transfer of data to the printing plate has now arrived in letterpress printing

The digital plate generation for the direct imaging of nyloprint plates is based on the proven, conventional range of printing plates. For the digital transfer of information, the plates are equipped with a black mask layer into which the information is transferred by means of a laser beam.

The digital plates are available on a polyester or steel base.



Figure 1:
The laser-imaged nyloprint WF 95 HD HDprinting plate

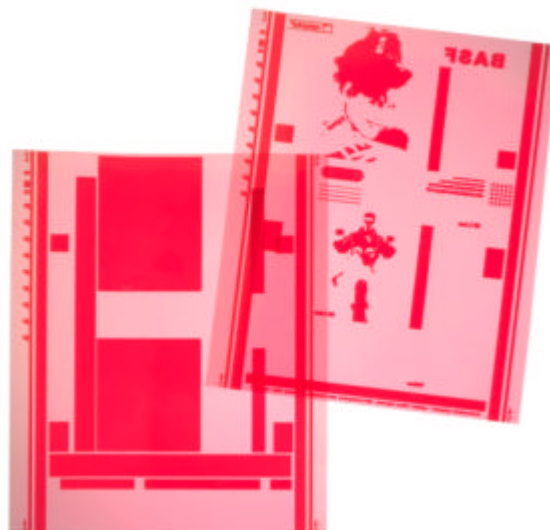


Figure 2:
The finished nyloprint WF 95 on a polyester base

All laser devices which are presently used for photopolymer flexo printing plates can also be used for the lasering of the nyloprint D. They are Nd:YAG lasers at wave lengths of $\lambda = 1064$ nm, diode lasers at $\lambda = 830$ nm or fibre lasers at $\lambda = 1110$ nm. The resulting advantage in practice is that tradehouses supplying both flexo and letterpress clichés to printing houses can use a uniform prepress system and can thus extend the advantages of this system to several fields of application.



BASF Drucksysteme GmbH
D-70466 Stuttgart

info@basf-drucksysteme.de
www.basf-drucksysteme.de

BASF

Major advantages

1) Elimination of film making

- No problems with film handling (buckles, scratches or similar things)
- No trappings of dust in plate copying
- No undercutting
- No film archiving

2) Elimination of film processing devices

- No contact copiers
- No film chemicals (gentle to the environment)
- No imagesetter

3) Uniform transfer of data

- Direct and fast transfer of data to the plate over the total platemaking process
- Uniform "work flow" for flexo and letterpress printing and thus a better utilisation of staff resources

4) Quality improvement

- Reduction of sources of errors
- Simplification of quality control

Processing of the nyloprint D after lasering

The black mask which remains on the photopolymer layer after lasering contains all image data, i.e. the laser has burnt off the black layer at the image areas and thus created a mask. These image data must now be transferred to the photopolymer layer by exposing with a suitable full-area UV light. By means of the following wash-out process with water, the print relief is uncovered while, at the same time, the black layer is washed off.

So the black mask assumes the function of the film negative in conventional platemaking. It must be noted that depending on the halftone fineness a tonal value reduction of 1-2% will occur in halftone values of 1-5% due to the impact of oxygen during the UV exposure. As a result, the tonal values must be increased by a 1-2% tonal value in the highlight area between 1-5% in order to achieve a good anchoring of the tonal values. The resulting loss of a grey level can be balanced by means of an adjustment of the gradation curve without any visually perceivable quality loss.

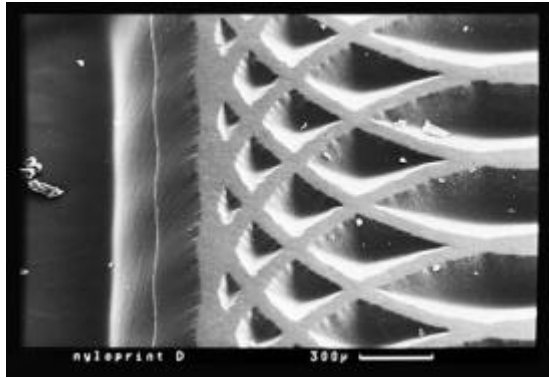
As in conventional nyloprint processing, the platemaking process is completed with drying and postexposure.

Plate thicknesses and sizes

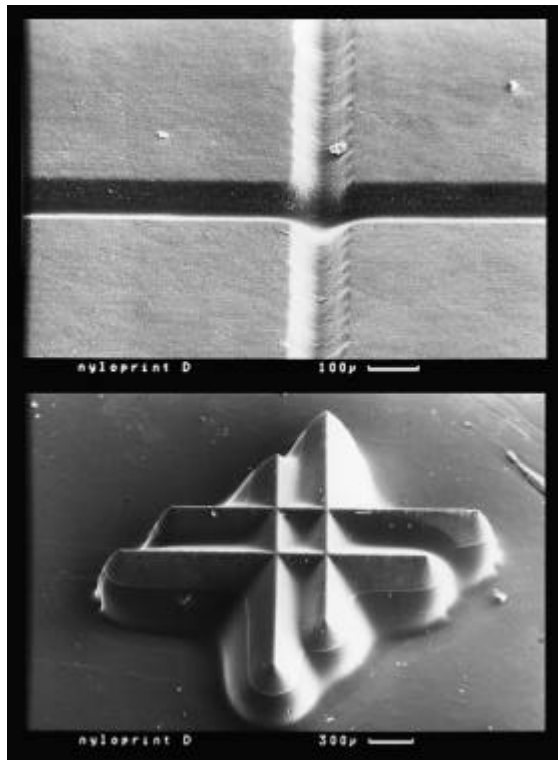
(Date: October 2002)

Type	Thickness in mm/inches	635 x 815 mm (ca. 25 x 32")	900 x 1200 mm (ca. 35 x 47")
WF 80 HD	0.80 / 0.031		x
WF 95 HD	0.95 / 0.037		x
WS 73 D	0.73 / 0.029	x	
WS 83 D	0.83 / 0.033	x	
WS 94 D	0.94 / 0.037	x	

Tests are accompanied by the Technical Application Department. Release through the Marketing Management



*Figure 3:
A close-up scanning electron shot of
guilloche lines on the digitally imaged
nyloprint WF 95 HD*



*Figure 4:
A close-up scanning electron shot of line crosses
and negative lines on the digitally imaged nyloprint
WF 95 HD*

Fields of application of the nyloprint D

Thanks to the easy transfer of data, the interest in the digital transfer of image data is growing, no matter whether the finished plates are made by repro houses or at the printing houses. The community of such companies comprises not only repro houses, but also label printers, beverage can manufacturers, cup and tube printers and brand owners.

Since at these users' the orders are often placed decentrally at different printing sites by a central marketing department, the electronic provision of data instead of films is an interesting option, independent of the previously listed technical advantages.

Tests in label printing with film base plates and in cup printing with steel base plates have given proof of the high print quality of digitally made nyloprint plates and support it in comparison with conventionally made printing plates.

Please note:

nyloprint D is currently being tested at various customers: we will inform you shortly when the new products will be released to the market.

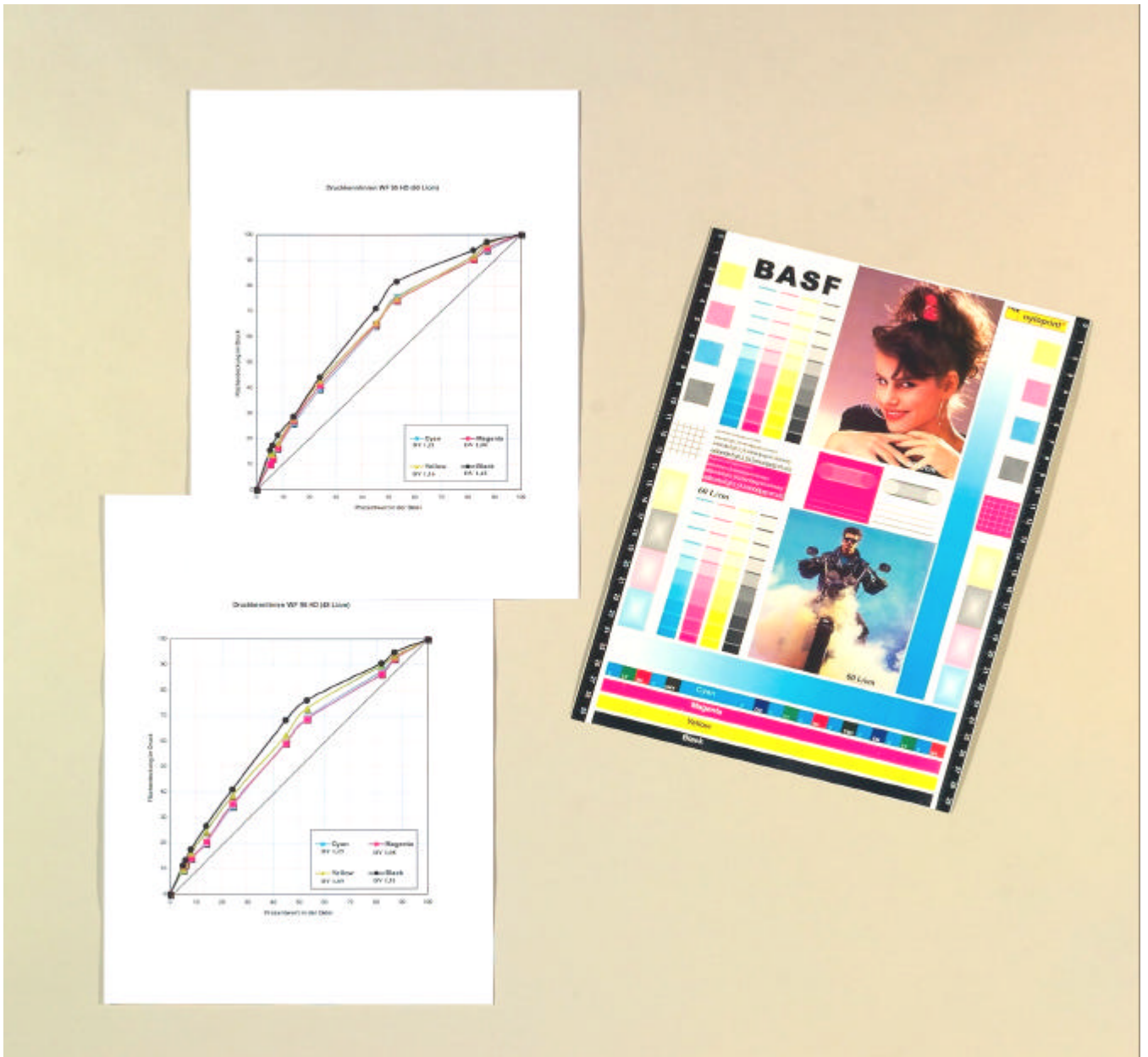


Figure 5:
 Print example and characteristic curves of printing with screen rulings of 48 and 60 l/cm of a digitally made test form with the nyloprint WF 95 HD