

ThermoFuse CTP

The next level of digital platemaking

Technology paper



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Just as computer-to-plate eliminated the variables that come with film imaging, processing and copying to plate, ThermoFuse technology makes it possible to do away with any remaining variables resulting from conventional computer-to-plate imaging and processing. ThermoFuse, such as it is used in Agfa's Azura plateS, is the next level of digital platemaking. There are no chemicals in the process. The laser and the laser only forms the printing image, and nothing affects it after exposure.

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Computer to Plate: How Digital?

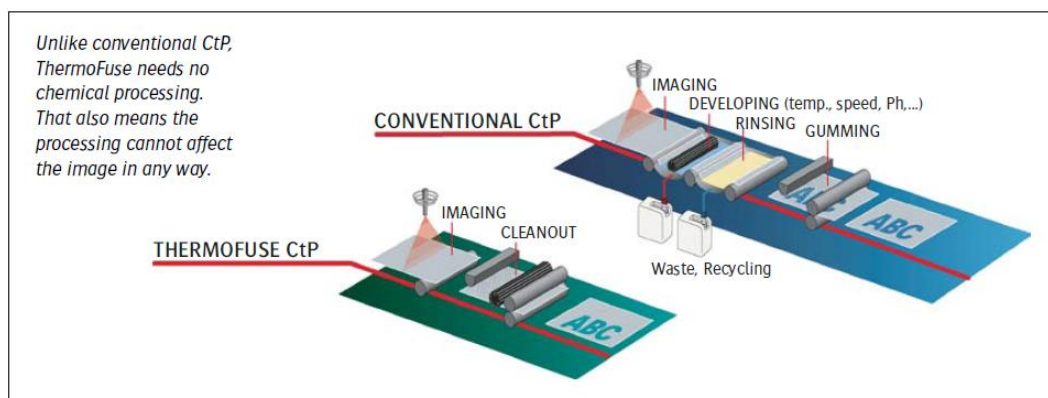
Removing the variables of chemical processing

Digital plate imaging such as it is used in current computer-to-plate systems forms an image on the plate using the heat or the light of a laser. This image is latent, which means it is not yet ready for printing. It may or may not be clearly visible on the plate. Chemical development transforms the latent image into a durable printing image such as it is needed for offset printing.

Although chemical plate development is an automated and tightly controlled process, it remains an essentially analog step. The effect of the chemistry on the image varies depending on the temperature and exhaustion of the chemicals, the speed at which the plate travels through the processing unit, the thoroughness with which the plate is rinsed and treated with preservative gum and optionally, pre-heat or pre-wash steps. Chemical processing is analog rather than truly digital. No matter how tightly you control it, it is only accurate within tolerances.

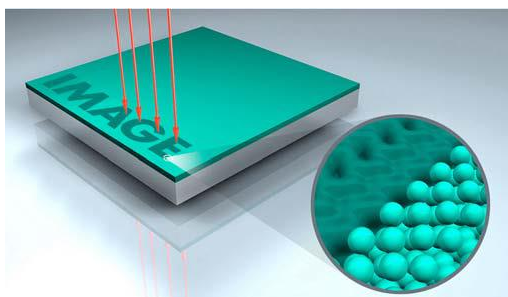
How does ThermoFuse work?

In conventional CtP systems, the heat or light from the laser hits the sensitized layers of the plate and forms a latent image. This may or may not be visible, but it is not physically durable. Next, the plate is developed. Plate development is the chemical process that is needed after imaging to make the latent image stable and durable.



ThermoFuse imaging, unlike conventional CtP, does not rely on adapted analog processes. Using the high power of today's lasers, ultrafine thermoplastic particles are melted and fused together to create a durable image on the aluminum plate substrate in one single, digital step.

This image does not need development. It is ready immediately after imaging. No subsequent steps can alter it in any way. The image that is formed on the plate is precisely the image that will be printed on press. In other words, ThermoFuse is 100% binary.



With ThermoFuse, the heat of the laser melts latex particles to form a durable image in a single step.

The only thing left to do after imaging is to remove unused latex in the non-image areas in a clean-out step. ThermoFuse uses a single-layer coating, and immediately under the latex is the aluminum printing surface.

The benefits of ThermoFuse

A plate made with ThermoFuse imaging does not require chemical processing. Although this is not true processless CtP, the immediate benefits are plain to see. It eliminates variables and provides a non-ablative aluminum plate with excellent press behavior.

- 100% binary
- Aluminum printing surface
- Non ablative
- Easy to use
- Visible printing image
- Eliminates the variables of conventional CtP
- Cleaning/preservative gum but no developer
- Compact
- Environmental

ThermoFuse has been conceived with ecology in mind. The plates have very thin single-layer coatings of aqueous solutions. Their thermoplastic (latex) particles are chemically inert. The pH of :Azura cleaning gum, for instance, is close to that of tap water. Gum contains no alkaline or corrosive agents or solvents.