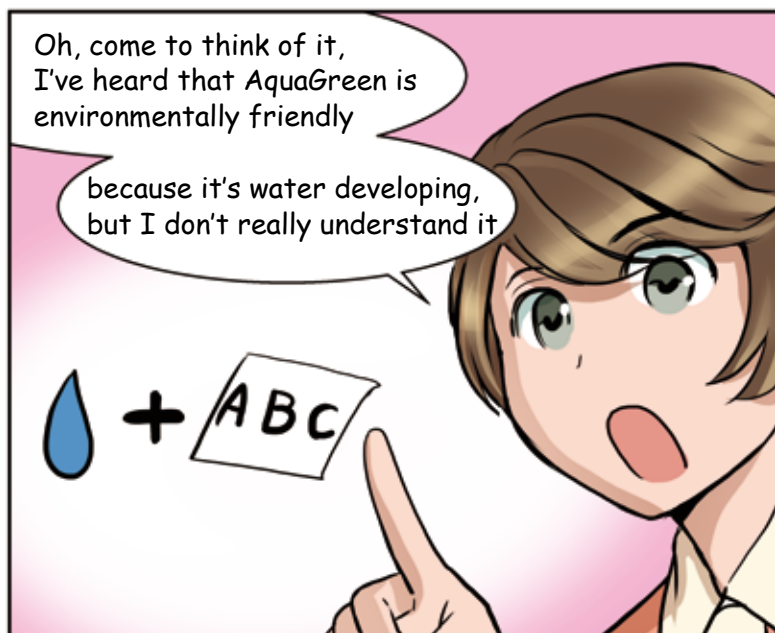
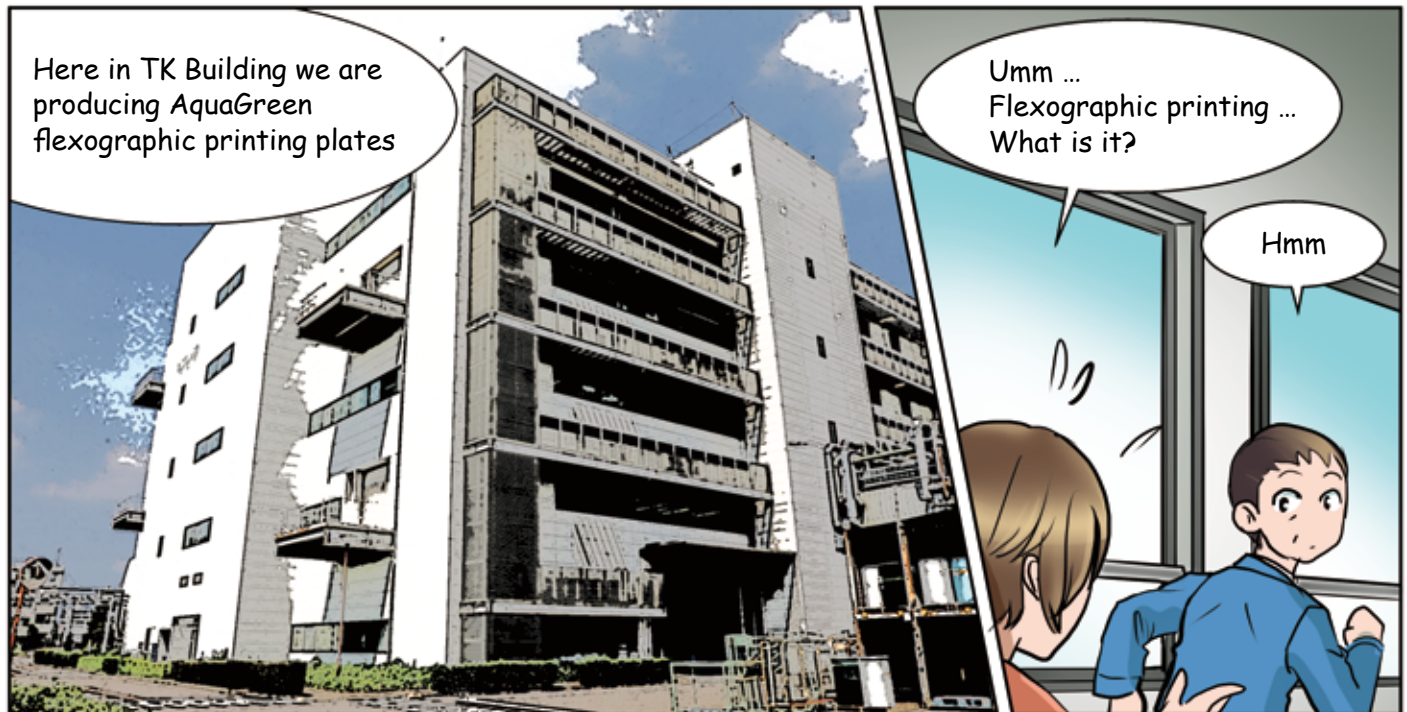
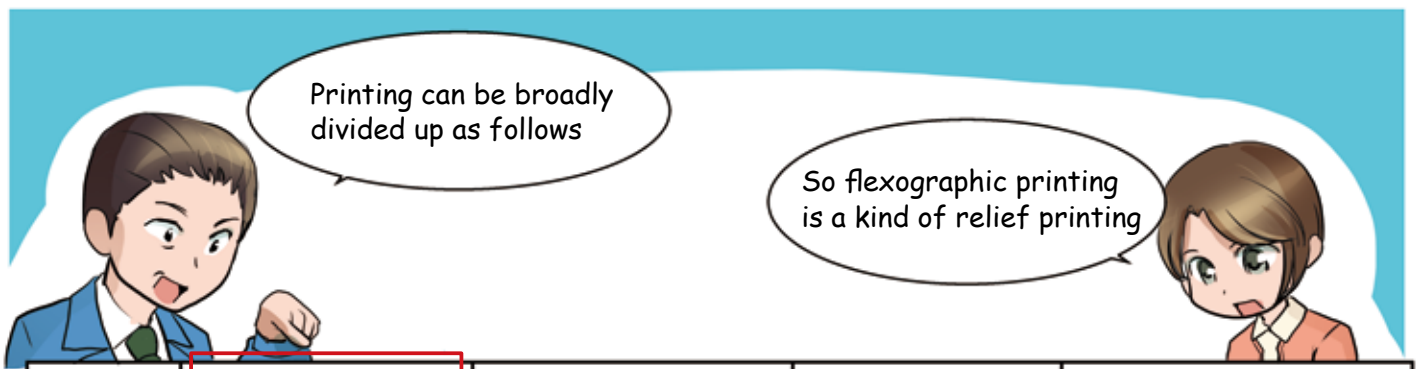


You thought you knew but didn't

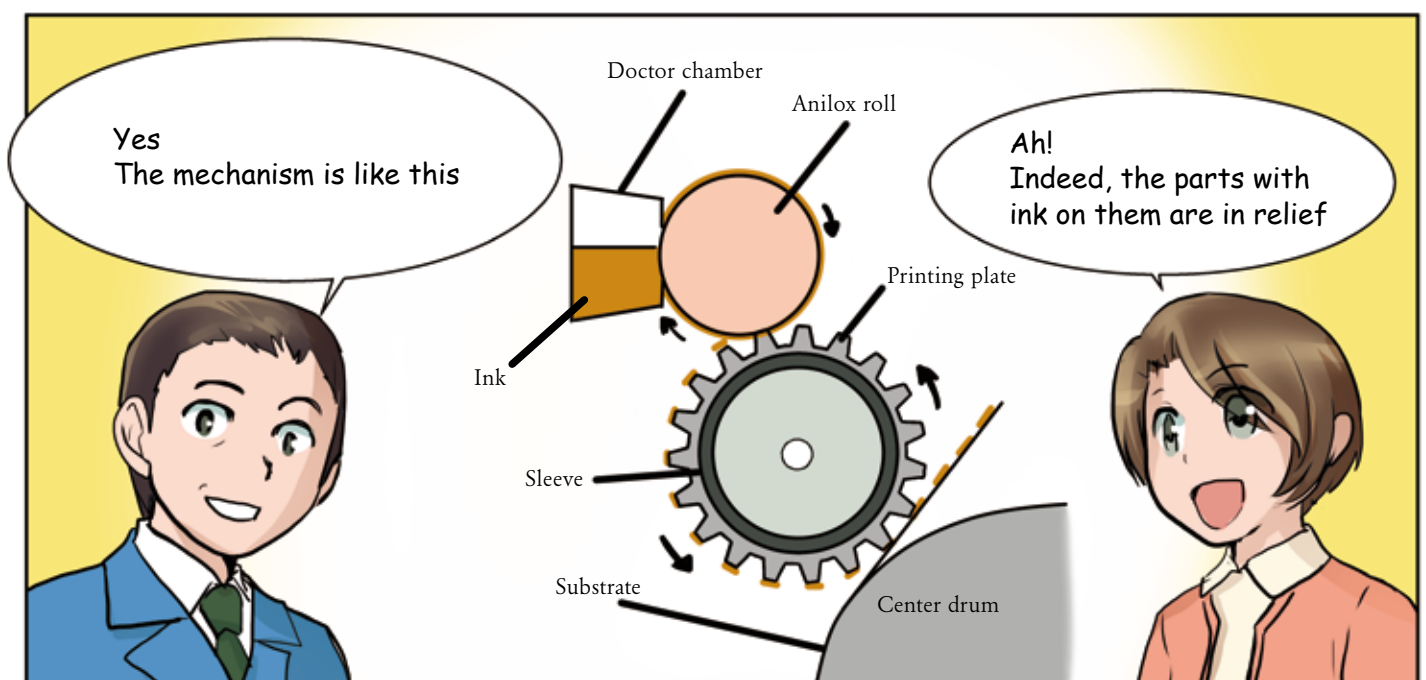
Sumitomo Riko's Business

Episode 13: AquaGreen Flexographic Printing





Type	Relief printing	Lithographic printing	Intaglio printing	Stencil printing
Printing process	Flexographic printing	Offset printing	Gravure printing	Screen printing
Technology	Ink is applied to the raised parts of a printing plate and transferred to paper etc.	To print, water and lipophilic inks are alternately applied to the lipophilic image area and hydrophilic non-image area of a printing plate, on which there is no obvious unevenness.	Ink is applied to depressions in the surface of a printing plate and then transferred in order to print.	Stencil printing can be done by forcing ink through the holes of a mesh etc. that is composed of an image area with many small holes through which ink can pass and a non-image area with an impermeable layer.
Characteristics	Water-based inks can be used Low cost Water developing is possible	Vivid and distinct	Suitable for large-volume printing Voluminous Wide range of needs	Suitable for small-volume printing Can print onto anything
Applications	Newspapers, business cards, forms, cardboard, stickers and labels, plastic film, boxes (cigarettes, cosmetics, etc.), diapers, etc.	Newspapers, posters, advertising flyers, books, printed matter, metal printing, etc.	Plastic film, building materials, photo collections, art books, paper money, stamps, etc.	Various stickers, instrument panels, printed wiring, keyboards, etc.



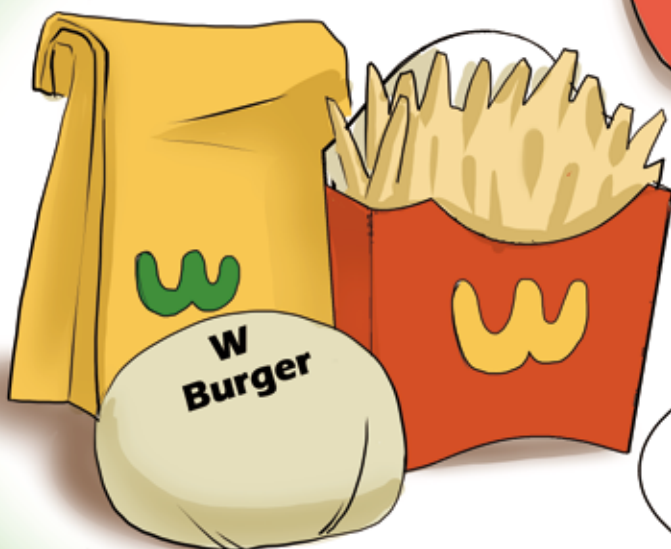
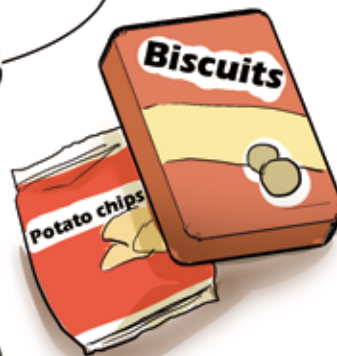
Relief printing is excellent for reproducing detailed characters and sharp expression, and makes it easy to print even onto unsmooth surfaces

Also, flexographic printing is the only printing method that enables the use of water-based inks

Water-based inks?

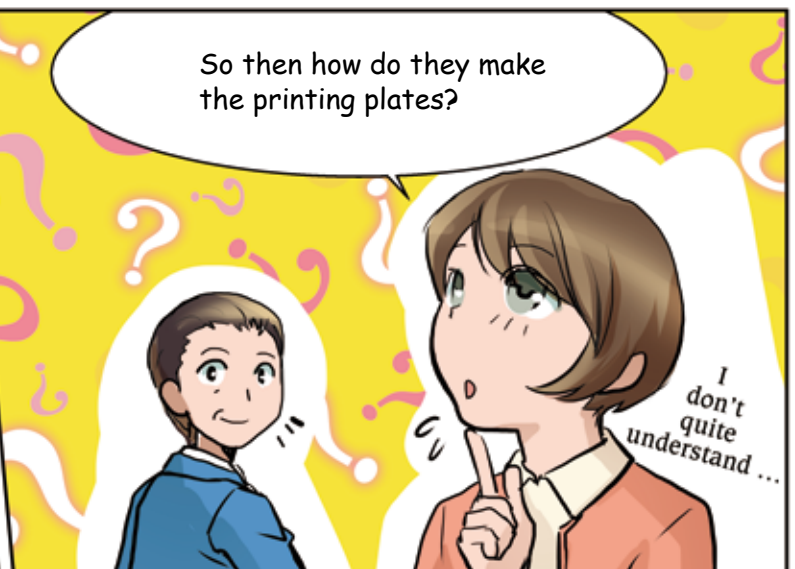
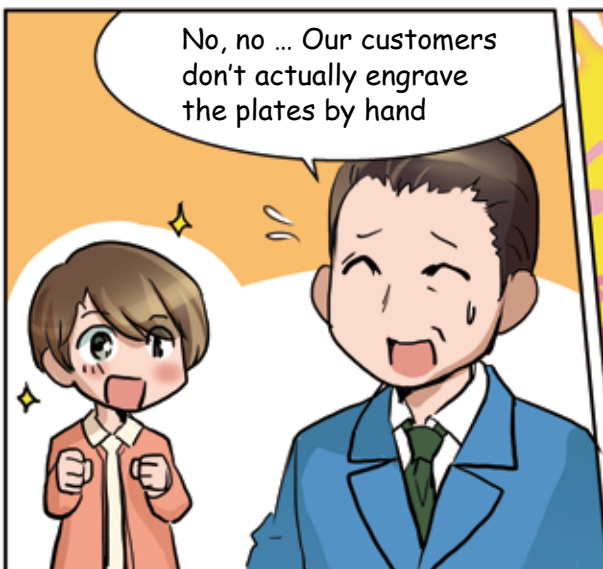
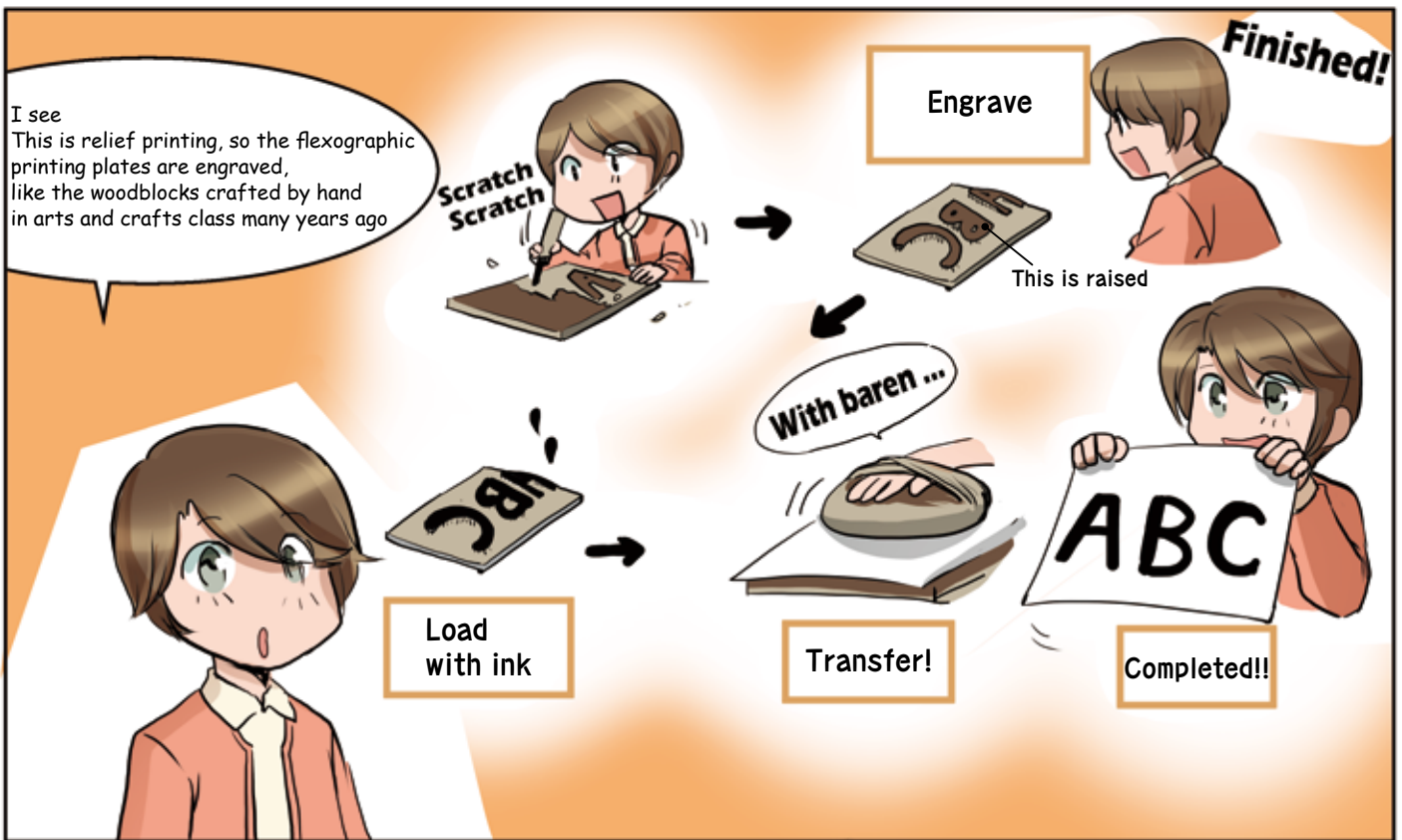
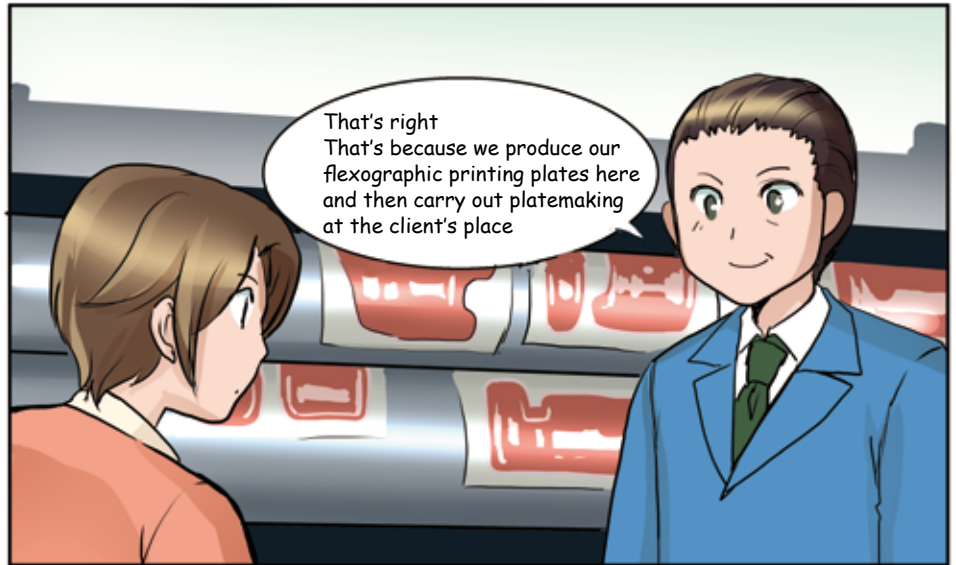
Being able to use water-based inks, which are friendly to the environment and to people, means this method is often used to print onto food products, medical products and hygiene products

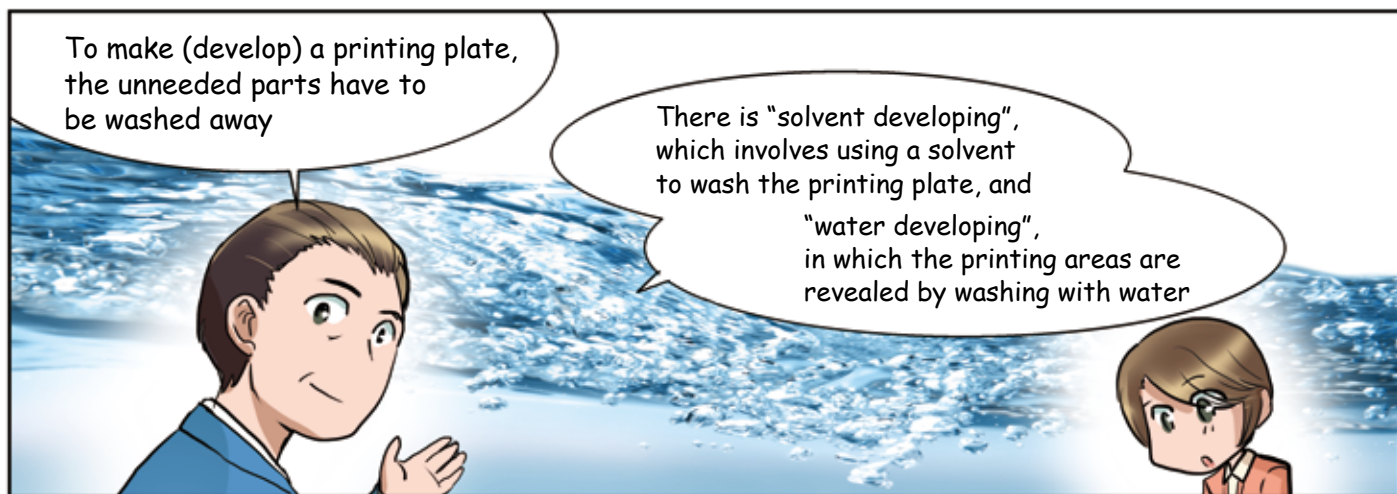
It is used in diverse situations because it can print onto soft materials



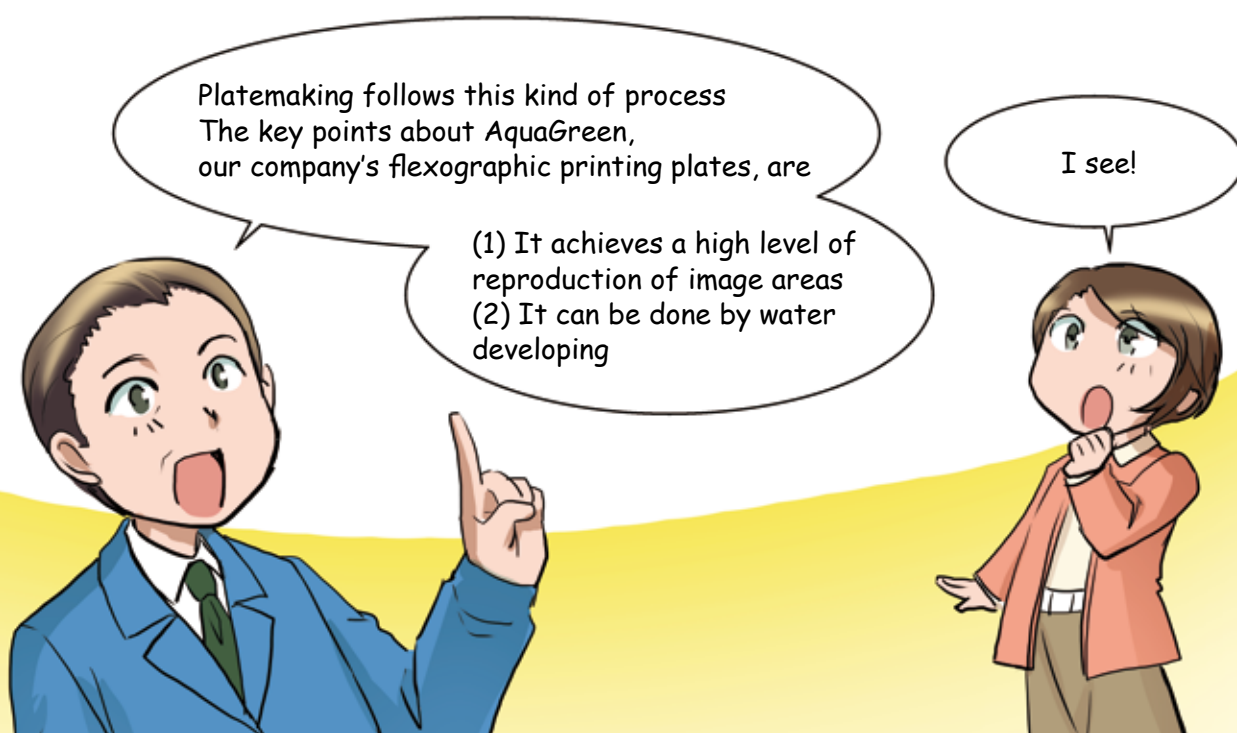
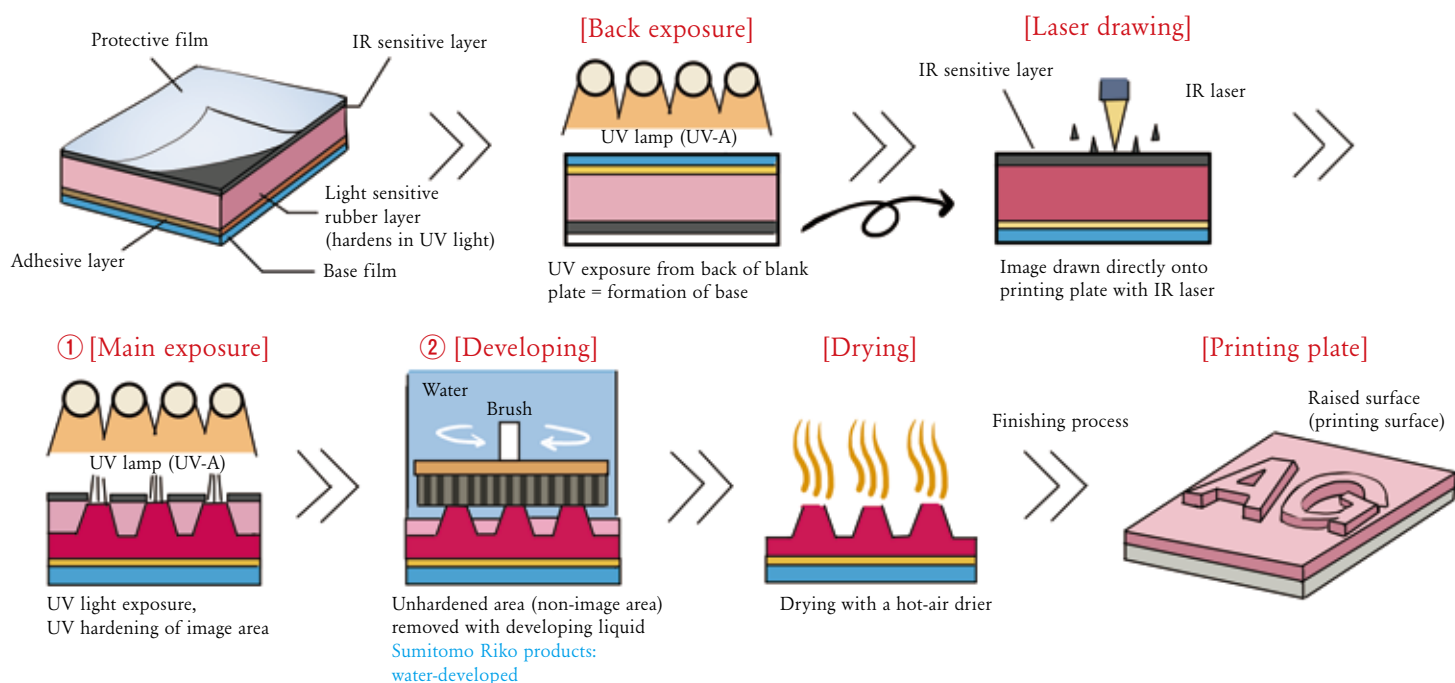
Really?
So it is used a lot
on very familiar items







Example of platemaking process in flexographic printing (water developing): Digital plate



One key point about AquaGreen is its "dot gradation"

So in other words, the tips of the raised areas can be more detailed and level, making printing clearer

Conventional

AquaGreen

Magnified photo of dot shapes

"Round-Top-Dot"

"Flat-Top-Dot"

SEM image X200

Dots on printed matter

Dots on printing plate

3%

2%

1%

3%

2%

1%

The tops of the dots are round so the impact of printing pressure etc. is greater and the gradation in dot diameter when printing is small.

The tops of the dots are flat so the impact of printing pressure etc. is smaller and the gradation in dot diameter when printing is greater.

Another thing is "water developing", as I mentioned earlier
Removing the non-raised areas (non-image areas) can be done with water

Solvent volatility

Solvent smell

Organic solvent

Disposed of by workers

Heat recovery

Solvent developing seems to be smelly and to impact the environment and workers

Another feature of AquaGreen is that developing and platemaking are fast

Short-time platemaking

© Quick developing/drying time, excellent for platemaking(approx. 40 min/plate)

0

20

40

60

80

100

120

140

160

Ordinary solvent developing plate

Our light sensitive water developing flexographic printing plates AquaGreen

Exposure

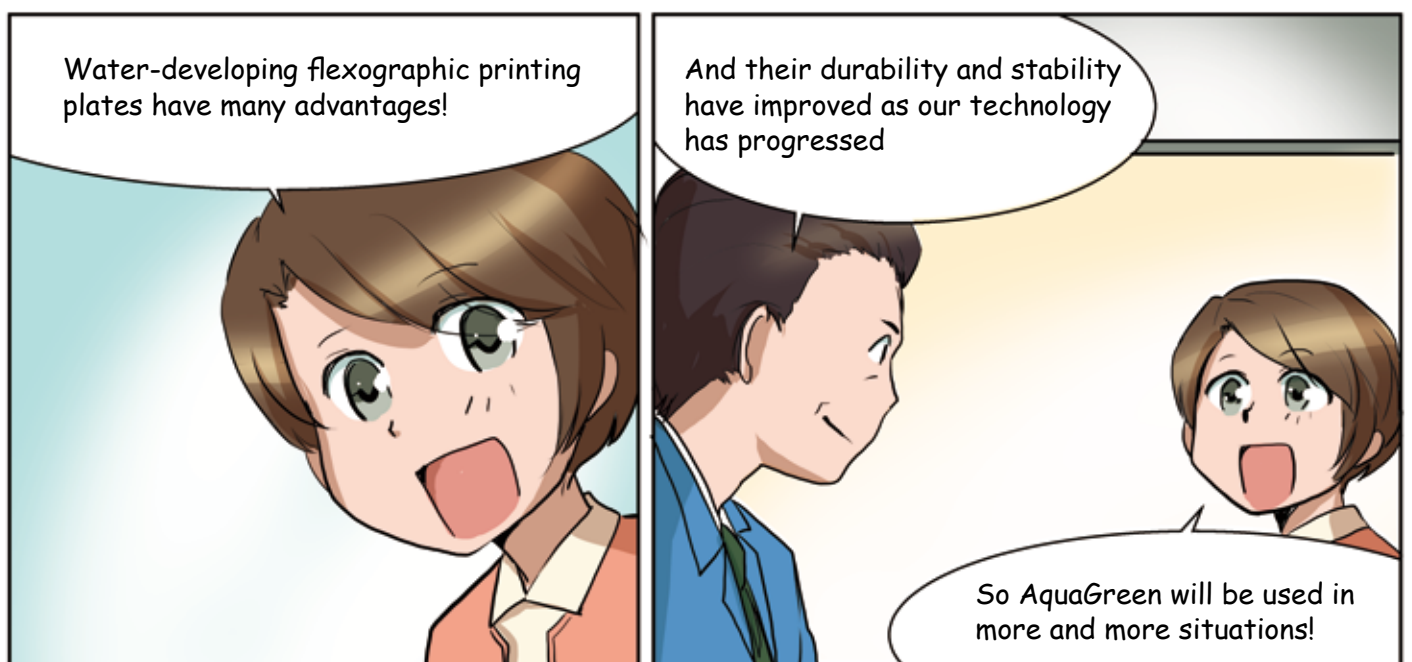
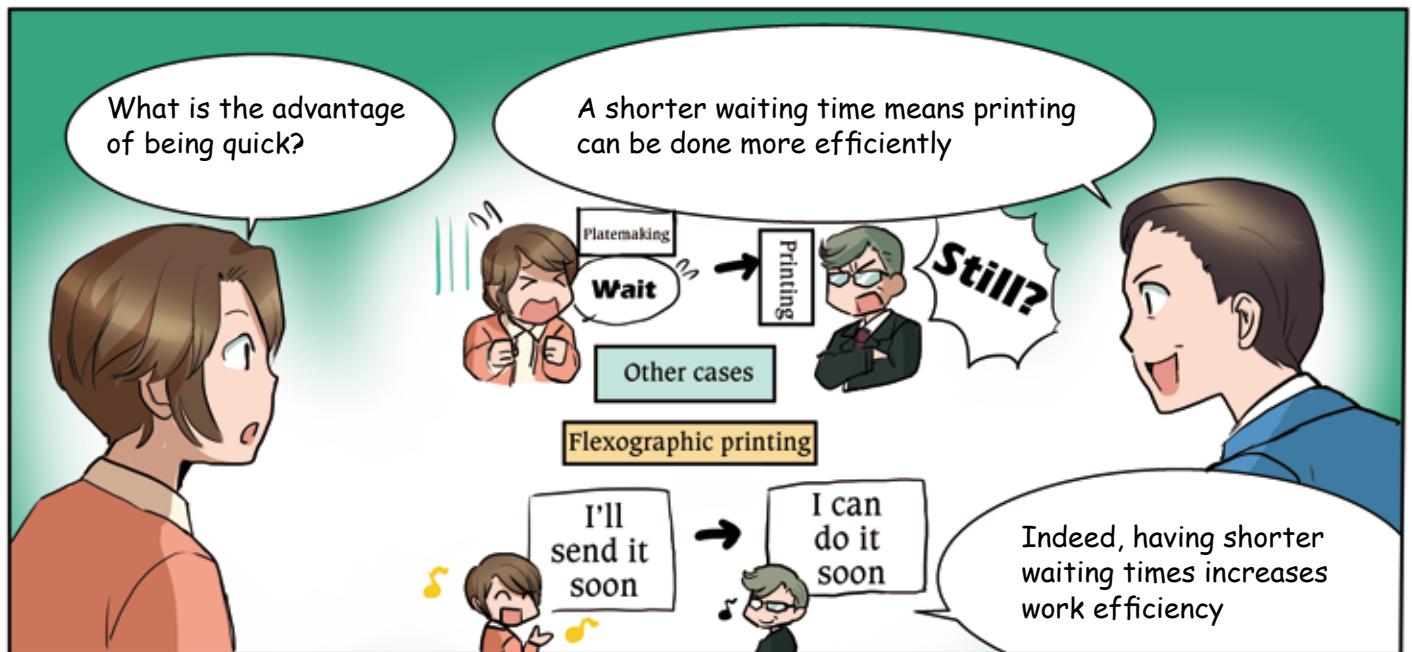
Developing

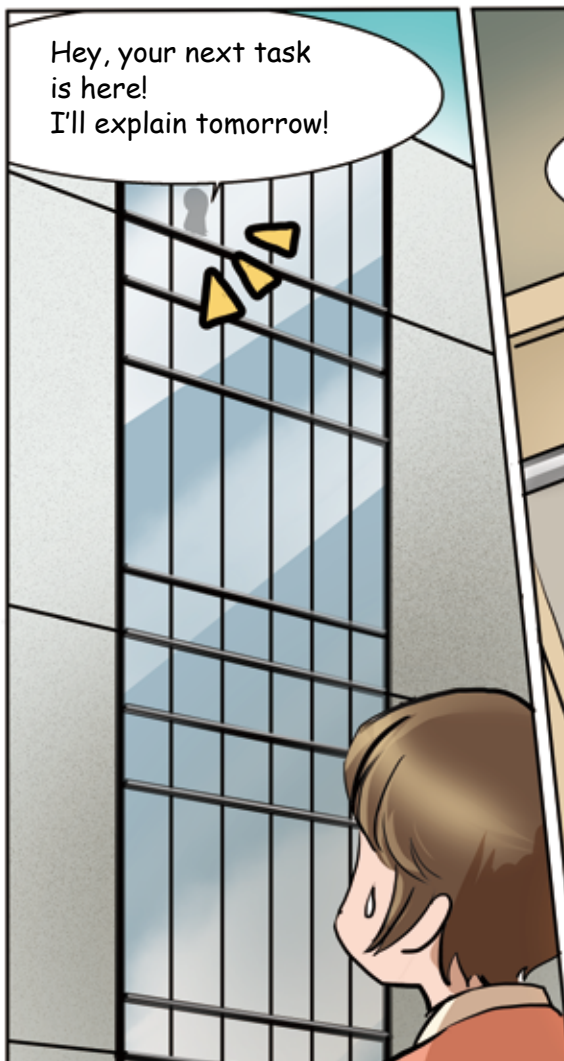
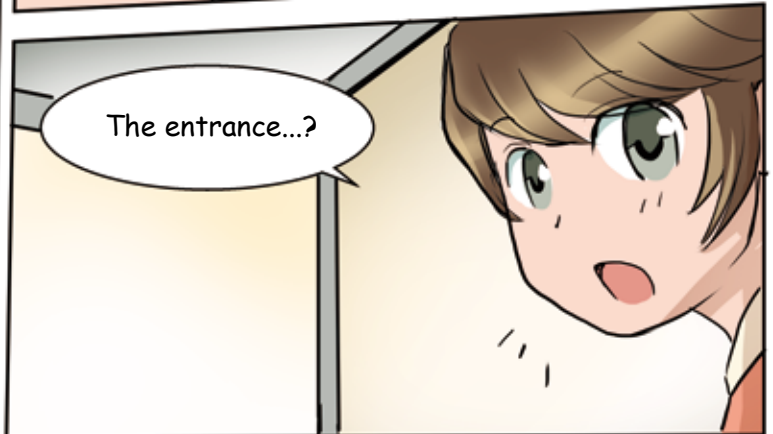
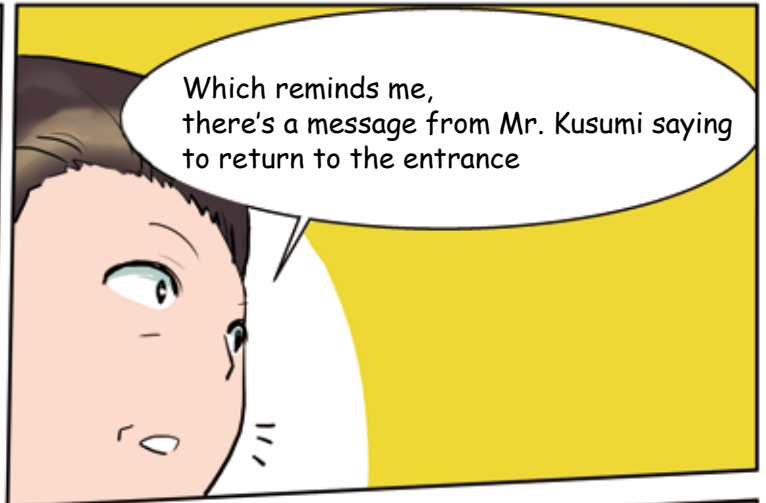
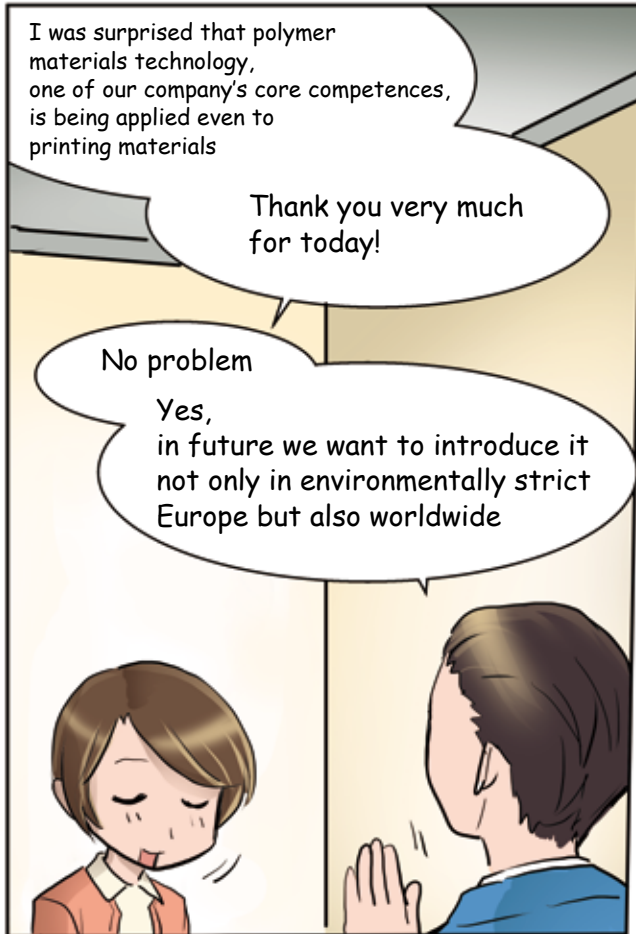
Drying

Post-processing

3 times more productive than solvent printing plates

Wow





At Technopia Technology Research Building, just on the other side of Utazu-Mirai Bridge (donated by our company), what is the technology for gently measuring people using rubber?