

The platemaking tests were designed to establish any advantages or disadvantages that might exist between the various plates along with any variation in platemaking technique. Particular attention was paid to comparing sensitivity, resolution, exposure latitude, development, image contrast and resistance of image to solvents.

The press performance assessment was obtained from industrial users, by asking them to complete a simple questionnaire. The questions asked the user to indicate if the aqueous plate used was better, same or worse than previously used solvent-developed plates, with respect to run length, dampening latitude, clean running, resistance to marking, and resistance to image blinding.

In analysing the developers it was not intended to determine precise chemical ingredients, merely to confirm or otherwise that they were free from organic solvents. The pH of the working strength solutions was determined and some assessment was also made of the developers' odour.

In the platemaking tests all the plates were generally found to provide some advantages over the Marathon. They all gave a colour change after exposure for example. However, there were quite significant differences between plates in certain other aspects. The exposure speed of the fastest plate (Lithojet NA) was around 20 times faster than the slowest (Aqualith). As could be expected with such a wide variation in exposure speed, the exposure latitude of the plates was also very different. It ranged from approximately 7 seconds to 200 secs or when expressed as a percentage ± 30 to $\pm 71\%$. Differences were also found in the resolving power of plates, but even with the poorest resolution accurate reproduction of all dots in a 60 l/cm half-tone should be possible.

Differences, when hand developing plates, were not found to be great, but the Hydrolith plate with its water-only developer required noticeably firmer pressure to remove the coating than other plates. Some plates were developed by immersion in a tank or dish of developer. The use of gum arabic was not recommended for desensitizing many of the plates, if the image was not protected