

Chemistry-free plates

The importance and impact on newspaper platemaking

2007 will mark the year when the first chemistry-free violet plate technologies begin to emerge, the question for the newspaper industry is how much impact this technology will make. This white paper examines the plate technology; what it will offer and how newspaper printers will benefit.

Why not thermal for newspapers?

Thermal chemistry free plate technologies are *already* available from the major suppliers, so the first question is why are these technologies not as popular as violet for the newspaper industry? Why do we need *violet* chemistry-free plates?

The answer lies in the *existing* platesetter technology which is already in full production at the majority of newspaper CtP sites. Approximately two thirds of newspaper CtP installations have been with *violet* platesetters, the main reason for this has been a combination of the violet benefits – unbeatable speed, unbeatable laser reliability low cost of ownership, excellent image quality and so on. The newspaper industry will continue to use violet CtP for these very reasons – and that is why thermal CtP has not been as popular as violet in newspapers.

The ongoing case for violet technology in newspapers

The reliability (life time) of the violet diode is significantly higher than the reliability of thermal diodes – which is why some suppliers are offering violet laser warranty over the lifetime of the platesetter. For newspapers, the reliability requirements are paramount, with everything dependent on the need to produce the plates quickly in the short time available before the press starts. Although thermal CtP has its benefits, these are of less value for newspapers. It is a simple fact that three of the key benefits of violet are that:

- » Violet diodes are inherently more reliable than thermal diodes;
- » Violet plates are naturally more sensitive than thermal plates, and violet platesetters remain the best choice for high speed platemaking;
- » Violet technology intrinsically carries a lower cost of operation for the total system; daily production, maintenance, and reliability included.

What benefits will chem-free bring to newspapers?

Chemistry-free plates have already been widely accepted as one of the most important recent innovations to simplify platemaking in *commercial* printers. Elimination of the developer means that one of the main variables affecting image consistency disappears. Cleaning out the processor and disposing of exhausted developer is no longer required. The expensive plate processor itself is no longer needed. All these benefits are important to the newspaper printers who are looking to streamline, simplify and reduce costs. At the same time chemistry-free increases the green credentials of any newspaper keen to minimise their environmental impact.

Which newspapers will be the first to benefit from violet chemistry-free?

The smaller newspapers with shorter run lengths and less demanding plate productivity requirements will, initially, be the most likely to become early adopters. Time will tell if the first violet chemistry-free plates have e.g. run length restrictions that may limit the initial applications. However, image quality will be just as good as existing newspaper CtP plates. Assuming that run length, productivity and other performance requirements are met then there should be no restrictions to the use of violet chemistry free plates.

How will these violet chemistry-free plates work?

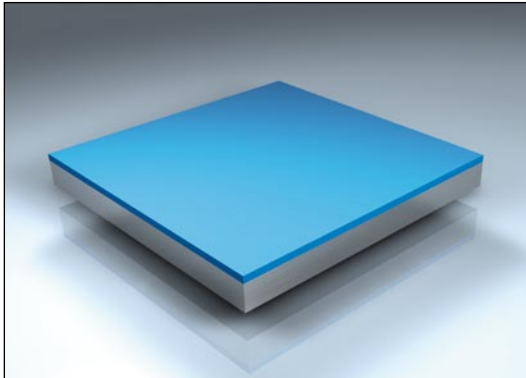
The plates are exposed in a violet laser CtP device. In Agfa's case the *existing* low power violet lasers – 30 to 60 mW – will be sufficient to expose the plate – meaning no hardware re-investment is needed. Once the image is 'written' onto the plate all that remains is to remove the non-image area. This is done using a *gumming unit* to gum the plates and at the same time remove the non-image area.

The benefits of this approach are:

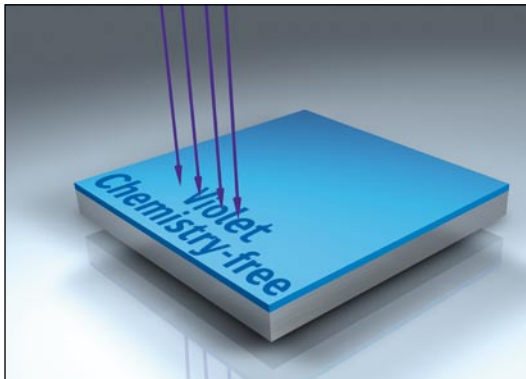
- » The pressmen receive plates that look, feel and behave as normal;
- » A quick visual check will show any errors (imposition etc) since the plate has a high-contrast, dark image on a standard aluminium substrate;
- » Normal plate densitometers can be used without problems.

The initial gumming units may not be quite as fast as the fastest traditional CtP plate processors today – that may also restrict the *initial* chemistry-free applications to the smaller regional newspaper, at least in the beginning.

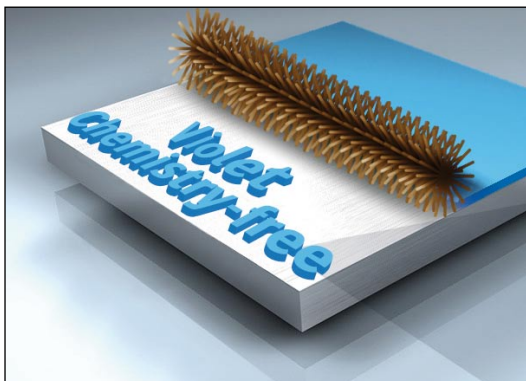
Working principles of Violet chemistry-free plate technology



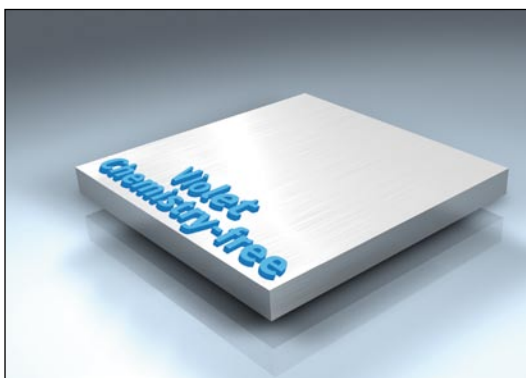
The Violet chemistry-free plates are coated on high quality grained and anodised aluminium. The coating is sensitised to Violet (405nm) light.



During exposure, the violet diode **hardens** the image area. The non image area remains un-exposed.



The exposed plate is gummed with industry standard plate gum. During this process the soft, unexposed non-image area is easily and cleanly removed by the gum.



The finished plate looks, feels and prints like a normal plate. The plate isn't sensitive to light, and can be stored prior to press if needed.

Summary of the key issues for violet chemistry-free CtP

- » **Violet is the future for newspaper chemistry-free.** This is a view supported by many of the manufacturers and is not an area in great dispute. The emergence of chemistry-free violet plate technology only increases the benefits to the printer.
- » **Benefits.** Simpler, cleaner and greener – saving time and money. The chemistry-free plates from the major suppliers will use traditional (and best) grained and anodised aluminium to ensure the highest level of press robustness.
- » **Backwards compatible with existing violet platesetters.** Make sure that your choice of violet chemistry-free plate supplier won't burden you with a plate which needs new high-powered 200mW violet diodes. Such plates will be *completely* incompatible with existing platesetters and would be a backward step for the industry, the main problem, of course, would be the need to re-invest in a new platesetter.
- » **Performance.** The successful violet chemistry free plates will offer a good on-press performance similar to existing (wet processed) violet photopolymer plates. More details will be available as the suppliers begin to gain experience of their new chemistry-free violet plate offerings, but suppliers will be keen to match or exceed current plate performance standards.

In summary, chemistry-free plate technology is likely to have the same significant impact in newspaper CtP as it did in commercial CtP. 2007 and 2008 will be important years in the roll-out of violet chemistry-free newspaper plate technology. Chemistry-free may not be for all newspapers, but it will make a significant breakthrough for many and will be almost as important as the original introduction of newspaper CtP technology back in the 1990's.

Tony.king@agfa.com

Kurt.meseeuw@agfa.com