



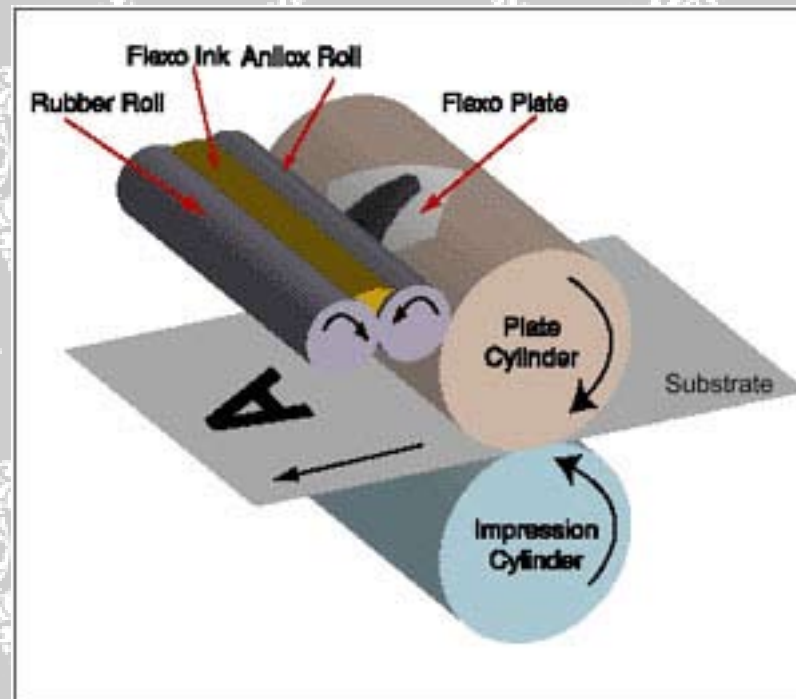
FLEXOGRAPHY



WHAT IS IT?

Application of ink to a raised image on a rubber plate which in turn transfers the ink directly onto a substrate.

HOW DOES IT WORK?



HOW DOES IT WORK?



HOW DOES IT WORK?



HOW DOES IT WORK?



HOW DOES IT WORK?



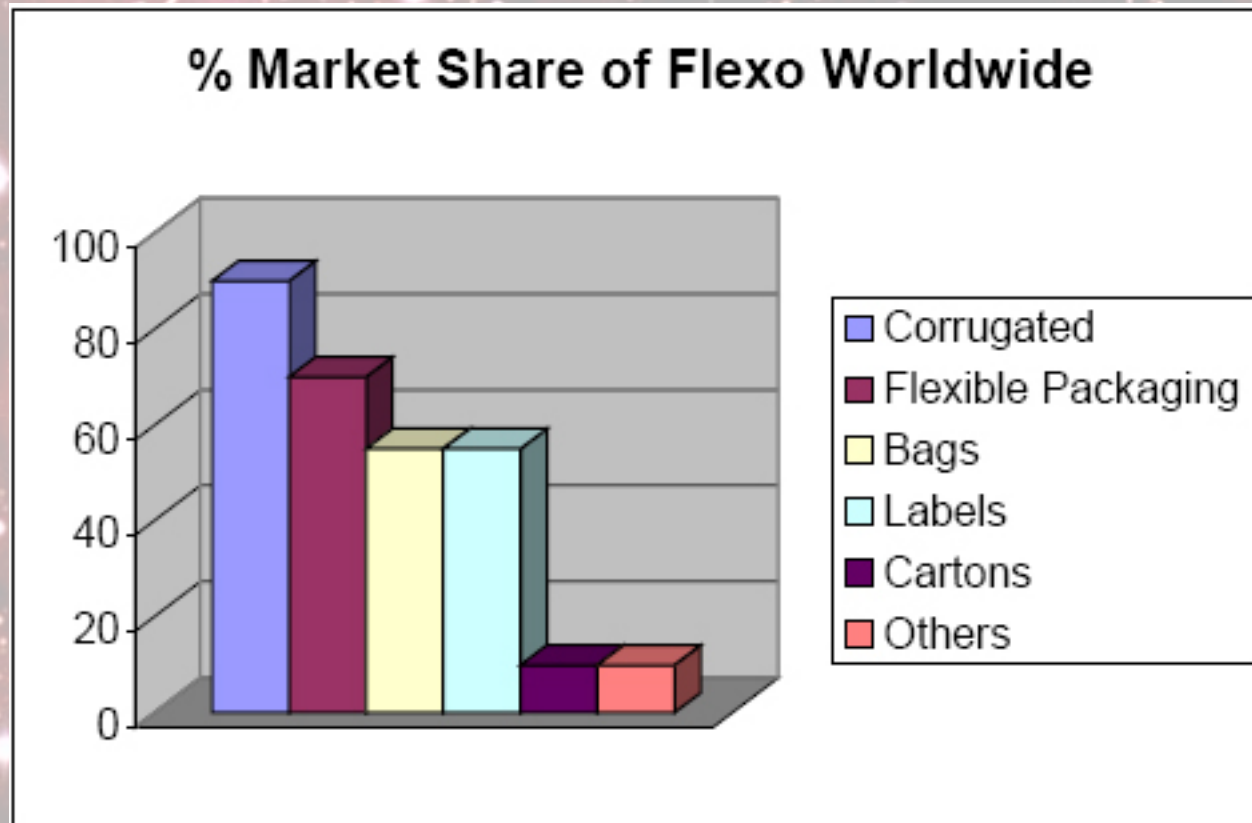
PACKAGING MARKET SHARE

Current estimates indicate that about 40% of all packaging printed globally is through the flexo process with annual growth of about 5%.

PACKAGING MARKET SHARE

This varies enormously across countries with 70% of all US flexible packaging produced via flexo but only 2-3% in Japan where gravure is the process of choice.

PACKAGING MARKET SHARE



WHAT IS PRINTED WITH FLEXO?

Label stock, corrugated substrate, rigid plastics, envelopes, tissue paper and newsprint



WHAT IS PRINTED WITH FLEXO?

Toilet tissue

Bags

Labels

Foils

Gift Wrap

Shopping Bags

Cellophane and other plastic films



ADVANTAGES

Low cost

Can print on most any substrate that can be run on a web press

Use for pieces with large areas of solid color and high gloss brilliance

Gaining prominence for advances in register and image quality due to better plates and inks

DISADVANTAGES

Quality expectations vary

Solid ink coverage may seem washed out

Less flexibility with fine screen rulings

Soft plates can stretch or bend, dot gain
and register standards lower than offset



FASCINATING FLEXO FACT

In the early 1950's a campaign to change the name "aniline printing" was launched in the USA and over 200 submissions for an alternative name were received. The name flexographic printing was the favourite and the industry embraced this name change. Aniline printing was consigned to history.



GRAVURE

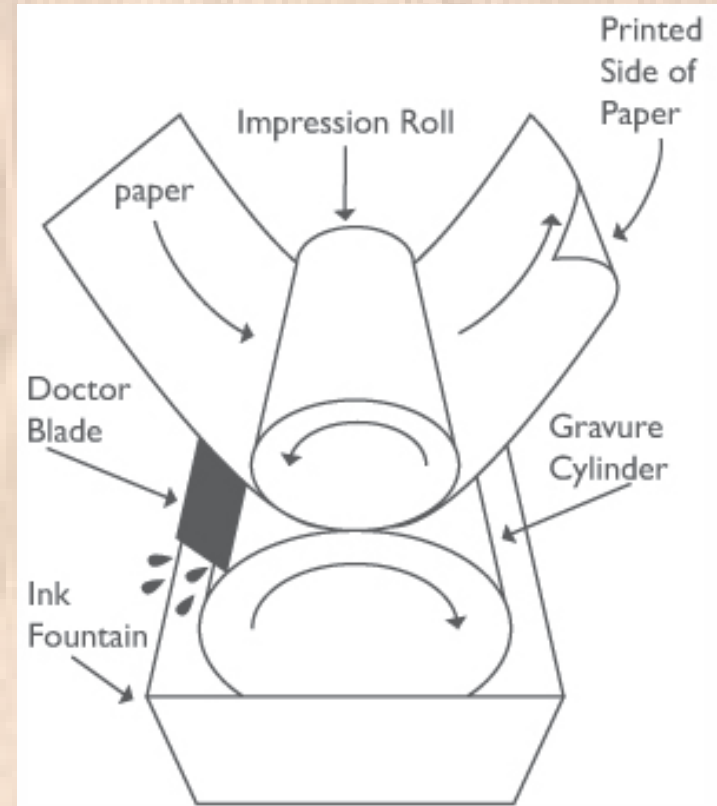


WHAT IS IT?

Intaglio method of printing using metal cylinders with millions of tiny wells that hold ink.

Cylinder consist of cells or wells etched or engraved into a copper cylinder

Un-etched areas = non-printing areas

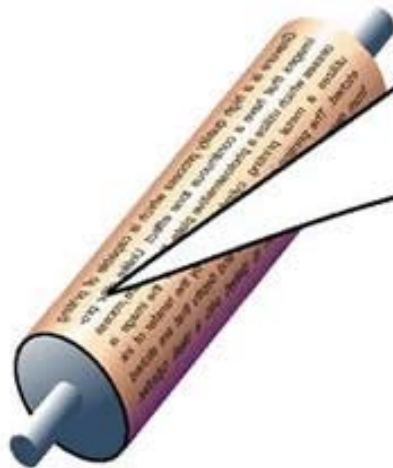


WHAT IS IT?



WHAT IS IT?

The illustration shows a close-up of the three different varieties of cells used in gravure printing.



The cells shown above are the same in area but different in depth.

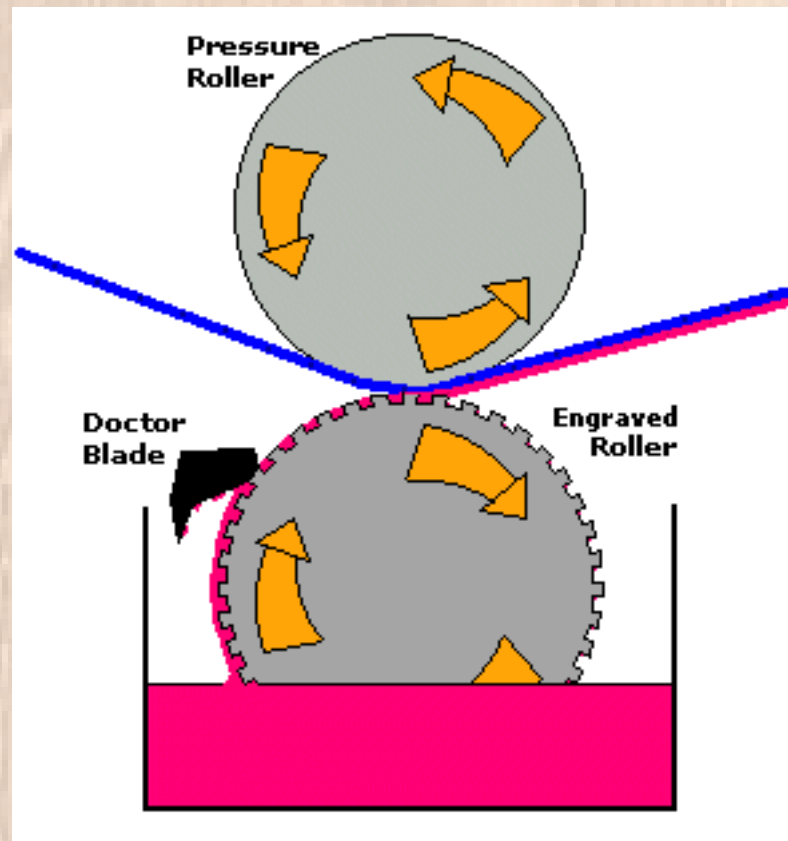


The cells shown above are the same depth but different in area.



The cells shown above are different in area and depth.

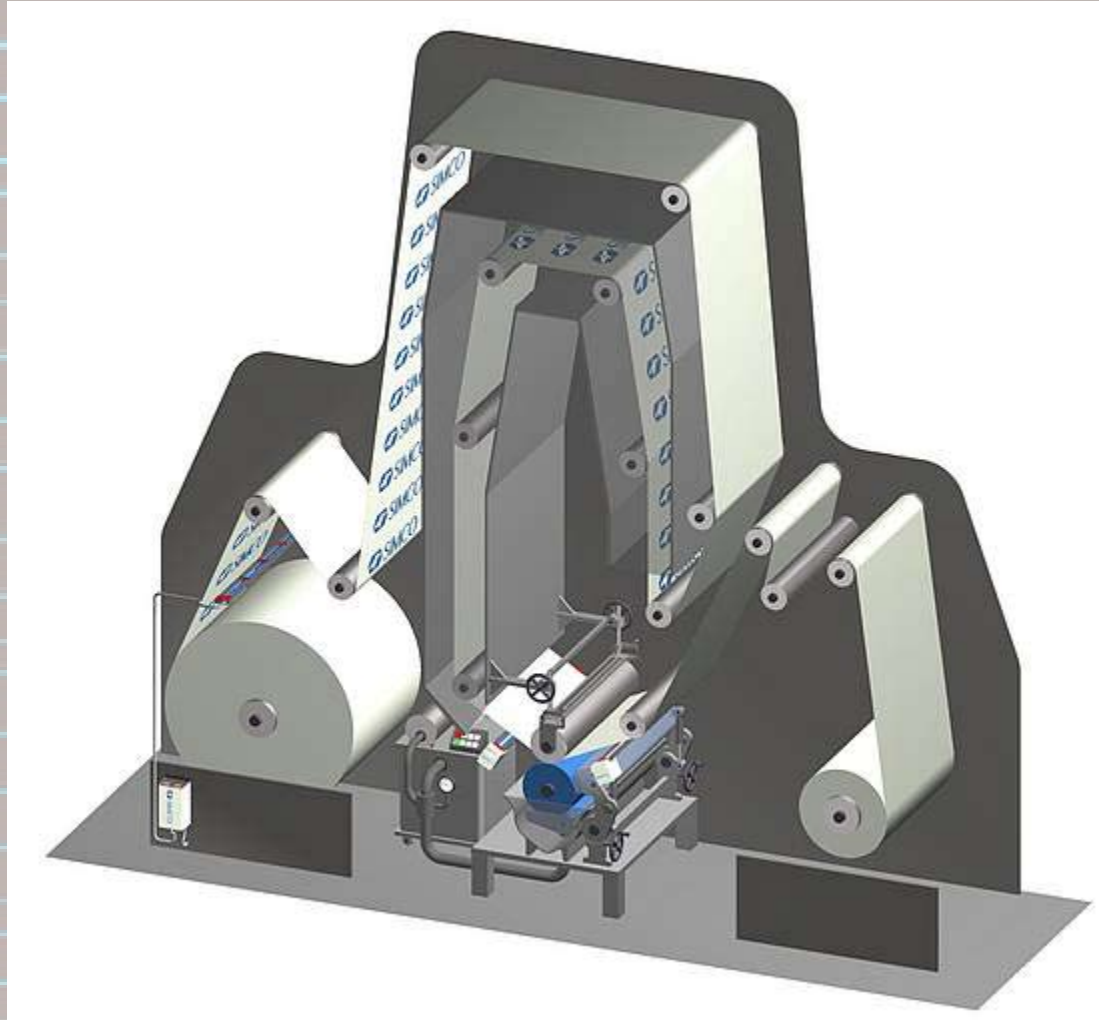
WHAT IS IT?



WHAT IS IT?



WHAT IS IT?



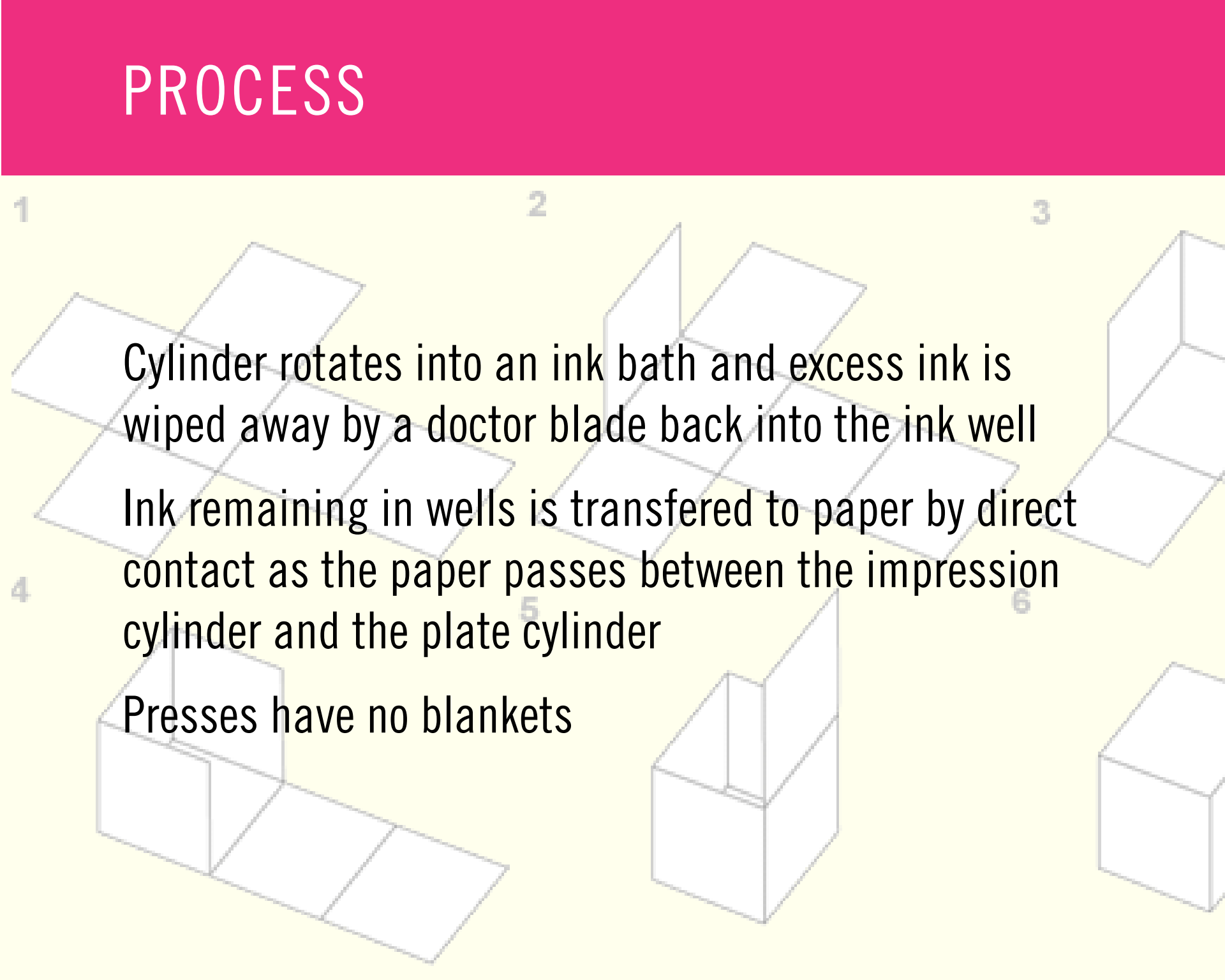
WHAT IS IT?



WHAT IS IT?



PROCESS

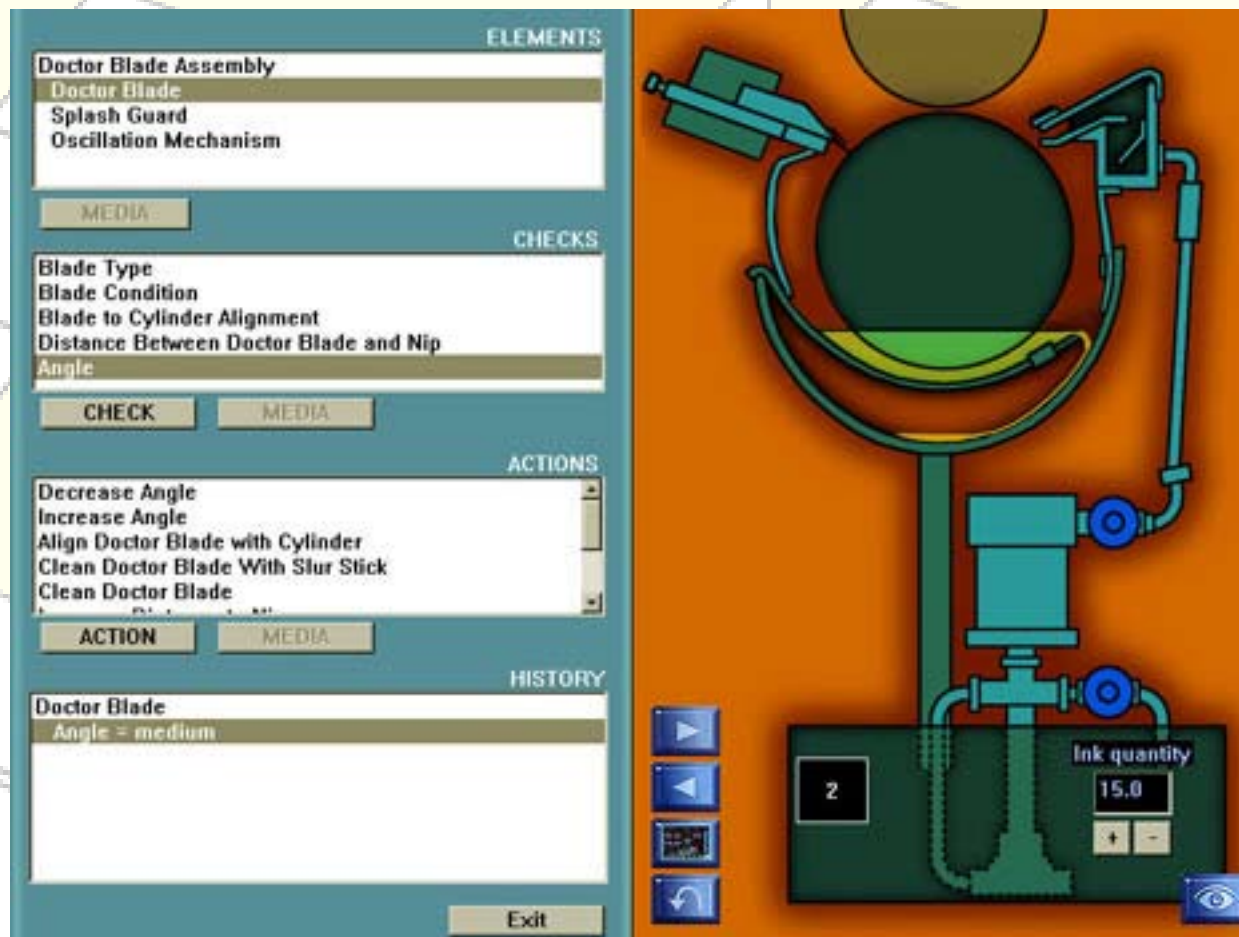


Cylinder rotates into an ink bath and excess ink is wiped away by a doctor blade back into the ink well

Ink remaining in wells is transferred to paper by direct contact as the paper passes between the impression cylinder and the plate cylinder

Presses have no blankets

PROCESS



USES

Magazine with large circulations (ex: National Geographic interior, cover = lithography)

Catalogs

Wallpaper

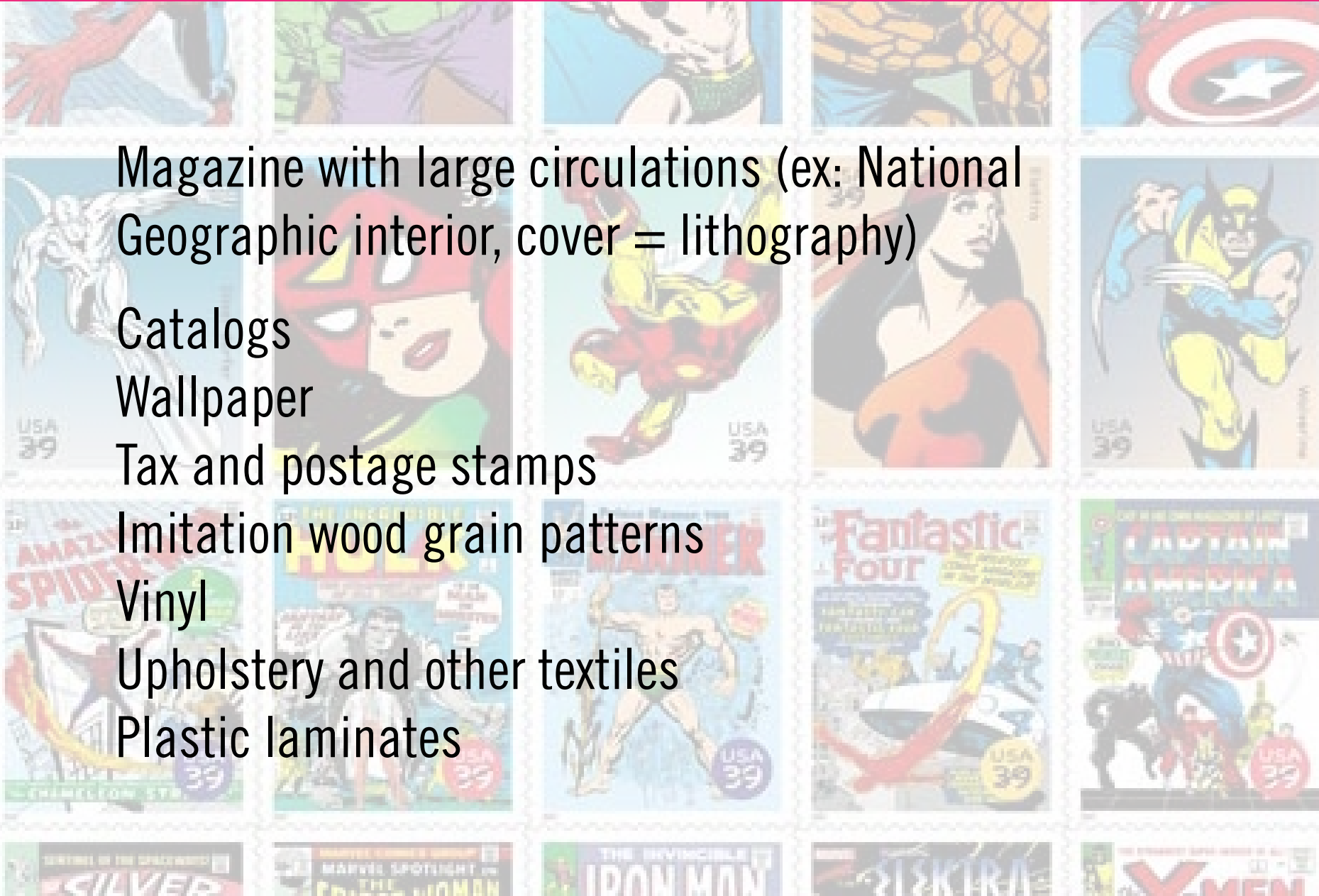
Tax and postage stamps

Imitation wood grain patterns

Vinyl

Upholstery and other textiles

Plastic laminates



EXAMPLES



EXAMPLES



The stamps were gravure-printed in 10 colors on Fasson two-sided stamp stock with Siegwerk C Type solvent-based ink and using WRE Color Tech gravure engravings on a Dai-Nippon Kiko press. Printed using 300- to 400-line-screen engravings to make counterfeiting more difficult, the stamps include micro-printing as the word “Forever” is micro-printed on each stamp.

— *Graphic Arts Online*, 3/4/2008

EXAMPLES



CATEGORY:
Gift Wrap

COMPANY:
American Greetings

5 Colors printed on metallized Holographic Paper using inks from American Ink and Coatings on a Cerutti press. The combination of transparent and opaque inks was selected to ensure the impeccable detail, provide color balance and match the colors submitted by the customer. ... The use of the translucent inks on a holographic substrate enhanced the results.

FEATURES

Printing with run in the millions

Huge sheet sizes:

publications: 120" wide

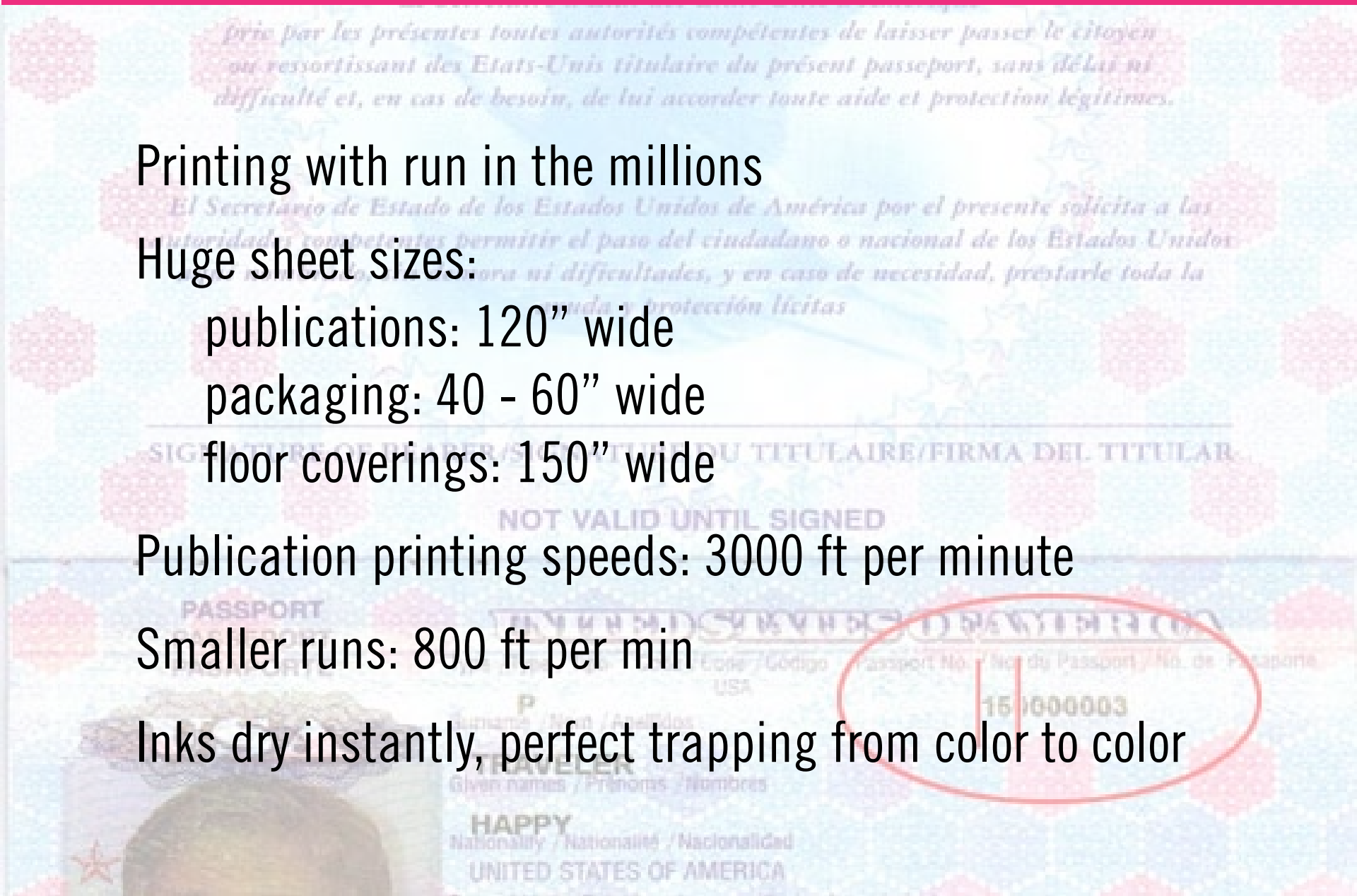
packaging: 40 - 60" wide

floor coverings: 150" wide

Publication printing speeds: 3000 ft per minute

Smaller runs: 800 ft per min

Inks dry instantly, perfect trapping from color to color

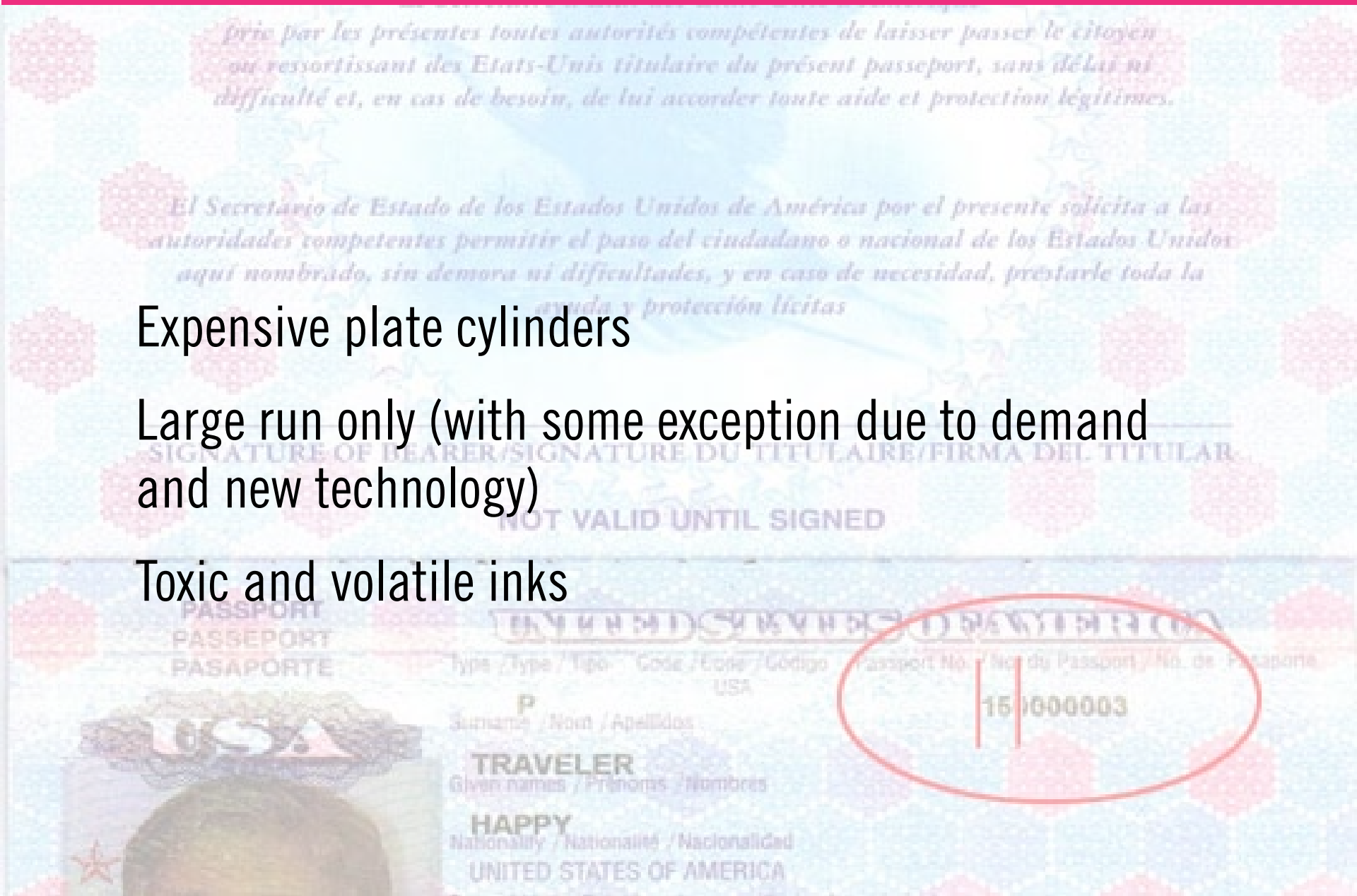


DISADVANTAGES

Expensive plate cylinders

Large run only (with some exception due to demand and new technology)

Toxic and volatile inks



HMMMM...

