Agfa Processless Plates

Taking the plate processing step out of prepress cuts costs, reduces waste and increases throughput, thereby enhancing press utilisation.

Major plate manufacturers have worked for years to develop processless plates that are a drop-in replacement for conventional technology. It has taken a while but this year has seen important announcements that push processless platemaking adoption to a tipping point. First, back in May Kodak introduced Sonora, which handles runs of over 200,000 and is tough enough to work with UV inks up to 10,000 impressions. Now Agfa has announced Azura TE, a direct on press plate for run lengths of 75,000+. Like Sonora, this is involves no processor or cleanout unit. There is no maintenance, chemistry, gum or water involved, nor waste or associated disposal costs.

Technological developments and the market’s willingness for direct on press processless platesetting are only two factors in Agfa’s new proposition. Press manufacturers are less wary of using their machines essentially as an online clean-out unit, and this makes a difference to the technology’s viability. There has been considerable concern over the years, that debris from processless plates pollutes the fount solution and causes build-up on the rollers. But with modern coatings, this is no longer a problem. Developers have continued to work on their coating technologies to have ultrathin layers that do not upset the fount solution when non-image areas are removed on press during make-ready.

Once exposed, the Azura TE plate image has high contrast and will last for over 24 hours. Customers such as Technoprint in France and Ballast & Hilbrink in Holland really appreciate this feature.
Customers continue to look for ways to reduce costs, improve efficiency and reduce their environmental impact so direct on press processing makes economic, productivity and sustainability sense. It is a low cost and easy to maintain plate production system that has virtually no waste because processing piggy backs on the waste generated in make-ready. According to Guy Desmet, head of prepress marketing at Agfa: “A one year field test period all over the globe taught us that Azura TE is compatible with all Agfa and non-Agfa platesetters, a wide range of founts, inks and press architectures. Customers love the ease of use of Azura TE, the gain in system productivity and the quality on press.”

**In the Beginning**

The first generation Azura technology, which was the first plate with a water soluble coating, was launched in 2004. Azura was the first plate on the market to be processed without chemicals, using a benign surface gumming solution and water. It was positioned as chemistry-free, rather than processless because, once imaged, the plates had to be cleaned and gummed in a separate clean-out unit.

The Azura technology differs from that of the Fujifilm Pro T and Kodak Sonora in that it relies on a physical rather than a chemical process to create the image areas. Rather than using photopolymers, Agfa’s ThermoFuse technology is a negative working, ink loving latex pearl coating. It reacts to IR heat which causes the latex pearls to melt together and adhere to the substrate forming a solid hard layer. This is a physical process, that uses the gumming unit for washing the plate and to prevent oxidation of the non-imaged surface areas.

With over 10,000 installations worldwide Agfa has been the market leader in this sector, pretty much since introducing Azura ten years ago. At drupa 2004 Agfa introduced Azura for the four-up market for small to medium runs. At drupa 2008 the second generation, Azura TS, was introduced bringing a 50% increase in sensitivity to the plate and taking Agfa into the eight-up market. At drupa 2012 Agfa introduced a major upgrade to the clean-out unit, improving its productivity and reducing gum consumption by 60%. The combined Azura technologies brought a 95% savings in water consumption compared to conventional thermal processing so it provided a considerable environmental benefit as well.

In 2013 Agfa introduced Azura TU, a faster plate that is still based on ThermoFuse and robust enough for much higher run lengths of 100,000 to 150,000 impressions. The new Azura TE adds a direct on press option for customers and increases Agfa’s scope for the Azura technology which is now suitable for all types of mainstream commercial printing.

Azura TE is a direct on press plate positioned as a complement to Azura TU, an offline plate that requires a clean-out unit and which Agfa considers the best option for most commercial work because of its latitude, stability and convenience. Agfa estimates that for customers imaging 20,000 sqm per year the cost of the clean-out unit is negligible. For those imaging 10,000 sqm the clean-out unit costs €1 per square metre, so Azura TE targets these lower volume users.

**What’s Changed?**

Azura TE is still based on Thermofuse, but the coating and graining of the plate surface have been changed to perform better for direct on press finishing. Agfa has added a thermochromic dye that responds to the same imaging frequency of 830nm as the Azura TE and Azura TS surface layers. When exposed to IR heat a chemical switch occurs in the dye molecules, which change from a grey to a clear blue colour. This provides very strong image contrast for easier visual inspection and measurement of the negative working plate. Once imaged and mounted, after a few dampening revolutions the non-image areas are removed. Agfa says the plate has immediate ink acceptance, requires low dampening levels and makes possible faster makeready on press. It is compatible with all thermal platesetters on the market and with a wide range of presses.

The plate’s latitude or scope for performance depends on the press configuration, its chemistry, and start-up procedures. Also there is no gum to protect an Azura TE plate, which could mean less tolerance to fingerprints and scratching. That said, Agfa consider the plate to be robust and with its strong daylight stability, easier to mount on press than previous generations, because the plate
Over 50 customers are using Azura TU in production, some for over a year. Jakob AB in Switzerland, Ballast & Hilbrink in Holland, and Technoprint in France are seeing up to 50% faster start-up times and less paper waste. According to Ballast & Hilbrink co-founder José Hilbrink: “Azura TE … makes it really easy for the press operator to verify even the smallest images and texts on the exposed plate, even after a day, and as a result to exclude errors before starting to print. Each time we save precious time and costs.” For Technoprint’s prepress manager E. Rebmann “We really appreciate this feature because it already prevented a few errors from being printed.”

**Customer Enthusiasm**

Agfa customers have found that Azura TE has fast ink acceptance and rapid transfer of the non-image areas to the first make-ready sheets. Agfa claims that in tests Azura TE has the fastest ink acceptance and clean-up on press compared to other unnamed direct on press plates based on photopolymer technology. These technologies can lose the plate image in a couple of hours, whereas Azura TE remains daylight stable for over 24 hours. Azura TE plates can also be stored for later use up to several months as long as they are kept in the dark.

Digital Pressure

It is sometimes tempting to think that the digital printing revolution will demolish traditional printing markets, but this isn’t happening any time soon. In the meantime,
there are still plenty of printing business around the world looking to improve cost competitiveness, throughput and quality. These companies depend on Agfa, Kodak and Fujifilm to keep pushing advances in plate technology. We now have a range of environmentally friendly plate options that keep the market fresh and push print’s competitive position and cost-effectiveness.

For Agfa and its competitors the next challenge is to develop long-run processless technologies for more demanding markets than mainstream commercial printing. This includes sectors keen on aggressive UV inks such as labels and packaging, as well as high quality magazines, and markets where runs are over a million. Digital printing technologies are not yet nipping at their heels, but the chase is definitely on.

- Laurel Brunner